Evidence Synthesis/Technology Assessment
Number 85

Systematic Review of Cardiovascular Disease Risk Assessment Tools

Prepared for:
Agency for Healthcare Research and Quality
U.S. Department of Health and Human Services
540 Gaither Road
Rockville, MD 20850
www.ahrq.gov

Contract No. HHSA-290-2007-10065-1

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AHRQ Publication No. 11-05155-EF-1
May 2011

None of the investigators has any affiliation or financial involvement that conflicts with the material presented in this report.

Suggested Citation:
Matheny M, McPheeters ML, Glasser A, Mercaldo N, Weaver RB, Jerome RN, Walden R, McKoy JN, Pritchett J, Tsai C. Systematic Review of Cardiovascular Disease Risk Assessment Tools. Evidence Synthesis No. 85. AHRQ Publication No. 11-05155-EF-1. Rockville, MD: Agency for Healthcare Research and Quality; May 2011.

Structured Abstract

Objectives: To summarize the current state of cardiovascular disease (CVD) risk modeling literature with a focus on the U.S. patient population, and to describe evidence on which models best predict cardiovascular risk among patients with diabetes.

Data Sources: We searched MEDLINE for articles published January 1, 1999, to February 24, 2009, and reviewed all reference lists of included articles.

Review Methods: We included studies of asymptomatic adults in any geographic setting with any study design in which a CVD clinical risk prediction model was developed or validated. We excluded studies that 1) were not in English; 2) were without information pertinent to the key questions; 3) had fewer than 200 participants at enrollment; 4) were not original studies; and 5) lacked internal or external validation data. We captured study information such as cohort characteristics, risk model characteristics, model performance statistics, and quality review elements. We collected information about the study populations for stratification of results by variables, including sex and geographic area. We also searched online for available tools and documented their location and the model on which they purported to be based. We used the online tools to calculate risk for five test cases to identify variation in estimated risk.

Results: Of the 3,499 articles initially identified, 84 met inclusion criteria, providing data on 102 risk models. The majority of models (87 out of 102) were not externally validated. The most commonly externally validated risk models were the 1991 Framingham (FRS) model for CVD (26 evaluations), the 1998 FRS model for total coronary heart disease (CHD) (24 evaluations), the FRS Adult Treatment Panel III (ATP-III) model for hard CHD (16 evaluations), the Prospective Cardiovascular Münster (PROCAM) model for hard CHD (11 evaluations), and the Systematic Coronary Risk Evaluation (SCORE) model for CVD mortality (11 evaluations).

Conclusion: The FRS models performed well in U.S. populations, but there were absolute risk prediction problems when they were applied to populations substantially different from the source cohort. Sometimes this was due to particularly low or high baseline risk in the destination cohort, and at other times to systematic differences in risk attributable to specific factors. The 2001 ATP-III version demonstrated better risk prediction than older FRS models because it focuses on hard CHD outcomes, excludes patients with diabetes, and includes newer FRS data. Diabetes-specific process measurement variables are significantly related to cardiovascular outcome risk among patients with diabetes, and risk models that incorporate these factors outperform general risk prediction models when applied to these patients. Models excluding patients with diabetes outperformed general risk prediction models that included these patients in their development when applied to non-diabetic cohorts. Unfortunately, external validation of diabetes-specific risk models is lacking, particularly among U.S. cohorts.

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Introduction

Background

Cardiovascular disease (CVD) is the leading cause of death in the United States and costs the U.S. health care system an estimated $531 billion in direct and indirect costs.[1, 2] Because of the high incidence and cost of this disease, clinical practice guidelines target primary prevention, and recommend that providers evaluate patients for cardiac risk factors that may warrant medical treatment.[3-7] However, previous research has shown that providers do not accurately estimate the risk of CVD events on their own.[8-13] A number of multivariate risk prediction equations, derived from large prospective cohort studies or randomized trials, have been developed to estimate CVD risk in time intervals ranging from 4 to 12 years.[14-21] In order to make them more usable to busy clinicians, many of these risk models only require information from a patient's medical history and easily available laboratory tests, and have been adapted for interpretation through simplified charts or tables in paper or computer-based formats.[3, 22]

The most commonly used CVD risk prediction models in the United States are those based upon the Framingham cohort, a large prospective cohort of U.S. men and women aged 30 to 74 years. These models have been subsequently validated in multiple diverse populations.[17, 20, 23-26] However, controversy remains regarding which variables are the most important for risk prediction, which outcomes are the most generalizable across populations, and whether remodeling or recalibration needs to be addressed in populations other than the source cohort.

A number of studies showing that patients with diabetes had significantly elevated risk for cardiovascular outcomes prompted the Adult Treatment Panel III (ATP-III) guidelines, which include a risk calculator that excludes patients with diabetes and direct clinicians to consider those patients as already having CVD for the purposes of medical management.[3, 27, 28] However, other studies have questioned this assertion, both from risk modeling and disease management standpoints.[29] In addition, there is a growing literature that suggests that patients with diabetes themselves are a heterogeneous group of patients who require diabetes-specific risk factors to adequately characterize their cardiovascular risk.[23, 30]

The aim of this systematic review was to summarize the current state of CVD risk models, with a focus on the U.S. patient population. In addition, performance of each of the available models in populations other than the source cohort was assessed, as well as a summarization of which models use which risk factors and the impact that recalibration and reclassification has had in the last few decades on these models. Finally, we sought evidence related to which models are best suited for predicting cardiovascular risk among patients with diabetes, and whether treating diabetes as an outcome equivalent is appropriate.

Key Questions

The key questions for this report were:

KQ1: Do any of the currently available tools for the prediction of cardiovascular risk in a North American population offer clear advantages in discriminatory power over the others in predicting incident coronary heart disease (CHD), cerebrovascular stroke (stratified by thrombotic or hemorrhagic type), or a combination of these two?

KQ2a: Do tools that treat diabetes as a CHD outcome equivalent have different performance characteristics than those that use diabetes as an independent risk factor for those outcomes?

KQ2b: Is the appropriateness of using diabetes as a coronary risk equivalent modified by the number of other cardiac risk factors that the individual has?

Methods

Literature Search

For this review, we included studies of asymptomatic adults in any setting and country with any study design in which a clinical risk prediction model was developed or validated for predicting CVD risk. We excluded studies that 1) were not published in English; 2) did not report information pertinent to the key questions; 3) had fewer than 200 participants at enrollment; 4) were not original studies; and 5) did not perform any internal or external validation of the model. For this review, the relevant population was men and women who are currently asymptomatic for CVD. As we developed each of the search components with input from previous systematic reviews, we employed an approach of iterative refinement, using a pool of approximately 50 relevant articles previously identified as a quasi-validation set, to assess recall of our search iterations (i.e., whether our searches retrieved or missed known items of interest).[31-33] In addition to studies identified through the literature search in MEDLINE, we hand-searched the reference lists of all included articles for additional articles. Once we identified articles through the electronic database searches, review articles, and bibliographies, we examined abstracts of articles to determine whether studies met our criteria. Two reviewers separately evaluated the abstracts for inclusion or exclusion. If one reviewer concluded that the article could be eligible for the review based on the abstract, we retained it. Of the entire group of 3,499 articles, 636 required full-text review. For the full article review, two reviewers read each article and decided whether it met our inclusion criteria.

Data Abstraction

The data for this project were abstracted into a database designed to capture study information such as cohort characteristics, risk model characteristics, model performance statistics, and quality review elements. We collected information about the study populations to allow for stratification of results by variables, including sex and geographic area.

The team was trained to abstract by pulling relevant data from several articles into the database and then reconvening as a group to discuss the utility of the table design. We repeated this process through several iterations. The content lead reviewed each abstraction to ensure accuracy and completeness.

In addition to assessing the studies and models presented in the literature, we searched for all available tools online and documented their location and the model on which they purported to be based. We then used the online tools to calculate risk for five test cases, in order to identify any variation in estimated risk.

We assessed the quality of individual studies across multiple dimensions using assessment questions developed to reflect the importance of fully characterizing a population in which a model is developed, and the prevalence of missing data and loss to follow-up. In addition, evaluation methods and measures were pursued. We did not assign quality scores to the individual studies or the literature as a whole, but instead chose to present patterns of quality.

Results

Key Question 1

The literature search identified 3,499 potentially relevant articles of primary CVD risk modeling development or validation. Most of the studies were excluded in the abstract stage because either the study was not relevant to the topic or the study population was not asymptomatic for CVD. In the full-text review stage, most of the studies were excluded, either because the evaluation did not involve a risk prediction tool, the study population was not asymptomatic for CVD, or there were no model performance measurements reported.

A total of 84 articles[29, 34-82,14, 19, 23-25, 83-110,111] were included in this review, representing a total of 102 risk prediction models. To develop the models, the authors used a total of 100 variations of 73 identifiable patient cohorts. These cohorts provided data on CHD outcomes (52 cohorts), CVD outcomes (31 cohorts), and cardiovascular accident (CVA) outcomes (12 cohorts). Of the 102 models that were identified, only 17 were externally validated in a population other than the one in which the model was developed, and those models were all developed from the following nine primary patient cohorts:

- Scottish Heart Health Extended Cohort (SHHEC)
- Diabetes Audit and Research in Tayside, Scotland (DARTS)
- FINRISK
- Framingham Study (FRS)
- Framingham Offspring Study (FRS-O)
- Prospective Cardiovascular Münster Study (PROCAM)
- QRESEARCH Database
- Systematic Coronary Risk Evaluation (SCORE)
- United Kingdom Prospective Diabetes Study (UKPDS)

Information on these cohorts is available in Appendix G/Summary Table 4. The most commonly externally validated risk models were:

- 1991 FRS model for CVD (with 26 evaluations)
- 1998 FRS model for total CHD (with 24 evaluations)
- FRS ATP-III model for hard CHD (i.e., sudden CHD death or myocardial infarction, with or without cardiac procedures) (with 16 evaluations)
- PROCAM model for hard CHD (with 11 evaluations)
- SCORE model for CVD mortality (with 11 evaluations)

These models are typically considered general population, first-outcome incidence calculators, meaning that they are intended to calculate individual risk for any patient within a certain age range. However, it is important to acknowledge that the FRS ATP-III model excludes patients with diabetes, the PROCAM model excludes women, the DARTS and UKPDS models exclude patients without diabetes, and the Scottish ASSIGN model (derived from SHHEC) includes a non-traditional social deprivation index as a risk factor. Therefore, it is possible that they are not entirely applicable in all general populations.

The majority of models (87 out of 102) identified through our search were not validated in an external data set.[14, 24, 25, 34-39, 41, 47, 49-52, 55, 57, 60-62, 71, 75, 76, 80, 81, 83, 84, 87, 91, 93, 100, 101, 103, 107, 109, 111-115] Some of the studies published models yet to be externally validated that were directly intended to be used for individual risk prediction.[54, 59, 60] Some of these models were developed for specific groups of patients with atrial fibrillation,[52] chronic kidney disease,[45] renal transplants,[82] younger age,[49] or older age,[64, 69, 93, 102] or were based only on patient-provided information.[51, 105] Other studies were conducted primarily in order to evaluate whether a variety of non-traditional risk factors improved prediction performance. These non-traditional risk factors include body mass index,[34] hemoglobin A_{1c},[36, 54] coronary calcification,[40, 70, 87, 100, 104, 108, 116] echocardiography characteristics,[53, 60] C-reactive protein,[54, 60, 70, 86, 103] apolipoproteins,[54, 80] socioeconomic factors,[59, 66] family history,[59, 76, 80, 103] carotid ultrasonography,[72] metabolic syndrome,[65, 75, 79] exercise testing parameters,[84] and genetic polymorphisms.[101] A recent review of non-traditional risk factors in CHD risk prediction concluded that the evidence was insufficient to assess the balance of benefits and harms of using these risk factors in risk prediction.[117, 118]

There was significant heterogeneity among outcome definitions, both across all of the studies and among models used for comparison within individual studies. Frequently, cohort outcome data were collected in order to match a particular risk model, but other models with different outcomes were used as comparisons. Nonetheless, since all of the outcomes were variations of CVD, stable relative risk performance was frequently found even when outcomes were mismatched.

Evaluating absolute risk prediction of a risk model with a mismatched outcome between model and cohort has severe limitations, because the baseline outcome event rates are different from the outset. Some interpretation is possible if the prediction error is in the opposite direction of what one would expect; that is, if a cohort outcome is more restrictive, one would expect the model to overpredict the outcome, but if it underpredicts the outcome, then the result can be safely interpreted as poor absolute risk prediction. However, no such assertion can be made if absolute risk prediction is determined to be adequate for mismatched outcomes.

Some of the tools reported thresholds for low- and high-risk patients in order to recommend tailored management of those patients.[14, 19, 35, 37-39, 41, 43, 46, 47, 51, 54, 56, 58, 61, 70, 73, 84, 88, 97, 99, 103] In addition, some studies evaluated the effects of risk strata reclassification between different models and for additional variable inclusion to an existing model.[35, 36, 46, 54, 61, 88, 99, 101-103] Results of reclassification evaluations were variably reported, sometimes in tabular format and sometimes by reclassification indices. There was a clear correlation with absolute risk prediction performance and classification performance, and some reclassification evaluations resulted in significantly improved performance. It is also important for cohort and model outcome matching, since low- and high-risk threshold cut-off points are set using the development data (i.e., matched outcome). Separate risk cut-off points must be established in order to appropriately use such tools to risk-stratify patients for outcomes other than those for which they were developed.

Almost all models had good relative and absolute risk prediction in the cohort in which they were developed. Clearly this is not surprising, but it does bring into question the limitations of relying on models that have only been internally validated. The external validations with the strongest evidence were among North American and European cohorts in which the same outcome measure was used in the validation study as in the development study. Asian cohort model evaluations had limited generalizability to U.S. populations because they have been shown to have significantly different outcome event rates of CHD and cerebrovascular disease.

External validation of U.S. models developed in other U.S. cohorts found that most retained good relative and absolute risk prediction performance among white and black populations, but absolute risk prediction was poor among minority populations, such as Hispanics and Asian Americans.[23, 97, 100] A few evaluations using higher- or lower-risk cohorts, such as siblings of patients with early coronary artery disease or young adults, predictably had poor absolute risk prediction performance.[42, 49] In all cases, overall model relative risk performance (risk separation) was better for women than men.[23, 42, 49, 97, 100] Generally, these risk models are most likely to perform accurately in patients representative of the source population in which they were developed.

External validation of U.S. risk models among European cohorts in which the outcomes were matched was more mixed. A few studies with matched outcomes reported acceptable risk model performance, but the European cohorts were generally at higher risk than the source population, including all-diabetic or elderly cohorts.[48, 89] A few studies reported that the risk models underpredicted the outcomes, but these were almost entirely high-risk patient cohorts, such as patients with diabetes, organ transplants, advanced age, poorly controlled hypertension, or poor access to health care.[56, 77, 82, 85, 89] Most of the evaluations among European cohorts found that the U.S. risk models overpredicted risk.[14, 48, 56, 80, 88, 92, 94, 110] This was frequently due to a difference in underlying outcome event rates between the model cohort and the evaluation cohort. In some studies, significant differences between relative risk factor contributions were also found.[30]

A number of U.S. cohorts that engaged in recalibration or remodeling reported poor absolute risk performance for the original FRS models. However, most of these evaluations had an outcome mismatch between the cohort and model.[54, 61, 101] Those studies that performed remodeling of the FRS risk variables in the local cohort reported retained or improved relative risk prediction and adequate absolute risk prediction.[54, 61, 101] It should be noted that it is not surprising that remodeling with an outcome that matches the original model outcome (by definition) would result in improved performance. For example, one study evaluated matched outcomes between the cohort and the original model and found that minority populations were poorly predicted by the model. This study subsequently showed that remodeling resulted in adequate performance for all the cohorts.[23] Two other studies with matched outcomes and inadequate original model performance noted adequate absolute risk prediction after remodeling.[45] In contrast, recalibration methods (which adjust the baseline outcome event rate intercept in the model but do not adjust the risk variable coefficients) performed more variably, with both adequate and inadequate absolute risk prediction results.[42, 45] However, in the one study that performed both recalibration and remodeling, recalibration was sufficient for women but not men, and remodeling resulted in adequate absolute risk prediction for both.[45]

Key Question 2

There were six diabetic cohorts that were used to develop risk prediction models and 11 diabetic cohorts that were used in external validation of diabetes-specific risk models for CVD, CHD, or stroke outcomes.[38, 40, 57, 63, 72, 73, 78, 85, 96, 107, 108, 119] There were 13 non-diabetic cohorts used in either primary model development or external validation of risk models excluding diabetes or general purpose models.

The UKPDS risk model[119] was the most frequently validated type 2 diabetes model.[38, 40, 73, 78, 108] However, three of the five studies were from U.K. cohorts, and there were no U.S. validations of this model. Even among the U.K. external validation studies, absolute risk prediction performance was variable, interpretation was complicated by outcome mismatches, and there was no matched outcome external validation of the model.[73, 78, 108] In contrast, there was clear evidence that the UKPDS outperformed general cardiovascular risk models when they were directly compared among diabetic populations.[73, 78] Another externally validated type 2 diabetes cardiovascular risk model is the DARTS model, which was developed in a different British cohort. A third type 2 diabetes model that was only internally validated was developed in Chinese patients.[38] In all three models, diabetes-specific risk factors were included.

Evaluation of the contribution of diabetes to the risk of developing cardiovascular outcomes was evaluated in two studies, one consisting of only U.S. cohorts and the other including both U.S. and European cohorts.[23, 30] The U.S. cohort comparison study found that cohorts comprised of non-white or Hispanic populations had significantly different relative risks among those factors than the Framingham cohort. However, the risk of CVD among patients with diabetes differed significantly from that in the FRS population only for a Native American cohort. A similar comparison that included European studies as well demonstrated different CVD risk in the European cohort relative to the FRS cohort.

These studies also showed the effect of including or excluding variables in a multivariate analysis, since both evaluated some of the same cohorts, but the U.S./European study did not include as many of the traditional risk factors as the U.S.-only study.[23, 30] Some additional risk was attributed to diabetes when there were fewer variables in the multivariate analysis. This was most likely due to a correlation between diabetes and the variables that were omitted, and reinforces the concept that any risk estimate for a variable includes residual confounding from unmeasured covariates.

Most of the matched outcome external validations performed on diabetic cohorts by cardiovascular risk models that included diabetes as a risk factor found that the models significantly underpredicted the number of outcomes experienced in the cohort, suggesting that developing predictive models in cohorts that combine patients with and without diabetes may be less than ideal.[73, 78, 85] A few studies showed acceptable observed-to-expected ratios, but had outcome mismatches that were more restrictive in the cohort than the model.[40, 72] The effect of increased risk of CVD in diabetic populations precludes simply adding a diabetes risk variable to a general model to capture the variance of risk experienced by diabetic populations. In other words, simply including diabetes as a variable in a general model is insufficient to fully capture the level of risk in patients with diabetes. More descriptive variables that have confounding or effect-modifying effects are likely necessary for analyses in these populations, including diabetes control, duration of diabetes, and whether the patient has already experienced end-organ damage.

There were a few studies that evaluated risk models that included diabetes as a risk factor in non-diabetic cohorts. For example, Czech patients without diabetes were evaluated with the 1998 FRS model with matched outcomes, resulting in an overprediction of outcomes.[56] The Norwegian Counties Study evaluated the SCORE risk model, which does not include a diabetes risk factor but does include patients with diabetes in its source cohort, in patients without diabetes and also found that the model overestimated the number of outcomes.[44] The internal validation of the QRISK equation for CVD risk excluded patients with diabetes and was used to externally validate the 1991 FRS general risk model.[46] Again, the 1991 FRS model significantly overpredicted the outcome, although there was a small outcome mismatch. Models including diabetes as a binary variable, in which patients without diabetes are given a value of zero, should in theory perform well in non-diabetic populations, where all individuals would simply have zero risk associated with that condition. The fact that they do not points to the strong likelihood that a dichotomous diabetes risk predictor does not account for all of the cardiovascular risk associated with having diabetes.

In several studies, a risk model with diabetes as a risk factor was directly compared to a diabetes-excluded model. The Women's Health Study, in which 2.9 percent of patients had diabetes, evaluated the FRS ATP-III and 1998 models, but the outcomes were very mismatched in the ATP-III (CVD vs. hard CHD) and 1998 models (total vs. hard CHD), and absolute risk prediction was poor in both.[54] The Chicago Heart Association Detection Project in Industry study evaluated young men without diabetes for matched outcomes in the ATP-III model and unmatched outcomes in the 1998 model, but absolute risk performance was poor in both because of the young population.[49]

Remodeling efforts among diabetes and diabetes-excluded risk models followed the larger trend of general cardiovascular risk prediction models. Recalibration methods were successful in some cases but inadequate in others.[38] However, remodeling methods were almost always successful in producing a model that performed well in the local cohort.[38] Among non-diabetic cohorts and general risk models, remodeling was successful in improving performance, although it should be noted that diabetes as a risk factor was dropped from the models.[56] Among a large U.S. female non-diabetic cohort, remodeling of the FRS ATP-III risk variables did not result in a well-calibrated model.[61]

Remodeling of established risk models for use in other cohorts also serves to illuminate systematic relative risk differences between risk factors. For example, although absolute risk prediction was very poor when the UKPDS model was applied to the Hong Kong Diabetes Registry, a direct comparison of the hazard ratios of the same risk variables between the two cohorts did not show significant differences.[38] Thus, both the baseline outcome incidence and the relative risk contributions from individual risk factors are relevant to absolute risk performance.

Discussion

Limitations of the Literature

Summarizing this literature is challenged by the tremendous outcome heterogeneity among model evaluation studies. In many cases, only limited comparison was possible between cohorts and models with different outcomes. Minor mismatches were more common than large categorical differences, but this still could have significant impact on the absolute risk prediction performance of a model, as shown by large differences in outcomes in cohorts reporting multiple similar outcomes.[40]

External validation studies showed fair performance when FRS models were applied to U.S. populations that were similar to the source FRS cohort, but failed when applied to some minority populations. European general risk models have not been widely validated in U.S. populations, and U.S. risk models tended to perform poorly in European and Asian cohorts. This suggests, but does not confirm, that European models would likely perform poorly in U.S. cohorts.

Changes in baseline outcome event rates and relative contributions to risk from different risk factors present in either the source model or the application cohort, but not both, clearly led to poor performance in some models. Remodeling, and to a lesser extent, recalibration, have been shown to be successful methods for improving model performance in a variety of cohorts.

However, methodological issues remain, including lack of empirical evidence for the appropriate frequency at which remodeling should occur and the optimal sample sizes for these analyses.

Summary and Interpretation

Overall, the FRS models performed fairly well in U.S. populations, but there were absolute risk prediction problems when they were applied to populations that were substantially different than the source cohort. In some cases, this was due to particularly low or high baseline risk in the destination cohort, and in some cases it was due to systematic differences in risk attributable to specific risk factors. Although all of the FRS risk models were developed from a cohort that was not entirely representative of the U.S. population, the 2001 ATP-III version demonstrated several benefits over the older FRS models, including a focus on a hard CHD outcome, exclusion of patients with diabetes, and incorporation of more current FRS data than the 1991 version. A 2008 CVD model was recently published but has not yet been externally validated.[120]

Recalibration, and to a greater extent, remodeling, demonstrated effectiveness as a means to improving performance in cohorts with substantially different outcome incidence or risk factor prevalence from the source cohort. Questions remain regarding the population sample size necessary to perform these methods and how frequently it should be applied.

Development of risk models for cohorts with risk profiles that are systematically divergent from the general population can also be a successful strategy. However, in many cases, studies taking this approach were more or less remodeling exercises using traditional risk variables in the most common models. Sample size requirements for developing stable risk models are even less clear for these cohorts, and some of these studies had fewer than 1,000 participants. A growing body of literature suggests that specific cohort risk models are likely to be most successful when there are risk factors unique to that population that inform cardiovascular risk.

Even among U.S. cohorts, there was evidence that some ethnically diverse or minority populations had significantly different risk factor contributions to outcomes, even when the baseline prevalence was similar.[23, 30] Our review did not exclude studies from any geographic area, but in analyzing the data it became clear that there were systematic differences in risk factor prevalence and outcome event rates between Asian cohorts (which were mostly Chinese or Korean) and North American and European cohorts.[121] This makes use of Asian models in a general U.S. population ill-advised.

Diabetes-specific process measurement variables are significantly related to cardiovascular outcome risk among patients with diabetes, and risk models that incorporated these factors outperformed general risk prediction models when applied to these patients. Analysis also suggests that models excluding patients with diabetes outperformed general risk prediction models that included these patients in their development when applied to non-diabetic cohorts. Unfortunately, external validation of diabetes-specific risk models is lacking, particularly among U.S. cohorts. No U.S. diabetes risk model has been externally validated.

Problems with absolute risk prediction were improved or resolved by recalibration and remodeling methods, supporting the need in this literature for periodic recalibration or remodeling for either general or specific populations. However, empirical evidence for determining what time interval is reasonable or for detecting when a population is “significantly” different from the reference population does not yet exist.

Chapter 1. Introduction

Importance of Predicting Risk of Cardiovascular Events

There have been a number of studies that show that medical treatment of cardiovascular risk factors reduces the occurrence of adverse cardiovascular outcomes.[122-128] Because of the high incidence and cost of this disease, clinical practice guidelines target primary prevention, and recommend that providers evaluate patients for cardiac risk factors that may warrant medical treatment.[3-7] However, previous research has shown that providers do not accurately estimate the risk of cardiovascular disease (CVD) events on their own.[8-13] A number of multivariate risk prediction equations, derived from large prospective cohort studies or randomized trials, have been developed to estimate CVD risk in intervals ranging from 5 to 10 years.[14-21] In order to make them more usable to busy clinicians, many of these risk models only require information from a patient's medical history and easily available laboratory tests, and have been adapted for interpretation through simplified charts or tables in paper or computer-based formats.[3, 22]

The most commonly used CVD risk prediction models in the United States are those based upon the Framingham cohort. These models were developed in a large prospective cohort of U.S. men and women aged 30 to 74 years, have been subsequently validated in multiple diverse populations, and discriminate well among those patients who will have a CVD event and those who will not.[17, 20, 23-26] However, these models do not accurately predict the risk for some patients, such as those younger than age 30 years or older than age 65 years, Japanese American men, Hispanic men, or Native American women.[23, 26, 129] In addition, they demonstrate reduced ability to predict accurately in patients with diabetes mellitus, severe hypertension, or left ventricular hypertrophy.[129-131]

Concern over diabetes as a risk factor for CVD escalated in the late 1990s as several studies were published showing highly elevated risk of CVD among patients with diabetes.[27, 28] One of these was a landmark study by Haffner and colleagues that evaluated 1,373 patients without diabetes and 1,059 patients with diabetes among a Finnish cohort.[28] This study found that the 7-year risk of myocardial infarction (MI) among asymptomatic patients was 3.5 percent in patients without diabetes and 20.2 percent in patients with diabetes. MI recurrence rates among those patients who had already experienced an MI were 18.8 percent in patients without diabetes and 45 percent in patients with diabetes. These studies informed the Adult Treatment Panel III (ATP-III) recommendation for diabetes to be considered as a coronary heart disease (CHD) risk equivalent, because the MI recurrence rates in patients without diabetes were similar to first MI rates in patients with diabetes.

However, there is a growing literature in this domain showing that model performance is highly dependent on how similar the source model cohort is to the cohort in which it is applied.[17, 23] In addition, diabetes is a high-risk condition for CVD with a number of well-defined process measurements, such as hemoglobin A_{1c} and urine albumin, that have been shown to be predictive of organ damage and adverse outcomes.[132, 133] Since these risk factors are not present in general CVD risk prediction models, absolute risk prediction performance among patients with diabetes could be poor. We performed a systematic review of CVD risk prediction tools in order to determine whether tools that include diabetes as a risk factor in a general CVD risk model were able to perform adequately compared to those that were developed for only patients with or without diabetes.

The aim of this systematic review is to summarize the current state of CVD risk models, with a focus on models for use in the U.S. patient population. In addition, performance of each of the available models in populations other than the source cohort is assessed, as well as a summarization of which models use which risk factors and the impact that recalibration and reclassification has had in the last few decades on these models. Finally, we address the specific question of whether it is appropriate to treat diabetes as a CVD equivalent or as an independent risk factor.

Key Questions

The key questions for this report were:

KQ1: Do any of the currently available tools for the prediction of cardiovascular risk in a North American population offer clear advantages in discriminatory power over the others in predicting incident CHD, cerebrovascular stroke (stratified by thrombotic or hemorrhagic type), or a combination of these two?

KQ2a: Do tools that treat diabetes as a CVD or CHD outcome equivalent have different performance characteristics than those that use diabetes as an independent risk factor for those outcomes?

KQ2b: Is the appropriateness of using diabetes as a coronary risk equivalent modified by the number of other cardiac risk factors that the individual has?

Technical Expert Panel

Table 1 lists the individuals who served as technical experts, providing feedback on the search, inclusion/exclusion criteria, and scope of the project. In addition, Dr. Diana Petitti provided expert consultation, particularly on the goals, methods, and scope of the project.

Uses of This Report

The report is intended to describe the breadth and state of the literature on cardiovascular risk prediction, with a particular focus on models and tools relevant to the U.S. population. In requesting this review, the U.S. Preventive Services Task Force (USPSTF) sought to determine whether a specific model or tool had better performance characteristics than others, and therefore might be most useful in primary care. Although the report was specifically designed to provide data to the USPSTF for their use in making recommendations, it is hoped that the report may also be useful to researchers working in the field of cardiovascular risk prediction, particularly in areas in which research is currently inadequate for making recommendations.

Chapter 2. Methods

Here we document the procedures that the Vanderbilt Evidence-based Practice Center used to develop this report on tools for predicting cardiovascular risk. We first describe the strategy for identifying articles relevant to the key questions, the inclusion/exclusion criteria, and the process used to abstract relevant information from the eligible articles and generate summary tables.

Literature Review Methods

Inclusion and Exclusion Criteria

The inclusion/exclusion criteria were developed in consultation with the Technical Expert Panel to capture the literature most closely related to the key questions. Inclusion criteria are summarized in Table 2.

We excluded studies that 1) were not published in English; 2) did not report information pertinent to the key questions; 3) had fewer than 200 participants at enrollment; 4) were not original studies; and 5) did not perform any internal or external validation of the model. For this review, the relevant population was men and women who were currently asymptomatic for CVD.

Literature Search and Retrieval Process

Search literature. We began with a focused search on known and unknown CVD risk assessment tools (Appendix A) to get an idea of the size of the literature, and then searched for review articles to provide overview and context.

As we developed each of the search components with input from previous systematic reviews, we employed an approach of iterative refinement, using a pool of approximately 50 relevant articles previously identified as a quasi-validation set to assess recall of our search iterations (i.e., whether our searches retrieved or missed known items of interest).[31-33]

Article selection process. Once we identified articles through the electronic database searches (published January 1, 1999 to February 24, 2009), review articles, and bibliographies, we examined abstracts of articles to determine whether studies met the criteria. Two reviewers separately evaluated the abstracts for inclusion or exclusion (Appendix B). If either reviewer concluded that the article could be eligible for the review based on the abstract, we retained it.

Of the entire group of 3,499 articles, 636 required full-text review. For the full article review, two reviewers read each article and decided whether it met the inclusion criteria (Appendix B).

Literature Synthesis

Development of Summary Tables and Data Abstraction Process

The data for this project were abstracted into a database (Appendix C) designed to capture study information such as cohort characteristics, risk model characteristics, model performance statistics, and quality review elements. We captured information about the study populations to allow for stratification of results by variables, including sex and geographic area.

Summary tables were developed using database queries and then formatted in Microsoft Word for presentation. The tables are designed to provide overviews of the available literature, the diversity of populations used to develop the risk assessment models, and the degree to which the variables in the models and model performance vary.

The team was trained to abstract by pulling relevant data from several articles into the database and then reconvening as a group to discuss the utility of the table design. We repeated this process through several iterations. The content lead (Dr. Matheny) reviewed each abstraction to ensure accuracy and completeness. The full research team met regularly during the article abstraction period and discussed global issues related to the data abstraction process.

Assessment of Available Tools

In addition to assessing the studies and models presented in the literature, we searched for all available online tools and documented their location and the model on which they purported to be based. We then used the online tools to calculate risk for five test cases, in order to identify any variation in estimated risk. The test cases are presented in Table 4.

We used a two-pronged Internet search strategy to find potential sites where online risk assessment tools are available. First, we searched specifically for each model identified through the literature search using the following approaches:

1. (model name) + online tool
2. (model name) + online tool + CVD
3. (model name) + risk score
4. (model name) + risk score + CVD
5. (model name) + online calculator + CVD
6. (model name) + available CVD online calculator

We then searched for additional tools using the following set of terms, and cross-referenced the results with those already identified to find any additional tools:

1. CVD available online calculators
2. CVD online assessment tools
3. Calculating CVD risk online
4. Calculating CVD and stroke risk
5. CVD online risk assessment tools

Characteristics of five test patients (Table 3) were developed and applied in each of the online tools (Appendix D/Summary Table 1). In addition, statistical analysis software (SAS) models were developed for each of the models that the online tools purported to use, and the test patient characteristics were applied to those as well.

Assessment of Study Quality

We assessed the quality of individual studies across multiple dimensions using the following questions. We did not assign quality scores to the individual studies or the literature as a whole, but chose instead to present patterns of quality. Quality assessment questions were developed to reflect the importance of fully characterizing a population in which a model is developed, and the prevalence of missing data and loss to follow-up. In addition, evaluation methods and measures were pursued.

Does the article state both the inclusion and exclusion criteria, and any additional exclusions that were made after cohort inception? The inclusion and exclusion criteria provide relevant information about how the cohort was formed and characterized. However, some articles use separate criteria to create an analysis subcohort, in which case, the initially established criteria would not adequately describe the cohort.

Was the study population well described? Participant characteristics that might affect outcomes should be fully characterized in order to interpret conclusions or ascertain the relevance of a given model to a new population.

Was the loss to follow-up over the course of the study less than 20 percent? Lack of complete information on the cohort may distort the assessed implications of various predictor variables.

If loss to follow-up was more than 20 percent, did the authors acknowledge the potential effects on the model? The potential for differential loss to follow-up to result in a model that "works" in a non-representative population is high, particularly in studies with long-term follow-up. It is helpful if authors of studies in which a large proportion of the population is lost to follow-up support the reader's interpretation.

Did missing data cause more than 20 percent of the population to be excluded from the model? Even if individuals were not lost to follow-up in a given study, the failure to collect complete data could result in a model being developed in a substantially smaller subcohort that is not entirely reflective of the intended population. Authors should make every attempt to gather data from the greatest number of study participants possible.

If missing data caused more than 20 percent of the population to be excluded, was a missing data technique applied? Approaches to evaluating the potential impact of missing data include sensitivity analyses. These methods can vary from evaluating the change in study results between only the patients with full data to various imputation methods that fill in the missing patient data. Imputation methods can range from simple sample mean imputation to more sophisticated multiple imputation methods.

For validation studies, did the authors report both discrimination and calibration? The degree to which each study evaluated the model performance, regardless of whether it was an internal or external model evaluation, is characterized in this quality assessment. Measures of discrimination include the area under the receiver operating characteristic curve (AUC) and the C statistic. Measures of calibration include the observed-to-expected (O/E) ratio, calibration plots or curves, and the Hosmer-Lemeshow goodness-of-fit test. Less common performance measurements, such as the Brier score, were also occasionally reported.

For model development, did the authors assess internal validation? This item assesses whether the model performance was reported for the cohort in which the model was developed. Any of the discrimination or calibration measures would count for this assessment.

Presentation of Results In This Report

For Key Question 1, we separated all of the modeling studies into three categories, depending on the outcome: CHD, CVD, and cardiovascular accident (CVA). Special emphasis was placed on those models that had been externally validated at least once, because the critical importance of this question relates to the impact model use has on patients in cohorts other than the development cohort.

For Key Question 2, we separated the modeling studies into three categories, depending on whether the cohort included no, some, or only patients with diabetes. Special emphasis was placed on those models that had been externally validated at least once. Again, this was because the critical importance of this question relates to the impact model use has on patients in cohorts other than the development cohort.

All of the models developed in diabetic populations were summarized in order to discuss which variables were chosen in these models and any recalibration or remodeling that was performed. This was best explored in those studies that collected multiple cohorts and evaluated a common set of risk factors for a matched outcome using an identical method. These multivariate modeling methods can be used equally for risk factor exploration and risk prediction modeling. In the primary inclusion/exclusion criteria, any study that did not report any risk prediction performance characteristic was excluded, but some exclusive risk factor exploration studies are referenced here for completeness.

Key Definitions

In order to interpret these results, it is important to have common definitions of discrimination and calibration. Discrimination is a measurement of how well a model can separate those patients that will experience the outcome from those who will not, but it does not address individual risk predication accuracy. Discrimination also gives a general sense of how much of the underlying information leading to the outcome has been captured by the risk. The most common measurements of discrimination are AUC and the C statistic.[134] Graphically, this is represented by plotting sensitivity versus 1 minus specificity over all the possible probability cut-off points in the prediction model. The area under that plot is the AUC measurement, with 1.00 reflecting perfect separation between cases and non-cases, and 0.50 reflecting a modeling performance that is no better than chance in detecting the outcome of interest. In some domains in which outcomes are estimated a few days or weeks into the future, the AUC measurement approaches 0.90, while in other domains with very long outcomes and/or difficult-to-capture risk factors, an AUC measurement of 0.60 to 0.70 is considered acceptable. The C statistic, which is also commonly reported in this literature, is also a measure of concordance and discrimination. For binary outcomes, the C statistic is identical to AUC.

Absolute risk estimation is also called calibration in the risk modeling literature, and it is a measure of risk prediction accuracy in individuals or small groups. This is most commonly measured by the Hosmer-Lemeshow goodness-of-fit test, which sorts and separates the cohort into 10 groups and compares the observed and expected number of outcomes in each subgroup (or bin).[135] Each bin is evaluated with a chi-square test, and the chi-square value from each bin is added together and a P value is calculated. Although 10 bins are standard, a different number may be used. The chi-square value for P=0.05 for 10 bins (8 degrees of freedom) is 15.51. Chi-square values less than (and P values greater than) this are considered adequately calibrated and can be interpreted as a non-significant overall difference between observed and expected outcome event rates (after comparing each bin). A more coarse measurement of calibration is the O/E ratio, which compares the observed to expected number of outcomes for the entire cohort. An O/E ratio is only interpretable with confidence intervals. If 1.00 is within the confidence interval, then the O/E ratio is acceptable. However, it should be noted that underprediction in one portion of the risk spectrum and overprediction in another would show up as poor calibration if the cohort is split into 10 groups, but the model could appear to perform well judging by the O/E ratio.

Model Performance Evaluation Methods Summary

Risk calculators provide a percent risk of an outcome over a set number of years, and both relative risk (discrimination) and absolute risk prediction (calibration) performance measurements can be calculated. O/E ratios are the crudest measurement of absolute risk performance, but can result in an acceptable performance, even when specific ranges of risk are overpredicted while others are underpredicted. The Hosmer-Lemeshow test is a more granular evaluation method which sorts all patients by predicted risk, divides them into 10 categories, evaluates the O/E ratio separately for each category, and sums up the chi-square error in each category to report an aggregate measurement. Absolute risk prediction performance is dependent on both the baseline outcome incidence and the contributions of risk from each risk factor in the source cohort.

Chapter 3. Results

Yield of Literature Searches

Figure 1 presents the yield and results from the searches. In addition to the articles identified through the primary literature search, a number of articles were identified via hand-searching the reference lists of included articles. Therefore, we began with a yield of 3,499 articles, but retained only 84 articles[29, 34-82,14, 19, 23-25, 83-110,111] that we determined were relevant to the key questions and met the inclusion/exclusion criteria.

Results are divided into three primary sections: a description of all studies (primary model development and validation studies), results specific to Key Question 1, and results specific to Key Question 2.

Definition of Relevant Outcomes

Before describing the results of the literature search, it should be noted that although the search focused entirely on CVD risk prediction, there was considerable heterogeneity in outcome definitions. The following definitions are derived from the literature and were not a priori definitions.

Hard CHD. Among the more restrictive outcomes, there were two definitions of hard CHD, including sudden CHD death and MI with or without cardiac procedures, such as coronary artery bypass graft or percutaneous coronary intervention.

Total CHD. There were three definitions of total CHD, including hard CHD outcome with unstable angina or angina pectoris.

CVA. There were six definitions of CVA, including various subsets of ischemic CVA, hemorrhagic CVA, and transient ischemic attack (Table 4a).

The aggregate outcome of CVD could include some or all of the candidate components from total CHD and CVA, but was required to have at least one component from each, which resulted in 19 different varieties of the CVD outcome (Table 4b). Full definitions for each variety of these outcomes are shown in Table 4b. From this point forward, any outcome mentioned will have a numerical subscript that will reference the outcome definition in Table 4b.

Description of All Studies

We examined studies in which primary models were developed as well as those in which the models were validated in other populations. Appendixes A-N provide a summary of the populations in which the models were developed, as well as the model components and performance. The summary tables are stratified by geographic location and, where appropriate, by sex. The intent is to describe the transition in the model populations as well as the models themselves in order to best consider their applicability to current patient populations. All tables are organized in order of cohort enrollment date, so that the earliest formed cohorts are first and the newest formed cohorts are last. Changes in issues such as population prevalence of disease over time suggest that it is important to consider the original cohort enrollment and end dates that serve as the basis for any model used by clinicians today.

A total of 84 papers[29, 34-82,14, 19, 23-25, 83-110,111] were included in this review, representing a total of 102 risk prediction models. To develop the models, the authors used a total of 100 variations of 73 identifiable patient cohorts. These cohorts provided data on CHD outcomes (52 cohorts), CVD outcomes (31 cohorts), and CVA outcomes (12 cohorts). The results describe the cohorts that were used in the modeling literature, followed by the models themselves, in each case focusing on those with external validation first.

Primary Model Development

Overview of cohorts. The original description of each of the data sources used in the development of these primary risk prediction models is available in Appendix E/Summary Table 2 (note that each of the cohorts could have been used to develop or assess multiple models).

In some cases, different subsets of a larger cohort were used in the models that we identified (e.g., multiple subsets of the Atherosclerosis Risk in Communities [ARIC] cohort were used to develop risk models in the United States), and we list each of these subcohorts separately. In total, there were 57 cohorts or subcohorts used to develop primary models.[14, 19, 23-25, 34-42, 46, 47, 49-52, 54-64, 71, 72, 75, 76, 78, 80, 81, 83, 84, 87, 91, 94, 100, 102, 105, 107, 109, 110] Cohort inception ranged from 1954 to 1999. Of these, 27 were in the Americas (United States and Puerto Rico), 24 were in Europe, and five were in Asia.

A few large studies provide the majority of the available cohorts and subcohorts. For example, six distinct variants or subcohorts of the ARIC study were used to develop primary models with a cardiovascular outcome. Similarly, two subcohorts from the Women’s Health Study (WHS) were used in model development. The subcohorts vary in start and end dates, and other population descriptors, such as cardiovascular risk factors or sex.

In Europe, three variants of the QRESEARCH database, two variants of the Uppsala Longitudinal Study of Adult Men (ULSAM), and two variants of the Prospective Cardiovascular Münster (PROCAM) cohort were used in the development of primary models. Cohort size ranged from 229 to 2,285,815, and follow-up ranged from 3.36 to 28.7 years. In Asia, two cohorts had their genesis in the Hong Kong Diabetes (HKD) Registry. Cohort size ranged from 7,067 to 1,223,740, and follow-up ranged from 5.37 to 13 years.

Substantial variation is evident across the populations or subcohorts used to develop models. Appendix F/Summary Table 3 provides an overview of the characteristics of individuals in each of the populations or subcohorts used for model development. We abstracted data on the population variables that we would expect to be presented, but as is clear from the table, there were significant missing data in the articles. We further stratified these data by geographic area and sex.

Description of cohorts. In the 27 American cohorts,[19, 23-25, 34, 37, 39, 42, 49, 51, 52, 54, 61, 62, 75, 81, 87, 91, 100, 105] the average age ranged from 29.8 to 69.4 years (Appendix F/Summary Table 3). Twenty-six cohorts were comprised of all men[19, 23-25, 37, 39, 42, 49, 51, 52, 62, 75, 81, 105] and 20 were comprised of all women.[19, 23, 24, 37, 39, 42, 51, 52, 62, 75, 105] In those cohorts with both sexes, the proportion of women ranged from 10.2 to 62.6 percent.

The 26 cohorts[19, 23-25, 37, 39, 42, 49, 51, 52, 62, 75, 81, 105] of American men were developed from seven distinct studies. The populations ranged in average age from 25 to 69.7 years. Prevalence of smokers ranged from 12 to 59.7 percent. Men with diabetes were represented in six studies; the proportion with diabetes ranged from 3.56 to 42 percent. The proportion of male participants with hypertension ranged from 13 to 61 percent when hypertension was measured by increased blood pressure and from 6.8 to 35.2 percent when it was measured by medication use.

There were 11 studies used to develop the 24 cohorts of American women.[19, 23, 24, 37, 39, 42, 51, 52, 62, 75, 105] The populations studied ranged in average age from 46.1 to 69.3 years. The prevalence of smokers ranged from 15 to 48.5 percent. Women with diabetes were represented in six of the studies; the proportion with diabetes ranged from 4 to 51 percent. The proportion of female participants with hypertension in these studies ranged from 11 to 62.5 percent when hypertension was measured by increased blood pressure and from 10.7 to 51.7 percent when it was measured by medication use.

In 23 European cohorts,[35, 36, 41, 46, 50, 56, 58-60, 63, 64, 71, 72, 76, 78, 80, 84, 94, 102, 104, 107, 109, 110] the average age ranged from 46.7 to 71 years. Nine cohorts were comprised of all men[35, 36, 46, 58, 59, 78, 107] and 10 were comprised of all women.[35, 36, 46, 58, 59, 78, 107] In those cohorts with both sexes, the proportion of women ranged from 29.4 to 75.4 percent.

The 10 cohorts[35, 36, 46, 58, 59, 78, 107] of European men used in primary model development were derived from seven studies. The populations studied ranged in average age from 47 to 58.3 years. The prevalence of smokers ranged from 18.5 to 43.8 percent. Men with diabetes were represented in four cohorts;[59, 78, 107] the proportion with diabetes ranged from 1.5 to 18.8 percent in those studies not exclusively of patients with diabetes.[58, 59] Two cohorts[78, 107] consisted only of men with diabetes. The proportion of male participants with hypertension was reported in one study[58] (41.6 percent) when hypertension was measured by increased blood pressure, and ranged from 0.1 to 29.7 percent when it was measured by medication use.[35, 58]

The 10 cohorts of European women[35, 36, 46, 58, 59, 78, 107] used for primary model development were derived from eight studies. The populations studied ranged in average age from 48.8 to 57.6 years. The proportion of smokers among participants was reported for three cohorts[35, 58, 107] and ranged from 10.6 to 23.1 percent. Women with diabetes were represented in five cohorts, two of which consisted entirely of patients with diabetes;[78, 107] the proportion with diabetes among the other studies ranged from 1.3 to 14.6 percent. The proportion of participants with hypertension was reported in one study[58] (47.2 percent) when hypertension was measured by increased blood pressure, and ranged from 6.9 to 33.7 percent when it was measured by medication use.[35, 46]

In the eight Asian cohorts,[38, 47, 55, 57, 83] the average age ranged from 46.6 to 68 years. Three cohorts were comprised of all men[47, 55, 83] and three were comprised of all women.[47, 55, 83] In those cohorts with both sexes, the proportion of women ranged from 36.5 to 54.6 percent.

Three cohorts of Asian men were represented in the literature.[47, 55, 83] The populations studied ranged in average age from 45 to 47 years. The prevalence of smokers ranged from 59 to 68.4 percent. Men with diabetes were represented in two studies; the proportion with diabetes ranged from 4.8 to 6.9 percent. The proportion of participants with hypertension reported in two Asian male cohorts was 29 percent[83] and 35.7 percent[47] when hypertension was measured by increased blood pressure, and was not reported as a measure based on medication use.

There also were three cohorts of Asian women.[47, 55, 83] The populations studied ranged in average age from 46 to 49 years. The prevalence of smokers ranged from 4 to 6.5 percent. Women with diabetes were represented in two studies; the proportion with diabetes ranged from 4.1 to 5 percent. The reported proportion of participants with hypertension in the cohorts was 22 percent[83] and 29.2 percent[47] when hypertension was measured by increased blood pressure, and was not reported as a measure based on medication use.

Models with external validations. Of the 102 models identified through the literature search, only 17[14, 18, 19, 23, 25, 46, 59, 63, 96, 112, 136] were externally validated in a population other than the one in which the model was developed (Table 5). These models were all developed from the following nine primary patient cohorts:

- Scottish Heart Health Extended Cohort (SHHEC)
- Diabetes Audit and Research in Tayside, Scotland (DARTS)
- FINRISK
- Framingham Study (FRS)
- Framingham Offspring Study (FRS-O)
- Prospective Cardiovascular Münster Study (PROCAM)
- QRESEARCH Database
- Systematic Coronary Risk Evaluation (SCORE)
- United Kingdom Prospective Diabetes Study (UKPDS)

A description of these nine cohorts is available in Appendix G/Summary Table 4. Models with external validation data were more likely to be used for individual prediction.

The five most common externally validated risk models (among the 11 total) were:

- 1991 FRS model for CVD_2 (with 21 evaluations)
- 1998 FRS model for total CHD_1 (with 23 evaluations)
- FRS ATP-III model for hard CHD_1 (with 16 evaluations)
- PROCAM model for hard CHD_1 (with 11 evaluations)
- SCORE model for CVD mortality (with 11 evaluations)

The externally validated models are typically considered general population, first-outcome incidence calculators, meaning that they were developed using mixed cohorts of patients meant to be representative of a given geographic area. However, it is important to note that the FRS ATP-III model excludes patients with diabetes, the PROCAM model excludes women, the DARTS and UKPDS models exclude patients without diabetes, and the ASSIGN model (derived from SHHEC) includes a non-traditional social deprivation index as a risk factor. Therefore, they are not entirely applicable in all general populations.

All of the FRS models were developed from the original and/or offspring cohorts of the Framingham Study in the United States. The DARTS, ASSIGN, QRESEACH, and UKPDS models were developed from U.K. patients. The PROCAM model was developed from German patients. The SCORE model was developed from patients in 12 European countries, and the FINRISK model was developed from Finnish patients (and is included as one of the 12 countries in the SCORE model).

Models without external validation. The majority of models (87 out of 102) identified through our search have never been validated in an external data set.[14, 18, 19, 25, 34-39, 41, 47, 49, 51, 52, 54-57, 60-62, 71, 75, 76, 78, 80, 81, 83, 84, 87, 91, 93, 100, 101, 103, 107, 109, 111, 112, 114, 115, 136] In many cases, these represent a subset of studies in which variables were simply added or deleted to assess any change. These are unlikely to ever be used in risk prediction, but because they met inclusion criteria, they are included here. Among the 87 models without any external cohort validation, eight used variants in risk factors or outcomes or were temporal updates from well-known cohorts with externally validated risk models (Table 6).[23, 35, 41, 81, 112]

Two models were developed as point score simplifications or evaluations of risk modeling methods other than the Cox proportional hazards model (Table 7).[14, 41]

Ten were developed to compare or improve model performance between a new local model and external validations of more established models,[51, 54, 56, 76, 78, 80, 103, 114, 115] and 57 were developed in order to evaluate candidate variables for risk model inclusion (Table 8).[34, 36, 37, 50, 54, 60, 61, 71, 75, 80, 81, 84, 87, 91, 100, 101, 103, 109]

Five models were developed to evaluate the heterogeneity of risk factors between cohorts (Table 9).[18, 25, 55, 136]

Twelve models were developed to address specific patient populations, such as elderly patients,[93] young patients,[49] patients with diabetes,[38, 57, 78, 107] Asian populations,[38, 47, 57, 83, 111] patients with atrial fibrillation,[52] and Native American populations[62] (Table 10).

Model Validation Studies

Cohort descriptions. Appendix I/Summary Table 6 provides an overview of the data sources used to validate the various models described in this report.[29, 35, 43-45, 48, 53, 54, 63, 65-70, 73, 74, 77, 79, 82, 85, 86, 88-90, 92, 93, 95-99, 101, 104, 106, 108] Cohort inception ranged from 1972 to 2000. Of the validation cohorts identified, nine were in the Americas (United States and Canada),[45, 53, 54, 70, 79, 96, 97, 99, 101] 26 were in Europe (including Australia and New Zealand),[29, 35, 44, 48, 63, 65-69, 73, 77, 82, 85, 86, 88-90, 92, 104, 106, 108] and four were in Asia.[74, 95, 98] Cohort size ranged from 230 to 1,072,800, and follow-up ranged from 3.3 to 21.3 years.

Details on the populations used for validation studies are presented in Appendix J/Summary Table 7. These details are intended to provide an overview of the characteristics of individuals in cohorts that form the basis for the validation studies. Similarly to the data on primary model development, we abstracted data on the population variables that we would expect to be presented, but as is clear from the validation data tables, there were significant missing data in the articles. We further stratified these data by geographic area and sex.

In the American cohorts,[45, 53, 54, 70, 79, 96, 97, 99, 101] the average age ranged from 52 to 64.7 years. Three cohorts were comprised of all men[45, 99, 103] and two were comprised of all women.[45, 99] In the cohorts with both sexes, the proportion of women ranged from 33 to 61.8 percent. The proportion of individuals with diabetes ranged from 2.9 to 14 percent in the cohorts that were not exclusively patients with diabetes; one cohort consisted of patients with diabetes only.[96]

Three cohorts of American men were identified in validation studies.[45, 99, 103] These cohorts ranged in average age from 50.8 to 65.8 years. The prevalence of smokers ranged from 3.2 to 35.4 percent. Patients with diabetes were represented in two cohorts, with 4.7 percent in one and 14.6 percent in the other. The proportion of participants with hypertension was only reported in one male cohort (35.5 percent)[45] when hypertension was measured by increased blood pressure, and was not reported as a measure based on medication use.

There were three cohorts of American women used to validate risk models.[45, 99] The populations studied ranged in average age from 52.6 to 64 years. The prevalence of smokers ranged from 18.2 to 27.2 percent. Patients with diabetes were represented in two of the cohorts, with 4.2 percent in one and 13.7 percent in the other. The proportion of participants with hypertension was only reported in one female cohort (28.4 percent)[45] when hypertension was measured by increased blood pressure, and was not reported as a measure based on medication use.

In the European cohorts, the average age ranged from 34.4 to 71.1 years. Twenty-two cohorts were comprised of all men[35, 43, 44, 66-68, 74, 77, 85, 86, 92, 104, 106] and 15 were comprised of all women.[35, 43, 44, 48, 66-68, 74, 77, 85, 92, 104, 106] Overall, among those cohorts with both sexes, the proportion of women ranged from 27 to 58 percent.

In the 22 cohorts of European men used in the validation studies, the average age ranged from 32.8 to 68.5 years. The prevalence of smokers ranged from 24 to 83.7 percent. Patients with diabetes were represented in 16 cohorts; the proportion with diabetes ranged from 1.4 to 12 percent. The proportion of male participants with hypertension was reported by two studies (8 percent[106] and 75 percent[67]) when measured by increased blood pressure and was also reported by two studies (6.6 and 8 percent) when it was measured by medication use.[43]

Validation studies were conducted in 15 cohorts of European women. The populations studied ranged in average age from 36.1 to 71.1 years. The proportion of smokers among participants ranged from 16.7 to 71 percent. Patients with diabetes were represented in eight cohorts; the proportion with diabetes ranged from 1 to 16 percent. The proportion of female participants with hypertension ranged from 6 to 55 percent when hypertension was measured by increased blood pressure and from 10.5 to 12.1 percent when it was measured by medication use.

The average age in the Asian cohorts was 44.7 years. Three cohorts were comprised of all men[74] and three were comprised of all women.[74] The three distinct cohorts of Asian men were all derived from the Newcastle Heart Project (NHP), with foci on different subgroups (Pakistan, India, and South Asia). Age and proportion of smokers were not reported. The proportion of men with diabetes ranged from 16 to 26 percent. No hypertension data was reported for the three male cohorts. All three cohorts of Asian women were also similarly derived from the NHP study.[74] Age and percentage of smokers were not reported. The proportion of women with diabetes ranged from 16 to 28 percent.

Model performance characteristics. Appendix K/Summary Table 8 presents performance data (discrimination and calibration) on all of the models assessed (both primary and validation). There were a total of 260 instances of CHD and CVD model testing in a cohort, including both model development cohorts and external validation cohorts. The studies resulted in an AUC ranging from 0.52 to 0.88. There were 71 studies that reported Hosmer-Lemeshow goodness-of-fit statistics, and among these, 55 percent were adequately calibrated. We describe these data here by region and by whether the data reflect internal or external validation.

Americas – internal validation. Model performance characteristics were variably reported for each of the models (Table 11). In most cases, the older, well-validated models did not report AUC-type statistics for internal validation. Among those models developed in the Americas, the internally validated AUC measurement or C statistic ranged from 0.63 to 0.84. It should be noted that many of these were studies in which the main focus was to explore the potential impact of a set of variables. Among those models intended to be "finished" products for external consumption, internally validated AUC-type statistics ranged from 0.65 to 0.83. The total cholesterol and low-density lipoprotein variants of the Wilson FRS model for total CHD_1 both reported a C statistic of 0.74 for men and 0.77 for women.[19] An outcome update for 5-year hard CHD_1 for the total cholesterol version of the Wilson FRS model reported an AUC of 0.79 for men and 0.83 for women.[23] An updated FRS model adapted to point scores by D'Agostino and colleagues for 12-year CVD_2 reported a C statistic of 0.76 for men and 0.79 for women.[120] The Reynolds Risk Score for women developed from the WHS cohort for 10-year CVD_3 was measured to have a C statistic of 0.81.[54] The Reynolds Risk Score for men developed from the Physicians' Health Study II cohort for 10-year CVD_{15} was measured to have a C statistic of 0.71.[103] The Personal Heart Early Assessment Risk Tool (HEART) score for hard CHD_2 developed from the ARIC cohort was measured to have an AUC of 0.65 for men and 0.79 for women.[51] The Strong Heart Study (SHS) model developed from the SHS cohort for hard CHD_1 was measured to have a C statistic of 0.70 for men and 0.73 for women.[62]

Calibration measurements were also not reported for internal validation of the older, well-validated models, and were variably reported in the newer studies as an O/E ratio, Hosmer-Lemeshow goodness-of-fit statistic, or a calibration plot, and occasionally as less common measurements, such as the Bayesian or Akaike information criterion. Internal validation of the SHS, D'Agostino CVD, 5-year hard CHD_1 FRS, and Reynolds Risk Score for men and women all reported adequate calibration. The Personal HEART model did not report internal validation calibration measurements.

Americas – external validation. For external validation, outcomes may not exactly match between the cohort and the model. If they are matched, they are designated as such, and if they are not matched, the cohort outcomes will always be listed first (Table 12).

FRS (Anderson) model validations. This model was evaluated in the South Bay Heart Watch cohort for matched 3-year hard CHD_1 (MI and sudden death models added together), and had an AUC of 0.69, with calibration not reported.[100] The authors also evaluated the effect of outcome mismatching by evaluating 3-year hard CHD_2/hard CHD_1 and found a non-significant change in AUC to 0.67. The model was evaluated in the Lipid Research Clinics Prevalence Study cohort for CHD mortality/total CHD_1, and the AUC was 0.83 in men and 0.82 in women, but the authors did not report on calibration. The outcome mismatch occurred because that cohort did not have non-fatal CHD outcomes.

FRS (Wilson) model validations. D'Agostino and colleagues evaluated five U.S. cohorts for 5-year hard CHD_1, using the outcome-matched variant FRS Wilson model.[23] This FRS model was developed in this study using the same cohort and risk variables as the Wilson models; thus, we considered it part of the Wilson family of models. Calibration was evaluated by the Hosmer-Lemeshow goodness-of-fit test, and chi-square values less than 5.5 indicate adequate calibration.

Applying the model to the ARIC cohort produced an AUC of 0.75 in white men, 0.67 in black men, 0.83 in white women, and 0.79 in black women. Calibration was adequate for each of the subcohorts as measured by the Hosmer-Lemeshow test. The ARIC cohort was also evaluated for unmatched 10-year hard CHD_2/hard CHD_1, and the AUC was 0.69 for men and 0.81 for women.[51]

Applying the model to the SHS cohort resulted in an AUC of 0.69 in Native American men and 0.75 in Native American women. Calibration was adequate for men, but inadequate ($\chi^2 = 22.7$) for women. On the other hand, calibration was adequate for both sexes when the model was applied to the Cardiovascular Health Study (CHS), with an AUC of 0.63 in white men and 0.66 in white women.

Use of the model in the Puerto Rico Heart Health Program (PRHHP) cohort resulted in an AUC of 0.69 in Hispanic men, and calibration was inadequate ($\chi^2 = 142.0$), similar to results using the

Honolulu Heart Program (HHP), in which the AUC was 0.72 in Japanese American men, with inadequate calibration again ($\chi^2 = 66.0$).

Another study combined patients with chronic kidney disease from the ARIC and CHS cohorts and evaluated matched 5- and 10-year hard CHD_1.[45] For 5-year outcomes, the C statistic was 0.62 in men and 0.77 in women, and for 10-year outcomes, the C statistic was 0.60 in men and 0.73 in women. Calibration was inadequate for both sexes and outcomes, with chi-square values ranging from 33.4 to 75.1.

The Johns Hopkins Sibling Study was evaluated with the model for matched total CHD_1 among healthy siblings of patients with known premature coronary artery disease (CAD).[42] The study did not report discrimination, and calibration was adequate for women but inadequate for men ($\chi^2 = 75$). The number of observed outcomes significantly exceeded those predicted in men (O/E ratio, 1.67 [95% confidence interval (CI), 1.34–2.06]), and non-significantly exceeded those predicted in women (O/E ratio, 1.13 [95% CI, 0.74–1.64]).

The Chicago Heart Association Detection Project in Industry study evaluated young men aged 18 to 39 years without diabetes for unmatched 10-year hard CHD_1/total CHD_1.[49] Discrimination was not measured, and the number of observed outcomes was significantly lower than expected (O/E ratio, 0.05 [95% CI, 0.03–0.07]). The Women's Health Initiative evaluated women for unmatched hard CHD_1/total CHD_1, and the AUC was 0.69.[53] The WHS cohort evaluated women for unmatched CVD_3/total CHD_1 using both the total cholesterol and low-density lipoprotein versions of the model.[54] The AUC was 0.75 in both cases, and they were both inadequately calibrated. The San Antonio Heart Study cohort evaluated men and women, 68 percent of whom were Hispanic, for unmatched CVD_{15}/total CHD_1, and the AUC was 0.82.[79] Finally, the Normative Aging Study evaluated male U.S. military veterans for matched total CHD_1. The AUC was 0.63, and observed outcomes were non-significantly lower than expected (O/E ratio, 0.93 [95% CI, 0.81–1.06]).

FRS (ATP-III) model validations. The St. Francis Heart Study cohort evaluated men and women for unmatched hard CHD_2/hard CHD_1, and the AUC was 0.68.[70] The ARIC cohort was evaluated in two studies for unmatched 6-year and mean 11-year hard CHD_2/hard CHD_1.[75, 105] The 6-year study reported an AUC of 0.65 for men and 0.67 for women, and the mean 11-year study reported an AUC of 0.63 for men and 0.73 for women. The South Bay Heart Watch cohort evaluated men and women without diabetes for matched hard CHD_1, and the AUC was 0.63.[87] The WHS evaluated women for unmatched CVD_3/hard CHD_1, and the AUC was 0.79, with inadequate calibration.[54] The Chicago Heart Association study evaluated young men aged 18 to 39 years without diabetes for 10-year matched hard CHD_1.[49] Discrimination was not reported, and calibration was inadequate ($p = 0.07$, based on the Hosmer-Lemeshow goodness-of-fit test).

Europe – internal validation. Reporting of model performance characteristics in internal cohorts during model development was highly variable (Table 13). Discrimination measurements, either AUC or C statistic, ranged from 0.52 to 0.83 for those models developed in European patients. The QRESEARCH cohort in the United Kingdom was used to develop a series of models under the QRISK name, namely version 1, version 1.1, and version 2.[35, 43, 46] Version 1 was developed for CVD_4, version 1.1 was developed for CVD_{10}, and version 2 was developed for CVD_1. The AUC for these models ranged from 0.77 to 0.79 among men and from 0.79 to 0.82 among women. Calibration measurements in version 1 were reported using the Brier score and O/E ratio, and were not significantly different from 1.0. Calibration measurements were reported to be adequate and were represented in graphical form for version 2.

The Swedish National Diabetes Register was used to develop a diabetes-specific risk model that added hemoglobin A_{1c}, age at onset of diabetes, and duration of diabetes to the traditional risk factors for the outcome of CVD_5. The C statistic for the model was 0.70, and it was adequately calibrated by the Hosmer-Lemeshow goodness-of-fit test.[107] The Supplementation en Vitamines et Mineraux Antioxydants (SU.VI.MAX) model was developed in a French cohort of men for the outcome of total CHD_1, and the AUC was 0.75. No calibration measurements were reported. Models were developed from the Second Northwick Park Heart Study (NPHS-II), West of Scotland Coronary Prevention Study, European Prospective Investigation of Cancer-Norfolk (EPIC-Norfolk), and the Norwegian Government Study to evaluate diabetes variables, echocardiography characteristics, family history of CAD, fibrinogen, lipoprotein A, apolipoproteins A1 and B, and exercise testing.[36, 60, 71, 84] The CUORE cohort, consisting of men from Italy, was used to develop a model for the outcome of hard CHD_2.[76] Internal validation was reported as an AUC of 0.74, with questionable calibration ($\chi^2 = 15.5$). The DARTS cohort consisted of patients with type 2 diabetes in Scotland who were utilized to develop a model for hard CHD_1.[63] The AUC in the internal validation was 0.71, and calibration measurements were not reported. The PROCAM cohort of German men was used to develop a risk prediction model for hard CHD_1. The AUC of the model was 0.83, and the calibration was adequate. A cohort from New Zealand was used to develop a risk prediction model for 5-year CVD_2, and the AUC was 0.73 for men and 0.78 for women.[89] The Intervention as a Goal in Hypertension Treatment (INSIGHT) cohort utilized a multinational cohort including patients with hypertension to develop a model for CVD_{14} and $stroke_4$.[94] The CVD version reported an AUC of 0.66. Calibration was reported by an O/E ratio of 1.0 for the stroke version and 1.25 for the CVD version. A cohort of elderly (aged 60–79 years) Australians in Dubbo, New South Wales was used to generate a risk prediction model for 5- and 10-year CVD_4.[93] No discrimination measures were reported, and the calibration was reported as inadequate for both 5- and 10-year outcomes.

Europe – external validation. The FRS (Anderson) family of models has been extensively externally validated among European cohorts. The Poole Diabetes Study evaluated men and women with diabetes for unmatched total CHD_3/total CHD_1 and CVD_{13}/CVD_2 outcomes with two version of the model.[73] The entire cohort as well as a variety of subcohorts (men, women, and patients with treated and untreated hypertension) were evaluated. The same trends were present for all analyses. The CVD outcome analysis found an AUC of 0.67 and 0.68 for men and women, respectively. The CHD outcome analysis found an AUC of 0.73 and 0.70 for men and women, respectively. In the overall cohort, there was inadequate calibration for both outcomes, and the O/E ratio was 1.46 for the CHD outcome and 1.48 for the CVD outcome.

The SHHEC, which consisted of Scottish men and women, was evaluated for the unmatched outcome of 10-year CVD_{11}/CVD_2. The AUC was 0.72 for men and 0.74 for women. The O/E ratio was 0.71 (95% CI, 0.66–0.76) for men and 0.65 (95% CI, 0.59–0.71) for women, indicating that the model predicted an excess of outcomes. The British Regional Heart Study (BRHS), consisting of men aged 40 to 59 years without diabetes, was evaluated for a series of unmatched outcomes using the total CHD_1 version of the model and 10- and 20-year hard CHD_1, $stroke_1$, and diabetes mellitus outcomes.[65] The AUC measurement ranged from 0.63 to 0.69, and the outcomes were purposely mismatched to evaluate the performance of the tool for these outcomes. Calibration was not calculable, except for 20-year hard CHD_1/total CHD_1, which reported an O/E ratio of 2.5 (95% CI, 2.33–2.68), revealing that the observed outcomes were largely in excess of predicted outcomes.

The Leiden-85 cohort, a group of elderly (age 85 years) men and women from the Netherlands, was evaluated for unmatched CVD mortality/CVD_2.[102] The AUC was 0.53. The Cardiff Diabetes Database cohort, a group of men and women with diabetes, was evaluated for the matched outcome of CVD_2.[85] The AUC was 0.64 for men and 0.66 for women. The O/E ratio for men was 0.81 (95% CI, 0.67–0.98) and for women it was 0.86 (95% CI, 0.67–1.08).

A cohort from New Zealand was evaluated for 5-year CVD_2; the AUC was 0.74 for men and 0.77 for women, and the O/E ratio was 1.17 (95% CI, 1.05–1.31) and 1.09 (95% CI, 0.88–1.34) for men and women, respectively.[89] The QRESEARCH cohort was evaluated for unmatched 10-year CVD_4/CVD_2, and the AUC was 0.76 for men and 0.77 for women.[43] The O/E ratio was 0.68 for men and 0.83 for women. The same cohort was evaluated for unmatched 10-year CVD_{10}/CVD_2, and the AUC was 0.76 for men and 0.78 for women.[46]

The British Women's Heart and Health cohort was evaluated for unmatched total CHD_3/total CHD_1 and CVD_{11}/CVD_2.[64] The AUC was 0.63 for the CHD outcome and 0.64 for the CVD outcome. The O/E ratio for the CHD outcome was 0.97 (95% CI, 0.84–1.11) and for the CVD outcome it was 0.65 (95% CI, 0.57–0.74). The Health Improvement Network cohort was evaluated for 10-year CVD_{10}/CVD_2, and the AUC for men was 0.74 and for women it was 0.76.[43] The O/E ratio for men was 0.76 (95% CI, 0.75–0.76) and for women it was 0.91 (95% CI, 0.90–0.92). The Monitoring Project on Cardiovascular Disease Risk Factors (MP-CVDRF) cohort was evaluated for 10-year CVD mortality/CVD_2.[106] The AUC was 0.86 for all patients, and was 0.69 among smokers, 0.81 in patients with elevated total cholesterol, 0.79 in patients with hypertension, and 0.80 in high-risk patients. The PROCAM cohort was evaluated for the hard CHD_1 outcome.[92] The O/E ratio for men was 0.56 (95% CI, 0.50–0.63) and for women it was 0.35 (95% CI, 0.24–0.59), and the AUC for men was 0.73 and for women it was 0.88. The Renfrew-Paisley cohort compared manual and non-manual labor employment as a socioeconomic status indicator for the unmatched CVD mortality/CVD_2 outcome.[66] The O/E ratio for the entire cohort was 1.71 (95% CI, 1.59–1.85) and the AUC was 0.73. The AUC for manual laborers was 0.72 and for non-manual laborers it was 0.74. The Prospective Evaluation of Diabetic Ischaemic Disease by Computed Tomography (PREDICT) cohort of patients with diabetes was evaluated for the unmatched CVD_{19}/CVD_2 outcome, and the AUC was 0.63.[108] An Australian Aboriginal cohort was evaluated for the matched total CHD_1 outcome, and the O/E ratio for men was 2.00 (95% CI, 1.37–2.82) and for women it was 3.92 (95% CI, 2.81–5.32).[77] The BRHS cohort of men was evaluated for the matched outcomes of CHD mortality and total CHD_1.[88] The models revealed poor calibration using both model outcome versions, with the CHD mortality version resulting in a chi-square value of 30.2 ($p<0.01$) and an O/E ratio of 0.68 (95% CI, 0.59–0.79). The total CHD_1 version resulted in a chi-square value of 155 ($p<0.01$) and an O/E ratio of 0.64 (95% CI, 0.59–0.69). The INSIGHT cohort of middle-aged patients with hypertension was evaluated for the unmatched outcome of CVD_{14}/CVD_2, the matched outcome of total CHD_1, and the matched outcome of $stroke_4$.[94] The O/E ratio for the unmatched CVD outcome was 0.39 (95% CI, 0.38–0.44), for the total CHD_1 outcome it was 0.44 (95% CI, 0.36–0.52), and for the $stroke_4$ outcome it was 1.00 (95% CI, 0.81–0.22). The MONICA Augsburg cohort was evaluated for unmatched hard CHD_1/CVD_2, and the AUC for men was 0.78 and for women it was 0.88. The O/E ratio for men was 0.50 (95% CI, 0.42–0.59), and for women it was 0.39 (95% CI, 0.27–0.54).[92] The Wisconsin Epidemiologic Study of Diabetic Retinopathy

(WESDR) cohort of patients with diabetes was evaluated for unmatched stroke mortality/CVD_2, and the O/E ratio was 1.79 (95% CI, 1.37–2.29).[96] The NHP-Europe cohort was evaluated for unmatched stroke mortality/$stroke_4$, and the O/E ratio was 3.91 (95% CI, 1.91–7.18).

The FRS (Wilson) family of models has also been extensively externally validated among European cohorts. The EPIC-Norfolk cohort was evaluated for matched total CHD_1, and the AUC for both men and women was 0.71.[36] The Study of Atherosclerotic Risk Factors cohort of Czech men without diabetes was evaluated for the matched outcome of total CHD_1, and the AUC was 0.64, with an O/E ratio of 1.28 (95% CI, 1.05–1.54). The Validez de la Ecuación de Riesgo Individual de Framingham de Incidentes Coronarios Adaptada (VERIFICA) cohort of Spanish patients was evaluated for matched total CHD_1.[58] The AUC for men was 0.68 and for women it was 0.73. Calibration, as evaluated by the Hosmer-Lemeshow goodness-of-fit test, was inadequate for both men ($\chi^2 = 110$) and women ($\chi^2 = 64$). The O/E ratio for men and women, respectively, was 0.45 (95% CI, 0.37–0.54) and 0.44 (95% CI, 0.34–0.55). A cohort of patients with diabetes in Lyon, France was evaluated for unmatched CVD_6/total CHD_1.[72] The AUC was 0.72, and the O/E ratio was 1.36 (95% CI, 0.96–1.88). The ULSAM cohort of Swedish men was evaluated for unmatched CVD mortality/total CHD_1, and the AUC was 0.58.[80] The CUORE cohort of Italian men was evaluated for unmatched hard CHD_2/total CHD_1.[76] The AUC was 0.72, and the O/E ratio was 0.33 (95% CI, 0.29–0.37). The Rotterdam Coronary Calcification Study was evaluated for unmatched CVD_3/total CHD_1.[69] The AUC was 0.73 and 0.68 for men and women, respectively. The MONICA Augsberg cohort of white male patients in Germany was evaluated for unmatched hard CHD_1/total CHD_1, and the AUC was 0.74.[86] The SU.VI.MAX cohort of French male patients was evaluated for matched total CHD_1.[110] The AUC was 0.74 and the O/E ratio was 0.50. A cohort of patients with diabetes in a German university clinic was evaluated for unmatched MI/hard CHD_1, and the AUC was 0.63.[104] A cohort of renal transplant patients in France were evaluated for matched total CHD_1, and the O/E ratio was 1.69 (95% CI, 1.13–2.42).[82]

The FRS ATP-III model has been externally validated a number of times in European cohorts. A cohort of German clinic patients was evaluated for matched hard CHD_1, and the AUC was 0.63.[104] A cohort of patients aged 55 years and older living in a suburb of Rotterdam, Netherlands was evaluated for matched hard CHD_1. The AUC was 0.63 and 0.73 for men and women, respectively. The O/E ratio was 0.72 (95% CI, 0.65–0.80) for men and 1.02 (95% CI, 0.93–1.12) for women.[48] The NPHS-II cohort of British men was evaluated for unmatched hard CHD_2/hard CHD_1.[71] The AUC was 0.62, and the O/E ratio was 0.47 (95% CI, 0.41–0.54). The Prospective Epidemiological Study of Myocardial Infarction (PRIME) cohort of Northern Irish men evaluated unmatched 5-year total CHD_1/hard CHD_1.[90] The AUC was 0.66, and the O/E ratio was 0.75 (95% CI, 0.62–0.89). The PRIME cohort of French men was evaluated for unmatched 5-year total CHD_1/hard CHD_1.[90] The AUC was 0.68, and the O/E ratio was 0.67 (95% CI, 0.58–0.77). The ULSAM cohort of Swedish men aged 70 years and older was evaluated for unmatched MI/hard CHD_1, and the AUC was 0.61.[50] The same cohort was evaluated for matched 10-year hard CHD_1, and the O/E ratio was 0.21 (95% CI, 0.15–0.30). The PROCAM cohort was evaluated for matched hard CHD_1.[14] The AUC was 0.78, and the calibration, as measured by the Hosmer-Lemeshow goodness-of-fit test ($\chi^2 = 44$; $p < 0.01$), was inadequate. The Dubbo study of Australian patients aged 60 to 79 years without diabetes was evaluated for matched 10-year CVD_4.[93] The O/E ratio for men and women, respectively, was 0.91 (95% CI, 0.75–1.10) and 0.93 (95% CI, 0.74–1.13).

The UKPDS hard CHD_1 risk model for patients with diabetes has been externally validated in other European cohorts. British patients with diabetes were evaluated for unmatched total CHD_3/hard CHD_1. The overall population was found to have an AUC of 0.67, calibration by the Hosmer-Lemeshow test ($\chi^2 = 17.1$; $p = 0.03$) was inadequate, and the O/E ratio was 1.15 (95% CI, 0.89–1.48). Among men, the AUC was 0.67 and the O/E ratio was 1.11 (95% CI, 0.81–1.49). Among women, the AUC was 0.62 and the O/E ratio was 1.19 (95% CI, 0.74–1.82).[73] The National Health Service (NHS) Trust cohort of patients with diabetes at an UK university diabetes clinic was evaluated on the unmatched outcomes of CVD_{18}/hard CHD_1 and total CHD_2/hard CHD_1.[78] The CVD outcome had an AUC of 0.74 and an O/E ratio of 1.20 (95% CI, 1.08–1.33). The CHD outcome had an AUC of 0.76 and an O/E ratio of 1.60 (95% CI, 1.42–1.80). The PREDICT cohort of British patients with diabetes was evaluated for unmatched CVD_{19}/hard CHD_1 and total CHD_2/hard CHD_2. The CVD outcome had an AUC of 0.67, and the total CHD outcome had an AUC of 0.63.[108] A cohort of patients with diabetes in Munich was evaluated for unmatched MI/hard CHD_1, and the AUC was 0.66.[104]

The SCORE model for CVD mortality was externally validated in a number of European cohorts. A cohort of German patients from Ludwig University was evaluated for unmatched hard CHD_1/CVD mortality, and the AUC was 0.66.[104] The Vorarlberg Health Monitoring and Promotion Program of Austrian patients was evaluated for both matched CVD mortality and unmatched CHD mortality/CVD mortality.[68] The CVD outcome had an AUC of 0.80 for the entire population, 0.76 for men, and 0.78 for women. The O/E ratio for this outcome was 0.73 (95% CI, 0.67–0.80) for everyone, 0.84 (95% CI, 0.75–0.92) for men, and 0.52 (95% CI, 0.42–0.62) for women. The unmatched CHD outcome had an AUC of 0.75 for men and 0.84 for women, and the O/E ratio was 0.79 (95% CI, 0.70–0.89) for men and 0.46 (95% CI, 0.35–0.60) for women. A cohort of Norwegian patients aged 60 to 69 years without diabetes was evaluated for matched CVD mortality.[44] The high-risk equation reported an AUC for men and women of 0.65 and 0.68, respectively, and an O/E ratio of 0.45 (95% CI, 0.40–0.50) and 0.37 (95% CI, 0.31–0.44). The low-risk equation reported an O/E ratio for men and women of 0.79 (95% CI, 0.70–0.88) and 0.56 (95% CI, 0.47–0.66), respectively. The Norwegian Counties Study of patients aged 40 to 59 years without diabetes was evaluated for matched CVD mortality.[44] The high-risk equation reported an AUC for men aged 40 to 49 years of 0.67 and for men aged 50 to 59 years it was 0.68. The AUC for women aged 40 to 49 years was 0.66 and for women aged 50 to 59 years it was 0.72. The O/E ratio for men was 0.53 (95% CI, 0.48–0.58) and for women it was 0.42 (95% CI, 0.34–0.51). The MP-CVDRF cohort of patients aged 20 to 59 years from the Netherlands was evaluated for matched 10-year CVD mortality.[106] The NHP-Europe cohort of patients was evaluated for unmatched CHD mortality/CVD mortality, and the O/E ratio was 3.24 (95% CI, 2.08–4.82).[74]

The PROCAM Cox proportional hazards model for hard CHD_1 was evaluated in a number of European cohorts. The NHS Trust cohort of British patients with diabetes was evaluated for unmatched CVD_{18}/hard CHD_1 and total CHD_2/hard CHD_1.[78] The CVD outcome had an AUC of 0.67 and an O/E ratio of 2.79 (95% CI, 2.51–3.09). The total CHD outcome had an AUC of 0.65 and an O/E ratio of 2.05 (95% CI, 1.82–2.31). The Ludwig University cohort was evaluated for matched hard CHD_1, and the AUC was 0.65.[104] The Northern Irish PRIME cohort of men was evaluated for 5-year hard CHD_1; the AUC was 0.61 and the O/E ratio was 0.56 (95% CI, 0.43–0.72).[90] The French PRIME cohort of men was evaluated for matched 5-year hard CHD_1; the AUC was 0.64 and the O/E ratio was 0.23 (95% CI, 0.19–0.28).[90] The ULSAM cohort of men was evaluated for matched 10-year hard CHD_1 and unmatched MI/hard CHD_1.[80] The MI outcome had an AUC of 0.63, and the hard CHD outcome had an O/E ratio of 0.27 (95% CI, 0.19–0.38). The NPHS-II cohort of white men was evaluated for unmatched hard CHD_2/hard CHD_1.[71] The AUC was 0.63, and the O/E ratio was 0.46 (95% CI, 0.40–0.52). A cohort of German working men in the region of Münster (a subset of the PROCAM cohort) was evaluated for matched hard CHD_1, and the O/E ratio was 0.78 (95% CI, 0.70–0.87).[29]

The ASSIGN model for CVD_{11} was evaluated in the SHHEC and QRESEARCH cohorts. In the SHHEC cohort, the matched 10-year CVD_{11} outcome was evaluated.[59] For men, the AUC was 0.73 and the O/E ratio was 0.79 (95% CI, 0.73–0.85). For women, the AUC was 0.77 and the O/E ratio was 0.67 (95% CI, 0.61–0.74). In the QRESEARCH cohort, the unmatched 10-year CVD_4/CVD_1 outcome was evaluated.[46] For men, the AUC was 0.76 and the O/E ratio was 0.73 (95% CI, 0.72–0.74). For women, the AUC was 0.78 and the O/E ratio was 0.73 (95% CI, 0.72–0.74).

Both the CardioRisk Manager (CRM) and Joint British Societies Risk Prediction Chart (JBSRC) models were evaluated in a single cohort, the NHS Trust. The outcomes in the cohort were total CHD_2 and CVD_{18}; in both cases, the total CHD_2 outcome was matched to the models and the CVD outcomes were unmatched. The total CHD outcome was evaluated with the JBSRC model and had an AUC of 0.77. The same outcome was evaluated with the CRM model and the AUC was 0.73. The CVD outcome was evaluated in the JBSRC model and the AUC was 0.80, and for the CRM model, it was 0.37.

The DARTS model was evaluated for matched hard CHD_1 in the Salford, England cohort of patients with diabetes.[63] The AUC for this model was 0.69.

The QRISK model was quasi-externally evaluated in the QRESEARCH cohort for the unmatched outcome of CVD_1/CVD_4. The AUC for men was 0.79, and for women it was 0.81.[35]

The UKPDS-60 model for stroke was evaluated in the WESDR cohort for unmatched stroke mortality/$stroke_1$. The O/E ratio was 1.13 (95% CI, 0.87–1.45) (Table 14).

Asia – internal validation. Reporting of model performance characteristics in internal cohorts during model development was variable. The discrimination measurements, either AUC or C statistic, ranged from 0.74 to 0.82 for those models developed in European patients. The Cox proportional hazards model developed from the Chinese Multi-Provincial Study (MUCA) cohort evaluated the outcome of hard CHD_1.[83] The AUC for men and women was 0.74 and 0.76, respectively. Models for both sexes were also calibrated, with a chi-square value of 12.6 (p=0.13) in men and 14.2 (p=0.08) in women. The MUCA-II cohort was utilized to develop a model for predicting CVD_{17}, and the AUC for the simple version was 0.79 for both sexes. For the point score adaptation, the AUC for men was 0.79 and for women it was 0.78. The National Health Insurance Corporation cohort was used to produce the Korean Stroke Risk Prediction model for 10-year $stroke_6$. The AUC for men was 0.82 and for women it was 0.81. Models for both sexes were adequately calibrated, with the male model reporting a chi-square value of 7.7 (p=0.56) and the female model reporting a chi-square value of 14.3 (p=0.16). The HKD Registry was used to develop both a total CHD_1 and a $stroke_1$ risk model. The stroke risk model reported an AUC of 0.79, and the total CHD_1 model reported an AUC of 0.74. The study also evaluated how much mismatched stroke outcomes ($stroke_5$ and $stroke_3$) would affect discrimination, and the AUC reported for $stroke_5$ and $stroke_3$ was 0.77 and 0.79, respectively (Table 15).

Asia – external validation. The FRS (Wilson) family of models was evaluated in two cohorts in Asia. First, the MUCA cohort was used to evaluate the matched outcome of hard CHD_1. The AUC for men was 0.71, and for women it was 0.74. Neither sex-specific model was calibrated; for men the chi-square value was 646 ($p<0.01$) and for women it was 148 ($p<0.01$). The JapanWork cohort of men was used to evaluate matched 5-year and 10-year total CHD_1. The AUC for the 5-year total CHD_1 outcome was 0.71, and for the 10-year total CHD_1 outcome it was 0.62. The O/E ratio was 0.38 for the 5-year outcome and 0.58 for the 10-year outcome.

The UKPDS-56 model for patients with diabetes was evaluated in one Asian cohort, the HKD Registry, for matched hard CHD_1. The AUC was 0.61. The UKPDS-60, the stroke risk model, was applied to the same cohort for matched $stroke_1$, and the AUC was 0.61.

A custom FRS model[55] was applied to the Asia Pacific Cohort Studies Collaboration (APCSC) total Asian cohort for the matched outcome of CVD_8. The AUC for men was 0.75, and for women it was 0.79. Neither sex-specific model was calibrated, with the male model reporting a chi-square value of 558 ($p<0.01$) and the female model reporting a chi-square value of 608 ($p<0.01$). The O/E ratio of the male model was 0.27, and for the female model it was 0.50.

The SCORE risk model was evaluated in the NHP South Asia cohort for unmatched CHD mortality/CVD mortality. The O/E ratio was 4.42.

Finally, the FRS (Anderson) stroke model was applied to the NHP South Asia cohort, and the O/E ratio was 1.88 (Table 16).

Remodeling and Recalibration

Americas. Model recalibration is a method in which the source model's intercepts are adjusted by the outcome incidence in the local population, but the risk variable coefficients remain intact. Remodeling is a method in which the risk variables from a prior equation are used to develop a new model in a local population. For this reason, any models that were generated in new cohorts that used the same variables as a previously published risk prediction model were considered remodeling efforts, not new model development. In addition, remodeling adjusts the new model by definition to matching outcomes between the cohort and model, while recalibration does not, since the risk variable coefficients are unchanged from the source model.

The FRS (Wilson) model was recalibrated or remodeled in a number of other cohorts. WHS data were used to remodel both the total cholesterol and low-density lipoprotein versions of the FRS (Wilson) model for total CHD_1 to the outcome of CVD_3.[54] In both cases, the source models had shown inadequate calibration, while both of the remodeled models showed adequate calibration, with an AUC of 0.79 for both. D'Agostino and colleagues evaluated five U.S. cohorts for 5-year hard CHD_1 using the outcome-matched variant FRS Wilson model.[23] Of the five cohorts, the source model failed calibration tests in Native American women in the SHS cohort, Hispanic men in the PRHHP cohort, and Japanese American men in the HHP cohort. The source model was recalibrated in each of those cohorts, and in each case, the recalibrated model had adequate calibration. The Johns Hopkins Sibling Study was evaluated with the model for matched total CHD_1 among healthy siblings of patients with known premature CAD.[42] The source model was found to be inadequately calibrated for men. The model was recalibrated using the local cohort, and calibration was found to be adequate in the adjusted model. One study combined patients with chronic kidney disease from the ARIC and CHS cohorts and evaluated matched 5- and 10-year hard CHD_1.[45] Calibration was determined to be inadequate for both outcomes for both sexes. After recalibration was performed by replacing the baseline incidence using the local cohort, calibration was adequate for both sexes for the 5-year outcome and for women at 10 years, but calibration remained inadequate in men for the 10-year outcome. This study also remodeled the source model in both sexes for the 10-year outcome. This resulted in adequate calibration for both sexes, and significantly improved discrimination in men from 0.60 to 0.68, and in women it improved from 0.73 to 0.81.

The FRS ATP-III model was recalibrated or remodeled in a number of other cohorts. WHS data were used to perform remodeling of the FRS ATP-III model for hard CHD_1 to the outcome of CVD_3.[54] The source model had shown inadequate calibration, and the remodeled model was reported to be adequately calibrated, with an AUC of 0.81.

A custom four-variable model from the fourth examination of the FRS was developed to be applied to both the National Health and Nutrition Examination Survey (NHANES) I and II cohorts in order to evaluate model performance in external U.S. cohorts and whether remodeling would result in significant risk variable coefficient changes.[25] This study evaluated four of the six variables (excluding diabetes and low-density lipoprotein cholesterol) from the FRS (Wilson) family. All four variables (age, systolic blood pressure, total cholesterol, and smoking) showed significant coefficient variation among models developed from each of the three cohorts in men, but only smoking varied significantly for women. In addition, AUC estimates when each of the cohorts was internally validated or when the custom FRS model was externally validated were nearly identical. Finally, while the O/E ratio was not significantly different than 1.0 for women, the custom FRS model overestimated the mortality rate for men in both NHANES cohorts (Table 17).

Europe. The FRS (Anderson) family of models was recalibrated or remodeled in three separate cohorts. The QRESEARCH cohort was used to recalibrate the model using the Nationwide Instruction for Cardiovascular Education method for the matched outcome of CVD_1.[46] The AUC for men was 0.78, and for women it was 0.80. The Cardiff cohort was used to perform remodeling for CVD_2, and the AUC for men and women was 0.65 and 0.68, respectively.[85] Finally, the BRHS cohort of men was used to remodel both CHD mortality and total CHD_1 outcomes.[88] The new CHD mortality model was adequately calibrated ($\chi^2 = 3.4$; p=0.91), but the total CHD model was inadequately calibrated ($\chi^2 = 24.6$; p<0.01).

The FRS (Wilson) family of models was recalibrated or remodeled in three separate cohorts. The EPIC-Norfolk cohort was used to perform remodeling, and the AUC for men was 0.72, and for women it was 0.80.[36] The VERIFICA cohort was used to perform remodeling for the outcome of total CHD_1. The AUC for men was 0.69, and for women it was 0.81. Both sex-specific models reported adequate calibration. The CUORE cohort of men was used to perform remodeling for the hard CHD_2 outcome using both the D'Agostino and Chambless methods.[76] The D'Agostino method resulted in an AUC of 0.72, but the calibration was inadequate ($\chi^2 = 27.1$; p<0.01). The Chambless method resulted in an AUC of 0.72, and the calibration was also inadequate ($\chi^2 = 19.9$; p=0.01).

The CUORE cohort was also used to remodel the PROCAM model for the outcome of hard CHD_2, using both the D'Agostino and Chambless methods. In both cases, the AUC was 0.74, and there was inadequate calibration.[76] For the D'Agostino method, the chi-square value was 220 (p<0.01), and for the Chambless method, it was 53 (p<0.01) (Table 18).

Asia. The FRS (Anderson) family of models was the source for recalibration among both the MUCA and MUCA-II cohorts. The outcome in MUCA was matched hard CHD_1, and in MUCA-II it was matched CVD_{17}. The MUCA cohort reported an AUC in men of 0.74 and in women it was 0.76. The MUCA-II cohort reported an AUC of 0.80 among men and 0.79 among women. The custom FRS model[55] was remodeled using the APCSC China cohort, and the AUC for men was 0.76, and for women it was 0.80. The model was not adequately calibrated for men (χ^2 = 16.7; p=0.03) but was calibrated for women (χ^2 = 12.2; p=0.15) (Table 19).

Synthesis of Data Specific to Key Question 1

KQ1: Do any of the currently available tools for the prediction of cardiovascular risk in a North American population offer clear advantages over the others in predicting incident CHD, cerebrovascular stroke (stratified by thrombotic or hemorrhagic type), or a combination of these two?

The external validations with the strongest evidence are those with matched outcomes among North American and European cohorts. Asian cohorts are less applicable, as it has been well-established that those populations have significantly different outcome event rates of CHD and cerebrovascular disease than the general U.S. population, and are therefore not discussed in this section.

A 5-year version of the 1998 FRS model was evaluated in five different U.S. cohorts for matched outcomes. This study found that prediction performance was superior in women across all cohorts. In addition, while relative risk performance was maintained across all cohorts, absolute risk prediction was poor in Asian American or Hispanic cohorts.[23] The 1991 FRS model was evaluated in high-risk patients (patients with <10 percent FRS risk were excluded at baseline) for matched outcomes and had an acceptable O/E ratio.[100] The 1998 FRS model was evaluated in siblings of patients with early onset CVD for matched outcomes, and the tool significantly underpredicted outcomes.[42] The 1998 FRS model was evaluated in male veterans for matched outcomes and had an acceptable O/E ratio.[97] The FRS ATP-III model was evaluated in young adults aged 18 to 39 years for matched outcomes and it significantly overpredicted outcomes.[49]

British patients with diabetes and predominantly white workers from New Zealand were both evaluated using the 1991 FRS equation with matched outcomes.[85, 89] Female patients with diabetes had an acceptable O/E ratio, but outcomes for men were underpredicted. The male worker outcomes were underpredicted, and the female worker outcomes were acceptably predicted. The 1991 FRS equation was also used to evaluate the PROCAM cohort with matched outcomes, and outcomes were significantly overpredicted.[92] Australian Aborigines were evaluated with the 1991 FRS model for matched outcomes, and the model significantly underpredicted the outcome rate.[77] Two outcome versions of the 1991 FRS model were evaluated for matched outcomes in a cohort of British men, and both outcomes were overpredicted.[88] A multinational cohort of patients from Western Europe and Israel was evaluated with the 1991 FRS model for matched outcomes, and the tool significantly overpredicted outcomes.[94] The 1998 FRS model was used to evaluate Czech men without diabetes for matched outcomes, and it significantly underpredicted outcomes.[56] A cohort of Spanish patients was evaluated with the 1998 FRS model for matched outcomes, and it significantly overpredicted outcomes.[56] A cohort of French men was evaluated with the 1998 FRS model for matched outcomes, and it significantly overpredicted outcomes.[110] A cohort of

French renal transplant patients was evaluated with the 1998 FRS model, and it significantly underpredicted outcomes.[82] A cohort of German patients (including those with diabetes) was evaluated with the ATP-III FRS model for matched outcomes, and the O/E ratio was acceptable.[104] A cohort of elderly patients from the Netherlands was evaluated with the ATP-III FRS model for matched outcomes, and the outcomes were significantly overpredicted for men and acceptably predicted for women.[48] The German PROCAM cohort of men (including those with diabetes) was evaluated with the ATP-III FRS model for matched outcomes, and the tool significantly overpredicted risk.[14] A cohort of Swedish men was evaluated with the ATP-III FRS model for matched outcomes, and it drastically overpredicted risk.[80]

An Austrian cohort of patients was evaluated with the SCORE model for matched outcomes, and the outcomes were significantly overpredicted.[68] An elderly cohort of Norwegian patients without diabetes was evaluated with the SCORE model for matched outcomes, and the tool overpredicted risk.[44] A middle-aged cohort of Norwegian patients without diabetes was evaluated with the SCORE model for matched outcomes, and the high-risk version overpredicted outcomes and the low-risk version underpredicted outcomes.[44] Another Norwegian cohort of patients aged 20 to59 years was evaluated with the SCORE model for matched outcomes, and the tool overpredicted outcomes.[106] French and Irish cohorts in the PRIME study were evaluated with the PROCAM model, and the tool overpredicted risk.[90] A Swedish cohort of men was evaluated with the PROCAM model for matched outcomes, and it also overpredicted risk.[50] A cohort of German men was evaluated with the PROCAM model for matched outcomes, and it overpredicted risk.[29] A cohort of Scottish patients was evaluated with the ASSIGN model, and it overpredicted risk.[29] The Salford cohort of patients with diabetes was evaluated using the DARTS model for matched outcomes, and the risk estimation was acceptable.[63]

Synthesis of Data Specific to Key Question 2

KQ2a: Do tools that treat diabetes as a CVD or CHD outcome equivalent have different performance characteristics than those that use diabetes as an independent risk factor for those outcomes?

KQ2b: Is the appropriateness of using diabetes as a coronary risk equivalent modified by the number of other cardiac risk factors that the individual has?

Six diabetic cohorts were used to develop risk prediction models, and 11 diabetic cohorts were used in external validation of diabetes-specific risk models for CVD, CHD, or stroke outcomes.[38, 57, 63, 72, 73, 78, 85, 96, 104, 107, 108, 119] Thirteen non-diabetic cohorts were used in either primary model development or external validation of risk models excluding diabetes or general purpose models.

Diabetes Cardiovascular Risk Models

The most widely cited and externally validated risk model for patients with type 2 diabetes is the UKPDS risk model, which was developed in 4,540 white and Afro-Caribbean British patients for hard CHD_1.[119] The tool was developed among patients aged 25 to 65 years to predict greater than 4-year event rates. Events up to 4 years were excluded because the standardized mortality ratio observed in the general population (0.94 for men, 0.96 for women) was less than that, probably because patients with life threatening illnesses and those older than age 65 years at baseline were excluded from the study cohort. Risk variables used in the model are summarized in Table 24.

Another externally validated type 2 diabetes cardiovascular risk model is the DARTS model, which was developed in 4,569 patients in Tayside, Scotland for hard CHD_1.[63] Only 1 percent of the cohort was non-white. Type 1 diabetes was excluded, but there was no severity of illness or age exclusions in this cohort. Risk variables used in the model are summarized in Table 24.

An internally validated type 2 diabetes risk model was developed in 7,067 Chinese patients from the HKD Registry for total CHD_1.[38] It should be noted that 6.2 percent of the cohort had peripheral artery disease and 3.9 percent of the cohort had a prior stroke (Table 20).

Diabetes as a modeling risk factor. There is significant evidence to support the conclusion that the relative risk of the known risk factors for CVD outcomes can vary among different cohorts within the United States, as well as between the United States and Europe or Asia.

In a study by D'Agostino and colleagues for the National Heart Lung and Blood Institute CHD Prediction Workshop, a total of seven U.S. cohorts were evaluated for 5-year hard CHD_1.[23] For men and women in each cohort, an original and remodeled FRS (Wilson 1998) equation was applied to each sex in each cohort. Among men, there were significant differences between the FRS cohort and the Physicians' Health Study cohort, Japanese Americans in the HHP cohort, Hispanics in the PRHHP cohort, Native Americans in the SHS cohort, and the CHS cohort. Among women, there were significant differences between the FRS cohort and African Americans in the ARIC cohort and Native Americans in the SHS cohort. Absolute risk performance for the Framingham risk score in the other cohorts was acceptable for all except for men in the HHP and PRHHP cohorts and women in the SHS cohort. A summary of relative risk for hard CHD_1 among patients with diabetes is shown in Table 21.

A study by the Diverse Populations Collaborative Group Investigators that compared 16 cohorts from the Americas and Europe found that the proportion of patients with diabetes ranged from 0.2 (rural patients in the Yugoslavia Cardiovascular Disease Study) to 9.1 percent (Japanese Americans in the HHP).[30] The overall CHD mortality rate per 1,000 person-years ranged from 1.0 (rural patients in the PRHHP) to 6.5 percent (Tecumseh Community Health Study). When comparing multivariate models of age, systolic blood pressure, total cholesterol, current smoking, and diabetes across these cohorts, diabetes relative risk among men varied widely from 1.24 (range, 0.61–2.51) in the control arm of the Multiple Risk Factor Intervention Trial to 8.05 (range, 3.80–17.03) in the random sample of the Lipid Research Clinics Follow-Up Study. Among women, the relative risk varied from 1.32 (range, 0.62–2.82) in the Tecumseh Community Health Study to 8.67 (range, 3.81–19.77) in the Norwegian Counties Study (Table 22).

Remodeling efforts of established risk models for other cohorts also serves to illuminate systematic relative risk differences between risk factors. The UKPDS risk model was remodeled using the HKD Registry, and a comparison of hazard ratios in the UKPDS and remodeled HKD models is shown in Table 23. Comparing the variable estimates between the original and remodeled equation for the Chinese cohort revealed that sex and hemoglobin A_{1c} were significantly different predictors of CHD between the two cohorts.

Diabetes risk model external validations. The model development study by Donnan and colleagues used 4,569 patients from Salford, England to externally validate the model developed in the DARTS cohort.

Diabetic cohorts evaluated by non-specific risk models. A small cohort of French patients with diabetes was evaluated by the 1998 FRS model, and the O/E ratio was acceptable, but the outcomes were fairly mismatched.[72] The Poole Diabetes Study was evaluated using the 1991 FRS model for both total CHD and CVD, although the definitions varied between cohort and model in each case in very small ways.[73] Both outcomes were significantly underpredicted in the cohort by the risk model. The NHS Trust cohort was evaluated by the PROCAM model for a mismatched outcome between total and hard CHD, and the model significantly underpredicted the number of outcomes.[78] The Cardiff Diabetes Database was evaluated with the 1991 FRS model for a completely matched CVD outcome, and the model underpredicted the number of outcomes among both sexes, but was marginally better for women.[85] A study on 716 patients in Munich, Germany was evaluated by the 1998 FRS equation for total CHD, and the predicted and observed outcomes were not significantly different.[104] However, there was an outcome mismatch due to measurement of hard CHD in the cohort, which would underestimate the number of outcomes compared to what the model would expect. The PREDICT cohort in London was evaluated with the 1991 FRS equation, but the study did not report calibration or the predicted number of outcomes.[108]

Assessment of Tools Available Online

We identified 44 online tools for calculating CVD risk using the approach described in the Methods section. The models on which these tools are based, along with their online location, are listed in Appendix D/Summary Table 1.

We used a set of test patients to predict risk using SAS versions of the original models and the online tools that purported to use those models. We compared our SAS-generated risk to those generated with the online tools (Table 24). All of the online versions had some variation from the referenced source model, but in most cases these differences were modest. FRS (Anderson) Online did show a large difference for Patient 2 (0.19 vs. 0.09). FRS (Wilson) Online also showed a large difference for Patient 2 (0.03 vs. 0.13). In addition, there were large variations among the risk tools for each patient. Some of the variation can be explained by the different outcomes the models were attempting to model. In particular, the FRS (Anderson) model predicts a CVD outcome with a large number of components, which is known to be 2 to 3 times as high as the hard CVD outcome. For patients without diabetes, risk measurements were very consistent across models. For patients with diabetes, risk estimates varied greatly.

Figures 2 and 3 show the variation in predicted outcomes obtained for two of the test patients when only age was varied (from 35 to 65 years). As age increases, the model predictions demonstrate increasing variation.

Quality of the Literature

We assessed the quality of each study included in our review. Individual results for quality scoring are presented in Appendix M/Summary Table 10, and a summary of quality scores is presented in Figure 4, with the proportion of studies achieving each level of each quality measure represented by a horizontal bar.

No quality measure was fully achieved by 100 percent of the included studies. Fewer than half of the studies in any geographic region provided an adequate description of the study population or the inclusion/exclusion criteria on which the initial cohort was built. Very few studies had adequate follow-up (<20 percent), and among those with substantial loss to follow-up, none accounted for the potential effects of the loss. Internal validation should be a basic requirement for the reporting of model development studies, but fewer than 30 percent overall reported measures of internal validation. Among U.S. studies in which existing models were validated, both discrimination and calibration were almost always (88 percent) reported, although this was not the case among studies in the other geographic areas, which reported these measures less than 40 percent of the time.

Chapter 4. Discussion

The body of literature for this analysis consisted largely of studies that could not be easily pooled or combined quantitatively. Therefore, it is essential when identifying trends in the outcomes to highlight studies that reflect key issues and concepts, and we have done that in this section.

Almost all models retained good relative and absolute risk prediction in the development cohort itself, but since most were not externally validated, the utility of these models must remain in question. Among the small number of externally validated models, the strongest performance was seen in those with matched outcomes among North American and European cohorts. External validation of U.S.-developed models in other U.S. cohorts found that most retained good relative and absolute risk prediction performance among white and black populations, but absolute risk prediction was poor among minority populations, such as Hispanics and Asian Americans.[23, 97, 100] A few studies that evaluated higher- or lower-risk cohorts, such as siblings of patients with early CAD or young adults, had poor absolute risk prediction performance, which is expected.[42, 49] In all cases, overall model relative risk performance (risk separation) was superior for women.[23, 42, 49, 97, 100] Thus, the evidence in this review would suggest that risk models are generally accurate only in patients who are representative of the source population, and for the Framingham cohort, such patients were middle-aged and white or black.

There was a paucity of CVA risk models in the literature. This was primarily due to the exclusion criterion that required the baseline population to be free of CVD at the time of cohort inception. A few of the CVA risk models were externally validated in a population with baseline CVD. While those cohorts and risk models that were developed in the absence of baseline CVD are included here, they are not representative of the overall literature.

Comparison of traditional cardiovascular risk factors among seven U.S. cohorts by D'Agostino and colleagues found that although effects seen across some cohorts were similar, those that comprised Japanese American, Native American, or Hispanic populations had significantly different relative risk associated with risk factors identified in the Framingham cohort.[23] In addition, those cohorts also demonstrated poor performance in absolute risk prediction of the FRS model. While there is clearly some tolerance for changes in cohort characteristics, the degree of tolerance is not entirely known, and overall the evidence suggests that the number and magnitude of differences in relative risk between populations is correlated with poor absolute risk performance. Other studies have identified a direct relationship between the tendency to under- or overpredict based upon the baseline outcome incidence in the model derivation cohort.[30]

In studies that examined risk factors for CVD using some of the same cohorts, but using slight variations of risk variables sets (four in one; six in another), confounding was clearly present as variables were included or excluded from the models, suggesting that even in the best risk estimates there is likely unmeasured confounding.[23, 30]

External validation of U.S. risk models among European cohorts in which the outcomes were matched were more mixed. A few studies with matched outcomes reported acceptable risk model performance, but the European cohorts were generally at higher risk than the source population, including populations of patients with diabetes or elderly patients.[48, 89] Another cohort reported acceptable performance but its results are questionable because the authors evaluated a cohort that included patients with diabetes using a model that was developed excluding diabetes.[40]

Several studies reported that the risk models underpredicted outcomes, but again, these were almost entirely conducted in high-risk patient cohorts.[56, 77, 82, 85, 89] Most of the evaluations among European cohorts found that the U.S. risk models overpredicted risk, given that underlying outcome event rates between the model cohort and the evaluation cohort differed substantially,[14, 48, 56, 80, 88, 92, 94, 110] with significant differences observed in the degrees to which individual variables contributed to risk assessment.[30]

The UKPDS risk model was the most frequently externally validated diabetes model,[38, 40, 73, 78, 108] although evaluation results were mixed. For example, application of the UKPDS model to a Chinese cohort of patients with diabetes drastically overestimated the risk of CHD among those patients,[38] largely due to a significantly higher rate of cerebrovascular disease and a significantly lower rate of CVD among Chinese patients compared with U.S. or European cohorts.[121] Among newly diagnosed patients in the British Poole Diabetes Study, absolute risk prediction, as determined by the Hosmer-Lemeshow goodness-of-fit test, was mildly inadequate, but the O/E ratio was acceptable.[73] However, the cohort included both soft and hard CHD outcomes, while the model was developed to predict hard CHD only, suggesting that the model would overpredict outcomes in this cohort if the outcomes were appropriately matched. Results of analyses in the NHS Trust cohort of London patients demonstrated that the model significantly underpredicted the number of outcomes.[78] However, the cohort included both soft and hard outcomes, which left the question of whether the model would have had an acceptable ratio for matched outcomes. Thus, although the UKPDS model had clearly improved performance over non-diabetes-specific risk models when directly compared, confirmed external validation in a matched outcome cohort of patients with diabetes has not yet taken place.[73, 78]

Most of the external validations performed on diabetic cohorts by non-specific cardiovascular risk models found that the models were significantly underpredicting the number of outcomes.[73, 78, 85] A few studies showed an acceptable O/E ratio, but had outcome mismatches that were more restrictive in the cohort than the model.[40, 72] This supports the conclusion that the risk of CVD among patients with diabetes is elevated compared to the general population. In addition, this also suggests that a diabetes risk variable in a general model is insufficient for capturing the variance of risk experienced by diabetic populations; that is, risk is not simply attributed by whether the patient has diabetes or not, but also by other factors such as diabetes control, duration of diabetes, and whether the patient has already experienced end-organ damage.

There were no studies in which a general risk prediction model was compared to a diabetes-excluded model for matched outcomes. WHS, in which 2.9 percent of patients had diabetes, evaluated the FRS ATP-III and 1998 models, but the outcomes were substantially mismatched in the ATP-III (CVD vs. hard CHD) and 1998 models (total vs. hard CHD), and absolute risk prediction was poor in both.[54] The Chicago Heart Association study evaluated young men aged 18 to 39 without diabetes for matched outcomes in the ATP-III model and unmatched outcomes in the 1998 model, but absolute risk performance was poor in both because of the young population.[49] Czech patients without diabetes were evaluated with the 1998 FRS model for matched outcomes, and the model overpredicted the number of outcomes.[56] The Norwegian Counties Study of patients without diabetes evaluated the SCORE risk model, which did not include a diabetes risk factor but did include patients with diabetes in its source cohort, and the model overestimated the number of outcomes, and the overestimation was worse with increasing age.[44] The internal validation evaluation of the QRISK equation for CVD, which excluded patients with diabetes, also externally validated the 1991 FRS general risk model.[46] The 1991

FRS model significantly overpredicted the outcome, although there was a small outcome mismatch.

A number of U.S. cohorts that engaged in recalibration or remodeling reported poor absolute risk performance for the original FRS models. However, most of these evaluations had outcome mismatches between the cohort and the model.[54, 61, 101] Those studies that performed remodeling of FRS risk variables in a local cohort reported retained or improved relative risk prediction and adequate absolute risk prediction.[54, 61, 101] It should be noted that remodeling results in a model with an outcome that matches the model outcome (by definition), and it is not surprising that this would result in improved performance. One study evaluated matched outcomes between the cohort and the original model and found that minority populations were poorly predicted by the model. This study subsequently showed that remodeling resulted in adequate performance in all the cohorts, based upon the Hosmer-Lemeshow goodness-of-fit test.[23] Two other studies with matched outcomes and inadequate original model performance noted adequate absolute risk prediction after remodeling.[45] In contrast, recalibration methods (which adjust the baseline outcome event rate intercept in the model but do not adjust the risk variable coefficients) performed more variably, with both adequate and inadequate absolute risk prediction results.[42, 45] However, one of these studies performed both recalibration and remodeling, and showed that although recalibration was sufficient for women and not men, remodeling resulted in adequate absolute risk prediction for both sexes.[45]

Remodeling efforts among diabetes and diabetes-excluded risk models followed the general trend of cardiovascular risk prediction models. Recalibration methods were successful in some cases, but were inadequate in others. However, remodeling methods were almost always successful in producing a model that performed well in the local cohort.[38] Among non-diabetic cohorts and general risk models, remodeling was successful in improving performance, although it should be noted that diabetes as a risk factor was dropped from the models.[56] Among a large U.S. female non-diabetic cohort, remodeling of the FRS ATP-III risk variables did not result in a well-calibrated model.[61]

Remodeling established risk models in other cohorts also serves to illuminate systematic relative risk differences between risk factors. For example, although absolute risk prediction was very poor when the UKPDS model was applied to the HKD Registry, there were no significant differences when comparing the hazard ratios of specific risk variables from the two cohorts,[38] suggesting that both the baseline outcome incidence and the relative risk contribution from individual risk factors play into absolute risk performance.

There were some substantial and consistent challenges to analyzing this body of literature. For example, we observed significant heterogeneity among outcome definitions, and this resulted in frequent mismatches between cohort and modeling outcomes. Frequently, cohort outcome data were collected in order to match a particular risk model, or to develop one, and other models with different outcomes were tested in order to directly compare them. Relative risk performance relies on the weight of the risk factors in the model, and is not dependent on the baseline outcome incidence. The C statistic, AUC, and sensitivity and specificity at a specified cut-off point all measure this type of performance. Relative risk performance (discrimination) can be insensitive to outcome mismatches if the relative contribution from each risk factor remains intact. Since all of the outcomes were variations of CVD, stable relative risk performance was frequently found even when outcomes were mismatched. However, in order to use these tools clinically, low- and high-risk threshold cut-off points are set using the development data (i.e., matched outcome). Separate risk cut-off points must be established in order to appropriately use such tools to risk-stratify patients for outcomes other than those for which they were developed.

In addition, many risk calculators provide a percent risk of an outcome rather than a set number of years, which is absolute risk prediction and measured by model calibration statistics. The O/E ratio is the crudest measurement of this type of performance, but it can result in an acceptable ratio when some ranges of risk are overpredicted and some are underpredicted. The Hosmer-Lemeshow goodness-of-fit test is a more granular evaluation method that sorts all patients by predicted risk, divides them into 10 categories, evaluates the O/E ratio for each category separately, and sums the chi-square value in each category to report an aggregate measurement. Absolute risk prediction performance is dependent on both the baseline outcome incidence and the contribution of risk from each risk factor in the source cohort. Evaluating absolute risk prediction with a mismatched outcome between model and cohort has severe limitations, because the baseline outcome event rates are different from the outset. Some interpretation is possible if the prediction error is in the opposite direction of what one would expect; that is, if a cohort outcome is more restrictive, one would expect the model to overpredict the outcome, but if it underpredicts the outcome, then the result can be safely interpreted as poor absolute risk prediction. However, no such assertion can be made if absolute risk prediction is determined to be adequate for mismatched outcomes.

Summary

Overall, the FRS models performed fairly well in U.S. populations, but performance suffered when they were applied to populations that were substantially different from the source cohort. Although the FRS model was developed from a predominantly white cohort and is not representative of the U.S. population as a whole, performance was reasonable in both white and black patients from the ARIC cohort. In some cases, this was due to particularly low or high baseline risk in the destination cohort, and in some cases it was due to systematic differences in risk attributable to specific risk factors. In addition, the 2001 ATP-III version demonstrated several benefits compared to the older FRS models, including a focus on hard CHD outcomes, exclusion of patients with diabetes, and incorporation of more current FRS data than the 1991 version. A 2008 CVD model was recently published but has not yet been externally validated.[39]

Recalibration, and to a greater extent, remodeling, demonstrated effectiveness as a means to improving performance in cohorts with substantially different outcome incidence or risk factor prevalence compared to the source cohort. However, questions remain regarding the population sample size necessary to perform these methods and how frequently they should be applied.

Development of risk models for cohorts with risk profiles that are systematically divergent from the general population can also be a successful strategy. However, in many cases, studies taking this approach were more or less remodeling exercises using traditional risk variables in the most common models. Sample size requirements for developing stable risk models are even less clear for these cohorts, and some of these studies had fewer than 1,000 participants. A growing body of literature suggests that specific cohort risk models are likely to be most successful when there are risk factors unique to that population that inform cardiovascular risk.

Even among U.S. cohorts, there was evidence that some ethnically diverse or minority populations had significantly different risk factor contributions to outcomes, even when the baseline prevalence was similar.[23, 30] Our review did not exclude studies on the basis of geographic area, but in analyzing the data it became clear that there were systematic differences in risk factor prevalence and outcome event rates between Asian cohorts (which were mostly Chinese or Korean) and North American and European cohorts.[121] This makes use of Asian models in a general U.S. population ill-advised.

Diabetes-specific process measurement variables are significantly related to cardiovascular outcome risk among patients with diabetes, and risk models that incorporate these factors outperformed general risk prediction models when applied to these patients. Analysis also suggests that models excluding patients with diabetes outperformed general risk prediction models that included these patients in their development when applied to non-diabetic cohorts. Unfortunately, external validation of diabetes-specific risk models is lacking, particularly among U.S. cohorts. No U.S. diabetes risk model has been externally validated.

Problems with absolute risk prediction were improved or resolved by recalibration and remodeling methods, supporting the need in this literature for periodic recalibration or remodeling for either general or specific populations. However, empirical evidence for determining what time interval is reasonable or for detecting when a population is "significantly" different from the reference population does not yet exist. Future research in this area should focus on carefully matching outcomes between cohorts and risk models. Additional work in recalibration and remodeling methods is needed, as well as external validation of diabetes-only risk models.

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Acronyms/Abbreviations

A/C	Albumin/creatinine ratio
Abbrev.	Abbreviation
AFT	Accelerated failure time
AHRQ	Agency for Healthcare Research and Quality
AIC	Akaike information criterion
APCSC	Asia Pacific Cohort Studies Collaboration
Apo A1	Apolipoprotein A1
Apo B	Apolipoprotein B
ARIC	Atherosclerosis Risk in Communities
ASSIGN	Assessing Cardiovascular Risk Using SIGN Guidelines
ATP-III	Adult Treatment Panel III
AUC	Area under the curve
Avg.	Average
BIC	Bayesian information criterion
BMI	Body mass index
BP	Blood pressure
BRHS	British Regional Heart Study
BWHH	British Women's Heart and Health cohort
Ca	Calcium
CABG	Coronary artery bypass graft
CACS	Coronary artery calcium score
CAD	Coronary artery disease
Cardiff DM	Cardiff Diabetes Database
CeVD	Cerebrovascular disease
CHA	Chicago Heart Association
Chb	Chambless
CHD	Coronary heart disease
CHF	Congestive heart failure
CHS	Cardiovascular Health Study
CI	Confidence interval
CMCS	Chinese Multi-Provincial Cohort Study
CP-Norway	Cardiovascular Program–Norway
CRF-X	Classical risk factors
CRM	CardioRisk Manager
CRP	C-reactive protein
CVA	Cardiovascular accident
CVD	Cardiovascular disease
CYA	Chicago Young Adults
D' Ag	D'Agostino
DARTS	Diabetes Audit and Research in Tayside, Scotland
DBP	Diastolic blood pressure
DM	Diabetes mellitus
DPCGI	Diverse Populations Collaborative Group Investigation
Dx	Diagnosis
ECG	Echocardiography

eGFR	Epidermal growth factor receptor
EKG	Electrocardiography
EPC	Evidence-based Practice Center
EPIC	European Prospective Investigation of Cancer
ESC	European Society of Cardiology
F/U	Followup
FamHx	Family history
FrRenal	French Renal cohort
FRS	Framingham Study
FRS-0	Framingham Offspring Study
HDFP	Hypertension Detection and Follow-Up Program
HDL	High-density lipoprotein
$HgbA_{1c}$	Hemoglobin A_{1c}
HHP	Honolulu Heart Program
HKD	Hong Kong Diabetes Registry cohort
HLGOF	Hosmer-Lemeshow Goodness-of-Fit
hsCRP	High-sensitivity C-reactive protein
HTN	Hypertension
INSIGHT	Intervention as a Goal in Hypertension Treatment
IQR	Interquartile range
JBSRC	Joint British Societies Risk Prediction Chart
JHSS	Johns Hopkins Sibling Study
L85	Leiden-85 cohort
LDL	Low-density lipoprotein
LpA	Lipoprotein(a)
LRCPS	Lipid Research Clinics Prevalence Study
LudwigU	Ludwig-Maximilians University
LVH	Left ventricular hypertrophy
MI	Myocardial infarction
MONICA	MONICA Augsburg cohort
MP-CVDRF	Monitoring Project on Cardiovascular Disease Risk Factor
MRFIT	Multiple Risk Factor Intervention Trial
MUCA-I	Chinese Multi-Provincial Study I
MUCA-II	Chinese Multi-Provincial Study II
N, n	number
N/A	Not available
NAS	Normative Aging Study
NCS	Norwegian Counties Study
NDR	National Diabetes Registry
NHANES I	National Health and Nutrition Examination Survey I
NHANES I-EFS	National Health and Nutrition Examination Survey I Epidemiological Follow-up Study
NHANES II	National Health and Nutrition Examination Survey II
NHIC	National Health Insurance Corporation
NHLBI	National Heart Lung and Blood Institute
NHP	Newcastle Heart Project

NHS	National Health Service
NICE	Nationwide Instruction for Cardiovascular Education
NIH	National Institutes of Health
NorGov	Norwegian Government Study
NPHS-I	First Northwick Park Heart Study
NPHS-II	Second Northwick Park Heart Study
NSW	New South Wales
NTRF	Non-traditional risk factors
NZwork	New Zealand workers cohort
O/E	Observed-to-expected ratio
P, p	p value
PCI	Percutaneous coronary intervention
PDS	Poole Diabetes Study
PHS	Physicians Health Study
Post-AF	Post-atrial fibrillation
PREDICT	Prospective Evaluation of Diabetic Ischaemic Disease by Computed Tomography
PRHHP	Puerto Rico Heart Health Program
PRHS	Puerto Rico Heart Study
PRIME	Prospective Epidemiological Study of Myocardial Infarction
PROCAM	Prospective Cardiovascular Münster cohort
Pub.	Publication
PVD	Peripheral vascular disease
RCC	Rotterdam Coronary Calcification Study
REGICOR	Registre Gironi del Cor
RRS	Reynolds Risk Score
SAHS	San Antonio Heart Study
SBHW	South Bay Heart Watch
SBP	Systolic blood pressure
SCORE	Systematic Coronary Risk Evaluation
SFHS	St. Francis Heart Study
SHHEC	Scottish Heart Health Extended Cohort
SHS	Strong Heart Study
SMR	Standard mortality ratio
SNDR	Swedish National Diabetes Registry
Spec .	Specific
STULONG	Study of Atherosclerotic Risk Factors
SU.VI.MAX	Supplementation en Vitamines et Mineraux Antioxydants
TC	Total cholesterol
TC-HDL	Total cholesterol and high-density lipoprotein
TEP	Technical Expert Panel
THIN	The Health Improvement Network
TIA	Transient ischemic attack
UK	United Kingdom
UKPDS	United Kingdom Prospective Diabetes Study
ULSAM	Uppsala Longitudinal Study of Adult Men
US	United States

USA-PRC	United States of America–People's Republic of China Collaborative Study of Cardiovascular and Cardiopulmonary Epidemiology Research Group
USPSTF	U.S. Preventive Services Task Force
val	Value
vars.	Variables
VERIFICA	Validez de la Ecuación de Riesgo Individual de Framingham de Incidentes Coronarios Adaptada (Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort)
VHM&PP	Vorarlberg Health Monitoring and Promotion Program
w/o	without
WESDR	Wisconsin Epidemiologic Study of Diabetic Retinopathy
WGHS	Women's Genome Health Study
WHI	Women's Health Initiative
WHS	Women's Health Study
wk(s)	weeks
WOSCOPS	West of Scotland Coronary Prevention Study
X	times
yr(s)	Years

Table 1. Technical Expert Panel

	Physician	Other clinician	Researcher	Consumer/ Patient	End User
USPSTF					
Michael L. LeFevre, MD, MSPH	X		X		X
Timothy Wilt, MD, MPH	X		X		X
Russell P. Harris, MD, MPH	X		X		X
Non-USPSTF					
Lucila Ohno-Machado, MD, PhD	X		X		X
Michael Kattan, PhD			X		X

Table 2. Inclusion Criteria

Category	Criteria
Study population	Asymptomatic adults
Study settings and geography	Any clinical/research settings in any country
Publication languages	English only
Admissible evidence (study design and other criteria)	Admissible designs • Randomized controlled trials, controlled clinical trials, cohorts • Study size ≥200 Other criteria • Original research studies that provide sufficient detail regarding methods and results to enable use and adjustment of the data and results • Studies must attempt either internal or external validation • Studies must report on one or both of the following outcomes: o Coronary artery disease (nonfatal and fatal MI and sudden coronary heart disease death) o Cerebrovascular stroke (thrombotic/hemorrhagic) • Relevant outcomes must be able to be abstracted from data presented in the papers

Table 3. Test Patient Characteristics

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Age (years)	43	54	58	63	77
Female	No	Yes	Yes	No	Yes
Race	White	Black	White	Black	White
Cholesterol Data*					
Total cholesterol (mg/dL)	220	245	237	197	260
High-density lipoprotein cholesterol (mg/dL)	43	46	35	22	33
Low-density lipoprotein cholesterol (mg/dL)	134	167	133	89	173
Triglycerides (mg/dL)	83	144	236	244	145
Taking lipid medication	No	No	Yes	Yes	No
Hypertension Data					
Systolic blood pressure (mmHg)	118	143	139	151	148
Diastolic blood pressure (mmHg)	76	85	85	93	91
Taking hypertension medication	No	No	Yes	Yes	No
Diabetes Data					
Patient self-report	No	No	Yes	Yes	No
Physician reported diagnosis	No	No	Yes	Yes	No
Fasting baseline glucose	89	104	145	169	135
Diabetes medication use	No	No	Yes	Yes	No
$HgbA_{1c}$ (%)	5.7	5.8	7.4	8.5	6.5
Smoking					
Current	No	No	No	Yes	No
Former	No	No	Yes	No	Yes
Never	Yes	Yes	No	No	No
Other Variables					
Left ventricular hypertrophy by EKG	No	No	Yes	Yes	Yes
Body mass index	24.3	31.4	32.6	28.6	27.6
Family history of premature coronary heart disease	No	Yes	No	Yes	Yes
Family history of myocardial infarction	No	Yes	No	Yes	No
Chronic kidney disease	No	No	No	Yes	No
Atrial fibrillation	No	No	No	No	Yes
Rheumatoid arthritis	No	No	No	No	No
Microalbuminuria	No	No	Yes	No	No
Macroalbuminuria	No	No	No	Yes	No

*To convert to mmol/L, divide entry by 38.67 (except for triglycerides).

Table 4a. Outcome Definitions for Total Coronary Heart Disease, Hard Coronary Heart Disease, and Cardiovascular Accident

	Total CHD			Hard CHD		CVA					
Name	1	2	3	1	2	1	2	3	4	5	6
Ischemic stroke						X	X	X	X		X
Hemorrhagic stroke, all						X			X	X	
Hemorrhagic stroke, embolic & intracerebral											X
Transient ischemic attack							X		X		
Angina pectoris	X		X								
Unstable angina	X	X	X								
Myocardial infarction	X	X	X	X	X						
Intermittent claudication											
Sudden CHD death	X	X	X	X	X						
Cardiac procedure		X	X		X						
Congestive heart failure											

Table 4b. Outcome Definitions for Cardiovascular Disease

	CVD																		
Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ischemic stroke	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Hemorrhagic stroke, all		X		X			X	X		X	X		X	X	X			X	X
Hemorrhagic stroke, embolic & intracerebral					X														
Transient ischemic attack	X	X		X					X	X	X	X	X	X					
Angina pectoris	X	X			X	X			X	X	X	X	X	X				X	
Unstable angina	X	X			X	X			X	X	X	X	X	X				X	X
Myocardial infarction	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Intermittent claudication		X							X			X	X			X		X	
Sudden CHD death	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cardiac procedure			X		X		X		X		X		X		X	X		X	X
Congestive heart failure		X					X					X	X	X					

Table 5. Externally Validated Models

Model Name	Model Outcome	Year Published	Study Count	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
ASSIGN[59]	CVD_{11}	2007	2	SHHEC	01/01/1984	12/31/1995	13,297	
FINRISK[74]	CVD	2005	4	FINRISK			14,694	
FRS (Anderson)[18,136]	CVD_2	1991	21	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
FRS (Anderson)[18,136]	Total CHD_1	1991	8	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
FRS (Anderson)[18,136]	Myocardial infarction	1991	1*	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
FRS (Anderson)[18,136]	Sudden CHD death	1991	1*	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
QRISK[46]	CVD_4	2007	4	QRESEARCH	01/01/1995	04/01/2007	614,553	6.5
SCORE[112] High Risk TC Low Risk TC	CVD mortality	2003	11	SCORE			205,178	
FRS (Wilson)[19] LDL TC	Total CHD_1	1998	23	FRS, FRS-O	01/01/1948	12/31/1974	5,345	12
FRS (TC)[19]	Hard CHD_1	2001	8	FRS, FRS-O	01/01/1948	12/31/1974	5,345	12
FRS (ATP-III)[23]	Hard CHD_1	2001	16	FRS, FRS-O				
PROCAM[14]	Hard CHD_1	2002	11	PROCAM	01/01/1979	12/31/1985	5,159	10
UKPDS 56[96]	Hard CHD_1	2001	5	UKPDS			4,540	
DARTS[63]	Hard CHD_1	2006	2	DARTS	01/01/1995	06/30/2004	4,569	4.1
FRS (4 variants)[25]	CHD mortality	1999	3	FRS	01/01/1954	12/31/1958	4,169	24
FRS[18,136]	$Stroke_4$	1991	3	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
UKPDS 60[96]	$Stroke_1$	2002	2	UKPDS	01/01/1977	12/31/1991	4,549	10.5

*Followup measured in months.

Table 6. Risk Models Without External Validation That Are Risk Factor Variants, Outcome Variants, or Temporal Updates From Well-Known Cohorts With Externally Validated Risk Models

Model Name	Model Outcome	Year Published	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
FRS (D'Agostino)[23]	CVD_2	2008	FRS, FRS-O	01/01/1968	12/31/1987	8,491	
QRISK2[35]	CVD_1	2008	QRESEARCH	01/01/1993	03/31/2008	2,285,815	15
SCORE[112] High Risk TC-HDL Ratio Low Risk TC-HDL Ratio	CVD Mortality	2003	SCORE			205,178	
PROCAM[41]	$Stroke_2$	2007	PROCAM	01/01/1978	12/31/1995	7,295	12
ARIC[81] Basic Basic + Age + Race Basic + NTRF + Age + Race	$Stroke_3$	2004	ARIC	01/01/1987	12/31/1989	13,161	12.3

*Followup measured in months.

Table 7. Risk Models Without External Validation That Are Point Score Simplifications or Evaluations of Modeling Methods Other Than Cox Proportional Hazards

Model Name	Model Outcome	Year Published	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
PROCAM (Point score)[14]	Hard CHD_1	2002	PROCAM	01/01/1979	12/31/1985	5,159	10
PROCAM (Weibull model)[41]	Hard CHD_1	2007	PROCAM	01/01/1978	12/31/1995	7,295	12

*Followup measured in months.

Table 8. Risk Models Without External Validation That Compare or Improve Model Performance Between a New Local Model and External Validation of More Established Models

Model Name	Model Outcome	Year Published	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
CRM[78]	CVD	1999	NHS Trust	01/01/1990	12/31/1991	798	
New Zealand Risk Charts[115]	CVD_2	1996					
Reynolds Risk Score (Men)[103] Model A RRS + CRP + FamHx	CVD_{15}	2008	PHS-II	12/01/1995		10,724	10.8
Reynolds Risk Score (Women)[54,56] Model A Model B, Clinically Simplified	CVD_3	2007	WHS (Val)	09/01/1992		8,158	10.2
JBSRC[78]	CVD	1998	NHS Trust	01/01/1990	12/31/1991	798	
European Society of Cardiology[114]	Total CHD_1	1994	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
CUORE[76]	Hard CHD_2	2005	CUORE	01/01/1983	12/31/1996	6,865	9.1
Personal HEART[51]	Hard CHD_2	2007	ARIC	01/01/1987	12/31/1989	14,343	
ULSAM[80]	MI	2004	ULSAM	01/01/1970	12/31/1973	1,108	28.7

*Followup measured in months.

Table 9. Risk Models Without External Validation That Evaluate the Heterogeneity of Risk Factors Between Cohorts

Model Name	Model Outcome	Year Published	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
NHANES I (4 variable)[25]	CHD mortality	1999	NHANES I	01/01/1971	12/31/1975	6,611	20
NHANES I & II, pooled[25]	CHD mortality	1999	NHANES I & II			18,542	
NHANES II (4 variable)[25]	CHD mortality	1999	NHANES II	01/01/1976	12/31/1980	5,705	15
FRS CHD Mortality (4 variable)[18, 136]	CHD mortality	1991	FRS, FRS-O	01/01/1948	12/31/1975	5,573	12
FRS (Barzi)[55]	CVD_8	2007	FRS, FRS-O	01/01/1948	12/31/1974	5,345	12

*Followup measured in months.

Table 10. Risk Models Without External Validation That Address Specific Patient Populations Known to Perform Poorly in the Most Widely Used Models

Model Name	Model Outcome	Year Published	Cohort Abbreviation	Enroll Start Date	Enroll End Date	Enrollment	Followup*
Dubbo[93]	CVD_4	2003	Dubbo-All	01/01/1988		2,102	
USA-PRC[111] Point Scoring Simplified	CVD_{17}	2006	USA-PRC	09/01/1983	10/31/1984	9,903	15.1
CRM[78]	CVD	1999	NHS Trust	01/01/1990	12/31/1991	798	
Swedish NDR[107]	CVD_5	2008	Swedish NDR	01/01/1998	12/31/2003	11,646	5.64
Hong Kong Diabetes Score[38]	Total CHD_1	2008	HKD Registry	01/01/1995		7,067	5.4
Miyasaka Post-AF[52]	Total CHD_1	2007	Mayo	01/01/1980	12/31/2000	2,768	6
CMCS[83]	Hard CHD_1	2004	MUCA	01/01/1992	12/31/1999	30,121	
SHS Model[62]	Hard CHD_1	2006	SHS	01/01/1989	12/01/2001	4,372	
Chicago Young Adults[49]	CHD mortality	2007	CHA	01/01/1967	01/31/1973	10,375	32
Hong Kong Diabetes Score[57]	$Stroke_1$	2007	HKD Registry	01/01/1995	07/30/2005	3,541	5.37
Korean Stroke Risk Prediction[47]	$Stroke_6$	2008	NHIC	01/01/1992	12/31/1995	1,205,268	13

*Followup measured in months.

Table 11. Model Development Performance Characteristics (Americas): Internal Validation

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
FRS-O	CVD_{12}	Wilson AFT CVD[34]	All					
		Model A		0.78				
		Model A No BMI		0.78				
		Model B		0.80				
		Model B No BMI		0.80				
FRS-O	Total CHD_1	Wilson AFT CHD[34]	All					
		Model A		0.79				
		Model A No BMI		0.78				
		Model B		0.81				
		Model C		0.80				
		Model D		0.81				
		Model E		0.81				
		Model E No BMI		0.81				
FRS-O	$Stroke_2$	Wilson AFT CeVD[34]	All					
		Model A		0.79				
		Model A No BMI		0.77				
		Model B		0.80				
		Model C		0.80				
		Model D		0.80				
		Model D No BMI		0.80				
FRS, FRS-O	CVD_2	D'Agostino CVD[39]	Men	0.76	0.75-0.78	13.5		
			Women	0.79	0.77-0.81	7.8		
	Total CHD_1/CVD_2		Men	0.73	0.71-0.75	18.2		
			Women	0.79	0.76-0.81	14.8		
	$Stroke_4/CVD_2$		Men	0.83	0.79-0.86	26.1		
			Women	0.77	0.72-0.82	5.3		
	CHF/CVD_2		Men	0.84	0.80-0.88	27.2		
			Women	0.85	0.80-0.89	9.3		
	PVD/CVD_2		Men	0.81	0.78-0.85	19.1		
			Women	0.83	0.79-0.87	11.3		
	Hard CHD_1 (5 yr)	FRS [TC] (Wilson)[19]	Men	0.79				
			Women	0.83				
	Hard CHD_1 (5 yr)	FRS Best Cox Models[19]	Men	0.79		3.3		
			Women	0.83		3.7		
WHS	CVD_3	Reynolds Risk Score (Women)						
		Model A[54]	All	0.81				
		Model B, Clinically Simplified[56]	All	0.81				
		Model With hsCRP[61]	All	0.82				
		Model Without hsCRP[61]	All	0.81				
WGHS	CVD_3	ATP-III Vars + Genotype[101]	All	0.81	0.019	5.96		
		RRS Vars + Genotype[101]	All	0.81	0.019	7.43		

Table 11. Model Development Performance Characteristics (Americas): Internal Validation

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
PHS-II	CVD_{15}	Reynolds Risk Score (Men)[103]						
		Model A	All	0.70		11.3		
		RRS + CRP + FamHx	All	0.71		12.9		
	Hard CHD_2/CVD_{15}	Reynolds Risk Score (Men)[103]						
		Model A	All	0.69				
		RRS + CRP + FamHx	All	0.70				
NHANES-I EFS	CVD_7	NHANES-EFS (Gaziano)[37]						
		Lab-Based Model	Men	0.78	0.77-0.80	6.7	0.57	
		Non Lab-Based Model	Men	0.78	0.77-0.80	3.5	0.90	
		Lab-Based Model	Women	0.83	0.81-0.85	6.6	0.58	
		Non Lab-Based Model	Women	0.83	0.82-0.85	3.5	0.90	
SHS	Hard CHD_1	SHS (Lee)[62]	Men	0.71		7.18	0.51	
			Women	0.73		7.25	0.45	
SBHW	Hard CHD_1	Detrano-Data Derived[100]	All	0.68	0.05			
		Detrano-Data Derived + Ca[100]	All	0.71	0.04			
	Hard CHD_2	Detrano-Data Derived[100]	All	0.69	0.04			
		Detrano-Data Derived + Ca[100]	All	0.72	0.04			
	Hard CHD_1	FRS (ATP-III) Variables + CACS[87]	All	0.68				
NHANES I	CHD mortality	NHANES I (4 Variables)[25]	Men	0.71				
			Women	0.81				
NHANES II	CHD mortality	NHANES II (4 Variables)[25]	Men	0.75				
			Women	0.77				
NHANES I/II	CHD death	NHANES I and II, Pooled[24]	White Men	0.77				
			Black Men	0.76				
			White Women	0.84				
			Black Women	0.82				
ARIC	Hard CHD_2	Metabolic Syndrome Model[75]	Men	0.63				
			Women	0.73				
		Personal HEART[51]	Men	0.65	0.63-0.67			
			Women	0.79	0.77-0.80			
		ARIC, Basic + Liberal DM-Specific[91]	DM Men	0.67				
			DM Women	0.72				
			Non-DM Men	0.79				
			Non-DM Women	0.69				
		ARIC, Basic + Restrictive DM-Specific[91]	DM Men	0.75				
			DM Women	0.70				
			Non-DM Men	0.79				
			Non-DM Women	0.69				
		ARIC, Basic Combined[91]	DM Men	0.65				
			DM Women	0.71				

Table 11. Model Development Performance Characteristics (Americas): Internal Validation

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
ARIC	Hard CHD_2	ARIC, Multiple Factors + Liberal DM-Specific[91]	DM Men	0.74				
			DM Women	0.77				
			Non-DM Men	0.71				
			Non-DM Women	0.80				
		ARIC, DM-Specific Basic[91]	DM Men	0.68				
			DM Women	0.71				
			Non-DM Men	0.68				
			Non-DM Women	0.78				
		ARIC, DM-Specific Basic + Multiple Factors[91]	DM Men	0.70				
			DM Women	0.72				
			Non-DM Men	0.70				
			Non-DM Women	0.78				
		ARIC, DM-Specific Basic + Restrictive DM[91]	DM Men	0.72				
			DM Women	0.70				
	$Stroke_3$	Chambless Models[81]						
		Basic	Men	0.76				
		Basic	Women	0.79				
		Basic + Age + Race	Men	0.79				
		Basic + Age + Race	Women	0.81				
		NTRF + Age + Race	Men	0.80				
		NTRF + Age + Race	Women	0.84				
CHA	CHD mortality	CHA[49]	Men					0.95
Mayo	Total CHD_1	Miyasaka CHD Post-AF[52]	Men					0.78
			Women					0.86

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed. For internal model development, any cohort/model outcome mismatches are intentional to evaluate the effect of outcome mismatching on the performance of the model. O/E ratios are not relevant for internally developed models (they are all close to 1.0).

Table 12. Model Development Performance Characteristics (Americas): External Validation

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
LRCPS	CHD mortality/Total CHD_1	FRS (Anderson)[99]	All Men Women	0.83 0.83 0.82	0.81-0.85			
SBHW	Hard CHD_1* Hard CHD_2 /Hard CHD_1*	FRS (Anderson)[100]	All All	0.69 0.67	0.05 0.04			 1.17
ARIC	Hard CHD_1 (5 yr)	FRS [TC] (Wilson)[23]	White Men Black Men White Women Black Women	0.75 0.67 0.83 0.79		13.8 5.3 6.2 5.0		
HHP	Hard CHD_1 (5 yr)	FRS [TC] (Wilson)[23]	Men	0.72		66		
PRHHP	Hard CHD_1 (5 yr)	FRS [TC] (Wilson)[23]	Men	0.69		142		
SHS	Hard CHD_1 (5 yr)	FRS [TC] (Wilson)[23]	Men Women	0.69 0.75		10.6 22.7		
CHS	Hard CHD1 (5 yr)	FRS [TC] (Wilson)[23]	Men Women	0.63 0.66		13.2 10.4		
ARIC/CHS	Hard CHD_1 (10yr) Hard CHD_1 (5yr)	FRS [TC] (Wilson)[45]	Men Women Men Women	0.60 0.73 0.62 0.77		72.3 75.1 33.4 61.2	<0.01 <0.01 <0.01 <0.01	1.49 2.02 1.64 2.73
JHSS	Total CHD_1	FRS [TC] (1998)[42]	Men Women			75.0 8.0	<0.01 0.43	1.67 1.13
CHA	Hard CHD_1/Total CHD_1 (10 yr)	FRS [TC] (1998)[49]	Men					0.05
WHI	Hard CHD_1/ Total CHD_1 CVD_{15}/Total CHD_1	FRS [?] (Wilson)[53]	Women Women	0.69 0.68				
SAHS	CVD_{15}/Total CHD_1	FRS [?] (Wilson)[79]	All	0.82				
NAS	Total CHD_1	FRS [TC] (1998)[97]	All	0.63				0.93
ARIC	Hard CHD_2/Hard CHD_1	FRS [TC] (Wilson)[23]	Men Women	0.69 0.81	0.67-0.71 0.79-0.82			
WHS	CVD_3/Total CHD_1	FRS [TC] (1998)[61] FRS [LDL] (1998)[61]	Women Women	0.75 0.75			<0.01 <0.01	
SFHS	Hard CHD_2/ Hard CHD_1	FRS (ATP-III)[70]	All	0.68	0.62-0.74			
ARIC	Hard CHD_2/Hard CHD_1	FRS (ATP-III)[75]	Men Women	0.63 0.73				
SBHW	Hard CHD_1	FRS (ATP-III)[87]	All	0.63				
WHS	CVD_3/Hard CHD_1	FRS (ATP-III)[101]	Women	0.79			<0.01	
ARIC	Hard CHD_2/Hard CHD_1 (6 yr)	FRS (ATP-III)[75]	All Men Women	0.72 0.65 0.67				
CHA	Hard CHD_1 (10 yr)	FRS (ATP-III)[49]	Men					0.07

Table 12. Model Development Performance Characteristics (Americas): External Validation

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
NAS	Total CHD_1	European Society of Cardiology (ESC)[97]	All	0.58				

*The model outcome was calculated using the sum of MI and sudden CHD death models from FRS (Anderson).

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed. AUC refers to AUC or C statistic. The LRCPS study did not clearly state which FRS (Anderson) outcome it used in the study.

Table 13. Model Development Performance Characteristics (Europe): Internal Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
QRESEARCH	CVD_4 (10 yr)	QRISK[43]	Men	0.77				1.00
			Women	0.79				0.98
	CVD_{10} (10 yr)	QRISK 1.1[43]	Men	0.77	0.77-0.77			
			Women	0.79	0.78-0.79			
	CVD_1	QRISK 2[43]	Men	0.79	0.79-0.79			
			Women	0.82	0.81-0.82			
Swedish NDR	CVD_5	Swedish NDR[107]	Risk Grouped	0.70		4.3	0.83	
			Subgroup B	0.69				
SU.VI.MAX	Total CHD_1	SU.VI.MAX[110]	All	0.75				
EPIC-Norfolk	Total CHD_1	FRS (1998) + EPIC + HbA1c36	Men	0.73	0.70-0.75			
		FRS (1998) + EPIC + HbA1c	Women	0.80	0.78-0.83			
		FRS (1998) + EPIC + w/o DM + HbA1c	Men	0.73	0.70-0.74			
		FRS (1998) + EPIC + w/o DM + HbA1c	Women	0.80	0.77-0.82			
WOSCOPS	Hard CHD_1	QT Dispersion[60]	All	0.52				
CUORE	Hard CHD_2	CUORE[76]	Men	0.74	0.68-0.80	15.5	0.05	
DARTS	Hard CHD_1	DARTS[63]	All	0.71	0.63-0.79			
PROCAM	Hard CHD_1	PROCAM CHD (Cox Model)[14]	All	0.83		6.5	0.3	
		PROCAM CHD (Point Score)[14]	All	0.82				
NPHS-II	Hard CHD_2	Score 1 (Basic)[71]	Men	0.64	0.58-0.70			
		Score 2 (Basic + DM + FamHx)	Men	0.66	0.60-0.71			
		Score 3 (Basic + DM)	Men	0.63	0.58-0.69			
		Score 4 (Basic + FamHx)	Men	0.64	0.59-0.69			
		Score 5 (Basic + Fibrinogen)	Men	0.66	0.60-0.71			
		Score 6 (Basic + LpA)	Men	0.67	0.61-0.72			
		Score 7 (Basic + ApoA1 + ApoB)	Men	0.66	0.60-0.72			
PROCAM	Hard CHD_1	PROCAM (BMI-modified)[109]	All	0.82				0.88
		PROCAM CHD (Cox Model)[137]	All	0.82				
NZWork	CVD_2 (5 yrs)	New Zealand Risk Charts[89]	Men	0.73	0.72-0.74			
			Women	0.78	0.75-0.81			
INSIGHT	CVD_{14}	INSIGHT CVD[94]	All	0.661				1.25
PROCAM	Hard CHD_1 (10 yr)	PROCAM CHD (Cox Model)[41]	All	0.824				
		PROCAM CHD (Weibull Model)[41]	All	0.824				
NorGov	CHD Mortality	Erikssen CRF-X Model[84]	All					1.00
		Erikssen CRF Model	All					
		Erikssen X Model	All					
INSIGHT	$Stroke_4$	INSIGHT Stroke[94]	All					1.00
Dubbo	CVD_4 (5 yr)	Dubbo Model[93]	All			107	<0.01	
	CVD_4 (10 yr)		All			167	<0.01	
ULSAM (70)	CVD Mortality	FRS (1998) + ECG[50]	All		0.67			

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed.

Table 14. Model Development Performance Characteristics (Europe): External Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
SHHEC	CVD_{11}/CVD_2 (10 yr)	FRS (1991)[59]	Men	0.72				0.71
			Women	0.74				0.65
PDS	Total CHD_3/Total CHD_1	FRS (1991)[73]	All	0.66	0.58-0.73			1.46
			All (Exclude LVH)	0.67	0.59-0.74			1.50
			Men	0.73	0.64-0.81			1.71
			Women	0.70	0.64-0.76			1.36
			Treated BP	0.67	0.54-0.80	19.8	0.01	1.71
			Untreated BP	0.66	0.57-0.76	22.6	<0.01	1.44
PDS	CVD_{13}/CVD_2	FRS (1991)[73]	All	0.67	0.61-0.73			1.48
			All (Exclude LVH)	0.68	0.62-0.74			1.51
			Men	0.67	0.59-0.75			1.54
			Women	0.68	0.58-0.78			1.40
			Treated BP	0.63	0.53-0.74	32.8	<0.01	1.67
			Untreated BP	0.69	0.61-0.77	39.5	<0.01	1.38
BRHS	Hard CHD_1 + $Stroke_1$ + DM_2/Total CHD_1 (20 yrs)	FRS (1991)[65]	Men	0.67	0.65-0.69			2.5
	Hard CHD_1/Total CHD_1 (10 yrs)	FRS (1991)[65]	Men	0.73	0.71-0.75			
	Hard CHD_1/Total CHD_1 (20 yrs)	FRS (1991)[65]	Men	0.68	0.66-0.70			
	$Stroke_1$/Total CHD_1 (10 yrs)	FRS (1991)[65]	Men	0.71	0.65-0.77			
	$Stroke_1$/Total CHD_1 (20 yrs)	FRS (1991)[65]	Men	0.66	0.62-0.70			
	DM_2/Total CHD_1 (10 yrs)	FRS (1991)[65]	Men	0.61	0.55-0.67			
	DM_2//Total CHD_1 (20 yrs)	FRS (1991)[65]	Men	0.6	0.56-0.64			
L85	CVD Mortality/CVD_2	FRS (1991)[102]	All	0.53	0.42-0.63			
Cardiff DM	CVD_2	FRS (1991)[85]	Men	0.64				0.82
			Women	0.66				0.86
NZWork	CVD_2 (5 yrs)	FRS (1991)[89]	Men	0.74	0.73-0.75			1.17
			Women	0.77	0.74-0.80			1.09
QRESEARCH	CVD_4/CVD_2 (10 yr)	FRS (1991)[43]	Men	0.76				0.68
			Women	0.77				0.83
BWHH	Total CHD_3/Total CHD_1	FRS (1991)[64]	All	0.63	0.59-0.67			0.97
	CVD_{11}/CVD_2	FRS (1991)[64]	All	0.64	0.61-0.68			0.65
QRESEARCH	CVD_{10}/CVD_2 (10 yr)	FRS (1991)[43]	Men	0.76	0.76-0.77			
			Women	0.78	0.77-0.78			
THIN	CVD_{10}/CVD_2 (10 yr)	FRS (1991)[43]	Men	0.74	0.73-0.74			0.76
			Women	0.76	0.76-0.76			0.91
MP-CVDRF	CVD Mortality/CVD_2 (10 yr)	FRS (1991)[106]	All	0.86	0.84-0.88			
			High-risk Patients	0.80	0.77-0.82			
			SBP >140 mmHg	0.79	0.75-0.83			
			TC >6.5 mmol/L	0.81	0.77-0.85			
			Smokers	0.69	0.65-0.74			

Table 14. Model Development Performance Characteristics (Europe): External Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
PROCAM	Hard CHD_1*	FRS (1991)[92]	Men	0.73	0.70-0.75			0.56
			Women	0.88	0.80-0.96			0.35
Renfrew-Paisley	CVD Mortality/CVD_2	FRS (1991)[66]	All	0.73	0.72-0.75			
			Manual Labor	0.72	0.70-0.74			
			Non-manual Labor	0.74	0.71-0.78			1.71
PREDICT	CVD_{19}/CVD_2	FRS (1991)[108]	All	0.63	0.55-0.71			
Aboriginal	Total CHD_1	FRS (1991)[77]	Men					2.00
			Women					3.92
BRHS	CHD Mortality	FRS (1991) CHD Mortality[88]	Men			30.2	<0.01	0.68
BRHS	Total CHD_1	FRS (1991)[88]	Men			155	<0.01	0.64
INSIGHT	CVD_{14}/CVD_2	FRS (1991)[94]	All					0.39
INSIGHT	Total CHD_1	FRS (1991)[94]	All					0.44
LudwigU	Hard CHD_1/CVD Mortality	SCORE (?)[40]	All	0.66	0.62-0.68			
SHHEC	CVD_{11} (10 yr)	ASSIGN[59]	Men	0.73				0.79
			Women	0.77				0.67
PDS	Total CHD_3/Hard CHD_1	UKPDS 56[73]	All	0.67	0.60-0.74			1.15
			Men	0.67	0.59-0.76			1.11
			Women	0.62	0.49-0.75			1.19
			Treated BP	0.70	0.58-0.82			1.26
			Untreated BP	0.65	0.56-0.74	17.1	0.03	1.09
VHM&PP	CVD Mortality	SCORE (Low Risk TC)[68]	All	0.80	0.79-0.82			0.73
			Men	0.76	0.74-0.79			0.84
			Women	0.78	0.74-0.82			0.52
VHM&PP	CHD Mortality/CVD Mortality	SCORE (Low Risk TC)[68]	Men	0.75	0.72-0.78			0.79
			Women	0.84	0.80-0.88			0.46
QRESEARCH	CVD_4/CVD_{11} (10 yr)	ASSIGN[46]	Men	0.76				0.73
			Women	0.78				0.73
CP-Norway	CVD Mortality	SCORE (High Risk TC)[44]	Men	0.65				0.45
			Women	0.68				0.37
NCS	CVD Mortality	SCORE (High Risk TC)[44]	Men (40-49 yrs)	0.67				0.53
			Men (50-59 yrs)	0.68				0.53
			Women (40-49 yrs)	0.66				0.60
			Women (50-59 yrs)	0.72				0.45
MP-CVDRF	CVD Mortality (10 yr)	SCORE (?)[106]	All	0.85	0.83-0.87			
			High-risk Patients	0.75	0.72-0.78			
			SBP >140 mmHg	0.76	0.72-0.81			
			TC >6.5 mmol/L	0.78	0.73-0.82			
			Smokers	0.62	0.55-0.68			
QRESEARCH	CVD_1/CVD_4	QRISK[43]	Men	0.79	0.79-0.79			
			Women	0.81	0.81-0.81			

Table 14. Model Development Performance Characteristics (Europe): External Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
NHS Trust	CVD_{18}/Hard CHD_1	PROCAM (Cox)[78]	All	0.67	0.62-0.73			2.79
	CVD_{18}/Hard CHD_1	UKPDS 56[78]	All	0.74	0.70-0.78			1.20
	Total CHD_2/Hard CHD_1	PROCAM (Cox)[78]	All	0.65	0.59-0.71			2.05
	Total CHD_2/Hard CHD_1	UKPDS 56[78]	All	0.76	0.72-0.80			1.60
EPIC-Norfolk	Total CHD_1	FRS [TC] (1998)[36]	Men	0.71	0.69-0.73			
			Women	0.71	0.68-0.74			
LudwigU	Hard CHD_1	PROCAM (Cox)[40]	All	0.65	0.62-0.68			
		FRS (ATP-III)[40]	All	0.63	0.59-0.65			
Rotterdam	Hard CHD_1	FRS (ATP-III)[48]	Men	0.63	0.52-0.74			0.72
			Women	0.73	0.65-0.83			1.02
STULONG	Total CHD_1	FRS [TC] (1998)[56]	All	0.638	58.4-69.1			1.282
VERIFICA	Total CHD_1	FRS [TC] (1998)[58]	Men			110	<0.01	
			Women	0.68		64	<0.01	0.45
			Patients w/Diabetes	0.73		54	<0.01	0.44
NHS Trust	CVD_{18}/CVD	JBSRC[78]	All	0.80	0.75-0.85			
	CVD_{18}/CVD	CRM[78]	All	0.76	0.72-0.79			2.30
	Total CHD_2	JBSRC[78]	All	0.77	0.74-0.80			
	Total CHD_2	CRM[78]	All	0.73	0.70-0.77			1.74
NPHS-II	Hard CHD_2/Hard CHD_1	FRS (ATP-III)[71]	All	0.62	0.58-0.66			0.47
PRIME-Belfast	Total CHD_1/Hard CHD_1 (5 yr)	FRS (ATP-III)[90]	All	0.66				0.75
	Hard CHD_1 (5 yr)	PROCAM (Cox)[90]	All	0.61				0.56
PRIME-France	Total CHD_1/Hard CHD_1 (5 yr)	FRS (ATP-III)[90]	All	0.68				0.67
	Hard CHD_1 (5 yr)	PROCAM (Cox)[90]	All	0.64				0.23
PREDICT	CVD_{19}/Hard CHD_1	UKPDS 56[108]	All	0.67	0.60-0.75			
	Total CHD_2/Hard CHD_1	UKPDS 56[108]	All	0.63	0.56-0.71			
Lyon	CVD_6/Total CHD_1	FRS [Unknown Version] (1998)[72]	All	0.72				1.36
ULSAM (70)	CVD Mortality/Total CHD_1	FRS [Unknown Version] (1998)[50]	All	0.58				
ULSAM	MI/Hard CHD_1	PROCAM (Cox)[80]	Men	0.63				
		FRS (ATP-III)[80]	Men	0.61				
CUORE	Hard CHD_2/Total CHD_1	FRS [TC] (1998)[76]	Men	0.723	0.67-0.78			0.33
RCC	CVD_3/Total CHD_1	FRS [?] (1998)[69]	All	0.73				
			Age >70 yrs	0.68				
MONICA-Augsburg	Hard CHD_1/Total CHD_1	FRS [?] (1998)[86]	All	0.74				
PROCAM	Hard CHD_1	FRS (ATP-III)[14]	All	0.78		44	<0.01	
NPHS-II	Hard CHD_2/Hard CHD_1	PROCAM (Cox)[71]	All	0.63	0.59-0.67			0.46
SU.VI.MAX	Total CHD_1	FRS [?] (1998)[110]	All	0.74				0.50
MunichDM	MI/Hard CHD_1	UKPDS 56[104]	All	0.66	0.62-0.68			
		FRS [?] (1998)[104]	All	0.63	0.59-0.66			
Salford	Hard CHD_1	DARTS[63]	All	0.69	0.58-0.78			

Table 14. Model Development Performance Characteristics (Europe): External Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
THIN	CVD_{10}/CVD_4 (10 yr)	QRISK[43]	Men	0.76	0.76-0.77			1.15
			Women	0.79	0.79-0.79			1.11
MONICA-Augsburg	Hard CHD_1/CVD_2	FRS (1991)[92]	Men	0.78	0.73-0.84			
			Women (55-64 yrs)	0.88	0.80-0.96			0.50
NHP–Europe	Stroke Mortality/$Stroke_4$	FRS (1991) Stroke[74]	All					3.91
INSIGHT	$Stroke_4$	FRS (1991) Stroke[94]	All					1.00
WESDR	Stroke Mortality/CVD_2	FRS (1991)[96]	All					1.79
Dubbo	CVD_4 (10 yr)	FRS (ATP-III)[93]	Non-DM Men					0.91
			Non-DM Women					0.93
WESDR	Stroke Mortality/$Stroke_1$	UKPSD 60[96]	All					1.14
ULSAM	Hard CHD_1 (10 yr)	FRS (ATP-III)[80]	All					0.21
		PROCAM (Cox)[80]	All					0.27
NHP–Europe	CHD Mortality	SCORE (Unknown Version)[74]	All					3.24
FrRenal	Total CHD_1	FRS [?] (1998)[82]	All					1.69
MünsterWork	Hard CHD_1	Procam (Cox)[29]	Men					0.78
QRESEARCH	CVD_1	FRS (1991) NICE Recal[35]	Men	0.78	0.78-0.78			
			Women	0.80	0.80-0.80			
EPIC-Norfolk	Total CHD_1	FRS (1998) EPIC[36]	Men	0.72	0.70-0.75			
			Women	0.80	0.78-0.83			
VERIFICA	Total CHD_1	FRS (1998) REGICOR VERIFICA[58]	Men	0.69		5.1	0.08	1.26
			Women	0.81		2.7	0.26	1.03
CUORE	Hard CHD_2	FRS (1998 TC) D'Ag CUORE[76]	Men	0.72	0.67-0.78	27.1	<0.01	0.78
		PROCAM (Cox) D'Ag CUORE[76]	Men	0.74	0.68-0.79	220	<0.01	0.34
		FRS (1998 TC) Chb CUORE[76]	Men	0.72	0.67-0.78	19.9	0.01	1.01
		PROCAM (Cox) Chb CUORE[76]	Men	0.74	0.68-0.79	53.0	<0.01	1.01
Cardiff DM	CVD_2	FRS (1991) Cardiff DM[85]	Men	0.65				
			Women	0.68				
BRHS	CHD Mortality	FRS (1991) BRHS[88]	Men			3.4	0.91	
	Total CHD_1					24.6	<0.01	
VERIFICA	Total CHD_1	FRS (1998) REGICOR VERIFICA[58]	Patients w/Diabetes			1.4	0.99	

*The model outcome was calculated using the sum of MI and sudden CHD death models from FRS (Anderson).

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed.

Table 15. Model Development Performance Characteristics (Asia): Internal Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
MUCA-II	CVD_{17}	USA-PRC (Simple)[111]	Men	0.79	0.76-0.83			
		USA-PRC (Simple)	Women	0.79	0.75-0.82			
		USA-PRC (Points)	Men	0.79	0.76-0.83			
		USA-PRC (Points)	Women	0.78	0.77-0.82			
MUCA	Hard CHD_1	CMCS Cox Model[83]	Men	0.74	0.70-0.78	12.6	0.13	
			Women	0.76	0.70-0.82	14.2	0.08	
NHIC	$Stroke_6$ (10 yr)	Korean Stroke Risk Prediction[47]	Men	0.82	0.80-0.83	7.7	0.56	
			Women	0.81	0.79-0.83	14.3	0.16	
HKD Registry	$Stroke_1$	HKD Stroke Risk Score[57]	All	0.79	0.72-0.78			
	$Stroke_5$/$Stroke_1$	HKD Stroke Risk Score[57]	All	0.77				
	$Stroke_3$/$Stroke_1$	HKD Stroke Risk Score[57]	All	0.79				
	Total CHD_1	HKD CHD Risk Score[57]	All	0.74				

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed.

Table 16. Model Development Performance Characteristics (Asia): External Validation

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
MUCA	Hard CHD_1	FRS Hard CHD [TC] (1998)[83]	Men	0.71	0.67-0.75	646	<0.01	
			Women	0.74	0.69-0.80	148	<0.01	
JapanWork	Total CHD_1 (5 yr)	FRS [?] (Wilson)[95]	Men	0.71				0.38
	Total CHD_1 (10 yr)		Men	0.62				0.58
HKD Registry	$Stroke_1$	UKPDS 60[57]	All	0.59	0.55-0.63			0.51
	Hard CHD_1	UKPDS 56[38]	All	0.61	0.58-0.64			
APCSC China	CVD_8	FRS (2007 Barzi)[55]	Men	0.75	0.72-0.78	558	<0.01	0.27
			Women	0.79	0.74-0.83	608	<0.01	0.50
NHP–South Asia	CHD Mortality/CVD Mortality	SCORE (?)[74]	All					4.42
	Stroke Mortality/$Stroke_4$	FRS (1991) Stroke[74]	All					1.88

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed.

Table 17. Model Recalibration/Remodeling Performance Characteristics (Americas)

Cohort Abbreviation	Outcome (Cohort/Model)	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
WHS (Val)	CVD_3	FRS (Wilson TC) WHS[54#]	Women	0.79			0.18	
		FRS (Wilson LDL) WHS[54#]	Women	0.79			0.16	
WGHS	CVD_3	FRS (ATP-III) WGHS[101#]	Women	0.80	0.78-0.82	6.2	0.62	
		Reynolds Risk Score WGHS[101#]	Women	0.81	0.79-0.83	7.8	0.46	
NHANES I	CHD Mortality	FRS (Custom 4 Variable)[25]	Men	0.71				
			Women	0.80				0.90
NHANES II	CHD Mortality	FRS (Custom 4 Variable)[25]	Men	0.74				
			Women	0.76				0.65
WHS	CVD_3	FRS (ATP-III) WHS[101#]	Women	0.81			0.25	
SHS	Hard CHD_1 (5 yr)	SHS Best Cox[23]	Men	0.77		2.7		
			Women	0.86		3.5		
ARIC	Hard CHD1 (5 yr)	ARIC Best Cox[23]	White Men	0.76		5.4		
			Black Men	0.70		7.2		
			White Women	0.84		5.2		
			Black Women	0.85		3.4		
HHP	Hard CHD_1 (5 yr)	HHP Best Cox[23]	Men	0.74		2.6		
PRHHP	Hard CHD_1 (5 yr)	PR Best Cox[23]	Men	0.72		7.2		
CHS	Hard CHD_1 (5 yr)	CHS Best Cox[23]	Men	0.69		6.8		
			Women	0.68		6.8		
JHSS	Total CHD_1	FRS (Wilson) D'Agostino JHSS[42$]	Men				9.0	
			Women				8.0	
ARIS/CHS	Hard CHD_1 (5 yr)	FRS CKD ARIS/CHS[45$]	Men			13.7		
			Women			8.7		
	Hard CHD_1 (10 yr)	FRS CKD ARIS/CHS[45$]	Men			32.3		
			Women			8.9		
		FRS (1998) CKD Best Cox Remodel[45]	Men	0.68		4.0		
			Women	0.81		2.5		

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed. Please note that remodeling changes the outcome to match the cohort, regardless of the source data for the variables. Also note that a model is considered a remodeling effort if it uses the same variables as a previous model. # indicates remodeling based upon the preceding cohort; $ Indicates recalibrated based upon the preceding cohort.

Table 18. Model Recalibration/Remodeling Performance Characteristics (Europe)

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
QRESEARCH	CVD_1	FRS (1991) NICE Recal[35$]	Men Women	0.78 0.80	0.78-0.78 0.80-0.80			
Cardiff DM	CVD_2	FRS (1991) Cardiff DM[85#]	Men Women	0.65 0.68				
BRHS	CHD Mortality	FRS (1991) BRHS[88$]	Men			3.4	0.91	
BRHS	Total CHD1	FRS (1991) BRHS[88$]	Men			24.6	<0.01	
EPIC-Norfolk	Total CHD_1	FRS (1998) EPIC[36#]	Men Women	0.72 0.80	0.70-0.75 0.78-0.83			
VERIFICA	Total CHD_1	FRS (1998) REGICOR VERIFICA[58#]	Men Women	0.69 0.81		5.1 2.7	0.08 0.26	1.26 1.03
VERIFICA	Total CHD_1	FRS (1998) REGICOR VERIFICA[58#]	Patients w/Diabetes			1.4	0.99	
CUORE	Hard CHD_2	FRS (1998 TC) D'Ag CUORE[76#]	Men	0.72	0.67-0.78	27.1	<0.01	0.78
CUORE	Hard CHD_2	FRS (1998 TC) Chb CUORE[76#]	Men	0.72	0.67-0.78	19.9	0.01	1.01
CUORE	Hard CHD_2	PROCAM (Cox) D'Ag CUORE[76#]	Men	0.74	0.68-0.79	220.0	<0.01	0.34
CUORE	Hard CHD_2	PROCAM (Cox) Chb CUORE[76#]	Men	0.74	0.68-0.79	53.0	<0.01	1.01

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed. # indicates remodeling based upon the preceding cohort; $ Indicates recalibrated based upon the preceding cohort.

Table 19. Model Recalibration/Remodeling Performance Characteristics (Asia)

Cohort Abbreviation	Cohort Outcome	Model Name	Group Name	AUC	AUC Variance	Hosmer-Lemeshow Goodness-of-Fit		O/E Ratio
						χ^2	P	
MUCA-II	CVD_{17}	FRS (1998) MUCA-II[111#]	Men	0.80	0.76-0.83			
			Women	0.79	0.76-0.83			
MUCA	Hard CHD_1	FRS (1998) MUCA[83#]	Men	0.74	0.70-0.78	31.5	<0.01	
			Women	0.76	0.70-0.82	16.9	0.03	
APCSC China	CVD_8	FRS (Barzi 2007) APCSC[55#]	Men	0.76	0.73-0.79	16.7	0.03	
			Women	0.80	0.75-0.84	12.2	0.15	

Note: If the cohort and model outcomes match, only one outcome is listed; otherwise both are listed. # indicates remodeling based upon the preceding cohort.

Table 20. Variables Used By Cardiovascular Risk Models for Patients With Diabetes

Variable	UKPDS[96]	DARTS[63]	HKD[38]
Age	At diagnosis	At diagnosis	*
Sex	*	*	*
Race	Afro-Caribbean		
Smoking status	Current	Current & Former	Current
DM diagnosis duration		*	*
eGFR			*
Spot urine A/C ratio			*
Lipid profile	Total/HDL Ratio	Total	Non-HDL
Hemoglobin A_1c	*	*	
Systolic BP	*	*	
Treated hypertension		*	
Height		*	

*Indicates that the variable was used by that model, and any text describes the particular subset of the variable in question that was used in the model.

Table 21. Comparison of Relative Risk for Hard CHD_1 Among Patients With Diabetes Across Seven U.S. Cohorts[23]

Cohort	Diabetes Relative Risk (95% CI)*
Men	
Framingham Heart Study	1.69 (1.11-2.57)
ARIC (White)	2.42 (1.69-2.57)
ARIC (Black)	1.40 (0.75-2.62)
Physician's Heart Study	1.54 (1.05-2.26)
Honolulu Heart Program	2.55 (1.82-3.57)
Puerto Rico Heart Program	2.07 (1.50-2.85)
Strong Heart Study	4.29 (2.27-8.10)#
Cardiovascular Health Study	1.47 (0.89-2.44)
Women	
Framingham Heart Study	2.38 (1.40-4.06)
ARIC (White)	3.62 (2.21-5.94)
ARIC (Black)	2.01 (1.16-3.48)
Strong Heart Study	8.63 (2.55-29.16)#
Cardiovascular Health Study	2.29 (1.23-4.23)

* These relative risks were adjusted for age, systolic and diastolic blood pressure, total cholesterol, high-density lipoprotein cholesterol, and current smoking status. # indicates significant difference between the cohort and the FRS.

Table 22. Comparison of Diabetes Relative Risk Across 16 North American, European, and Asian Cohorts

Cohort	Diabetes Relative Risk* (95% CI)
Men	
Framingham Heart Study[23$]	1.99 (1.23-3.21)
NHANES I[25$]	2.17 (1.60-2.94)
NHANES II[25$]	1.73 (1.15-2.60)
Honolulu Heart Program[23$]	2.85 (2.17-3.75)
Puerto Rico Heart Health Program[23$]	
Urban	2.88 (2.07-4.03)
Rural	2.86 (1.23-6.60)
HDFP (Regular Care)[38$]	1.79 (1.06-3.05)
MRFIT (Usual Care)[138$]	1.24 (0.61-2.51)
Tecumseh Community Health Study[139]	1.85 (0.94-3.66)
Renfrew and Paisley Study[66]	2.73 (1.93-3.87)
Glostrup Cohort[140]	2.52 (1.26-5.02)
Iceland Reykjavik Study[141]	1.78 (1.17-2.71)
Israeli Ischemic Heart Disease Study[142]	2.31 (1.86-2.87)
Norwegian Counties Study[44]	3.98 (2.62-6.03)[#]
Yugoslavia Cardiovascular Disease Study[17]	4.63 (2.15-9.96)[#]
Lipid Research Clinics Follow-Up Study[99]	
Random Sample	8.05 (3.80-17.03)[#]
Hyperlipidemia	3.79 (1.60-3.05)[#]
Women	
Framingham Heart Study[23]	4.67 (2.70-8.07)
NHANES I[25]	2.50 (1.89-3.30)
NHANES II[25]	2.76 (1.92-3.97)
HDFP (Regular Care)[38]	2.57 (1.37-4.81)
Tecumseh Community Health Study[139]	1.32 (0.62-2.82)
Renfrew and Paisley Study[66]	3.65 (2.36-5.65)
Norwegian Counties Study[44]	8.67 (3.81-19.77)
Iceland Reykjavik Study[141]	3.81 (2.25-6.44)

*These relative risks were adjusted for age, systolic blood pressure, total cholesterol, and current smoking status. # indicates significant difference between the cohort and the FRS. $ indicates a U.S. cohort.

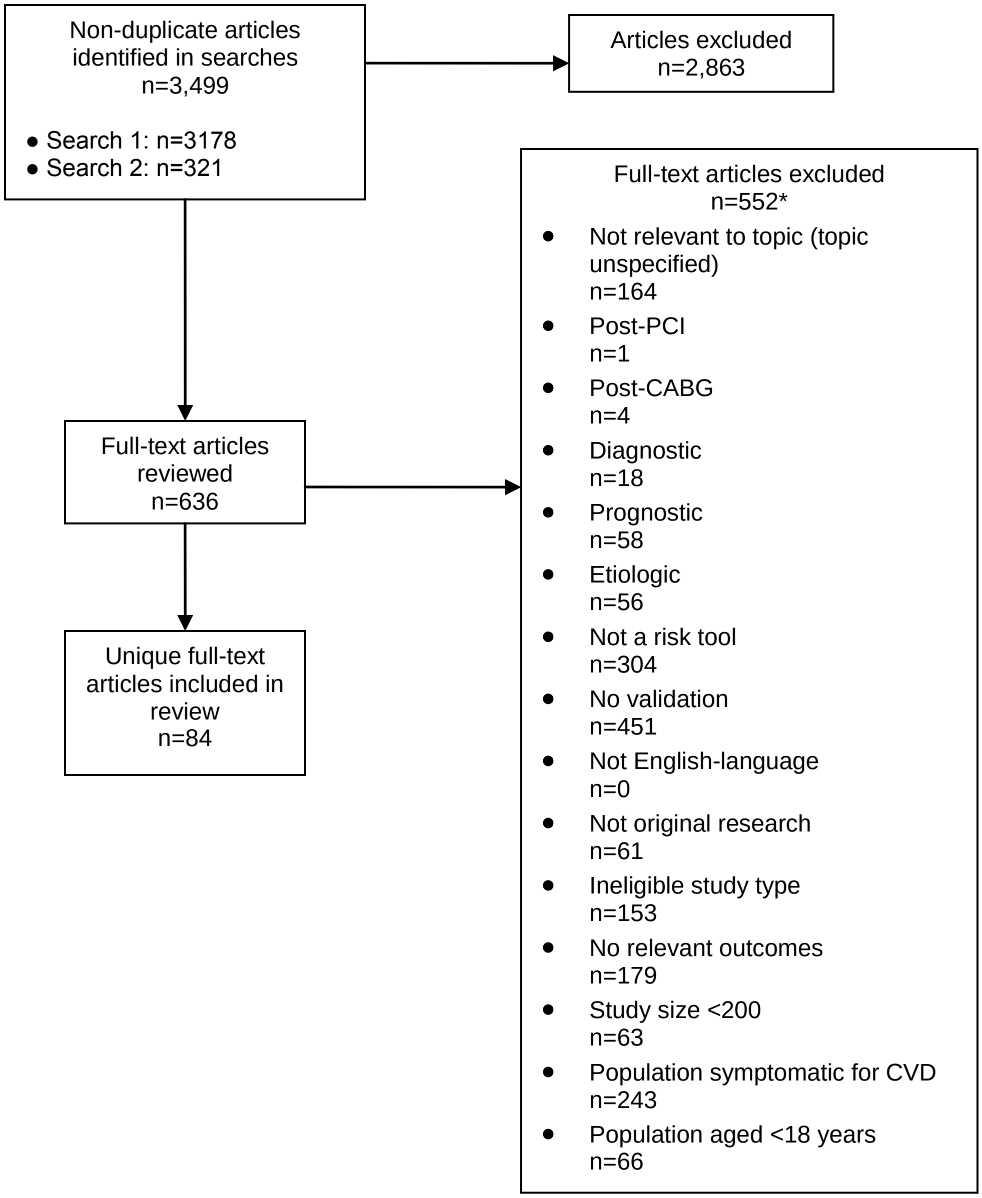
Table 23. Comparison of Variable Coefficients Between UKPDS and HKD Registry for Coronary Heart Disease Outcome in Patients With Diabetes

Variable	UKPDS[119] (95% CI)	HKD Registry[38] (95% CI)
Age (1 year of age at Dx DM)	1.059 (1.05-1.07)	1.04 (1.03-1.06)
Female	0.525 (0.42-0.63)	0.81 (0.59-1.10)
Afro-Caribbean ethnicity	0.390 (0.19-0.59)	---
Current smoker	1.350 (1.11-1.59)	1.40 (0.99-1.98)
$HgbA_{1c}$ (per 1% increase)	1.183 (1.11-1.25)	1.03 (0.95-1.16)
SBP (per 10 mmHg increase)	1.088 (1.04-1.14)	1.09 (1.01-10.17)
Total/HDL lipid ratio	3.845 (2.59-5.10)	2.74 (1.67-4.50)

Table 24. Model and Online Tool Comparison

Model	Model Type	Outcome	Test Patient				
			1	2	3	4	5
FRS (Anderson)							
DBP	Model Generated	CVD_2	0.05	0.09	0.43	0.66	N/A
SBP	Model Generated	CVD_2	0.05	0.09	0.49	0.70	N/A
Points	Model Generated	CVD_2	0.05	0.10	0.42	N/A	N/A
	Online	CVD_2	0.05	0.19	0.44	N/A	N/A
FRS (Wilson)							
TC	Model Generated	Total CHD_1	0.06	0.12	0.20	0.51	0.16
LDL	Model Generated	Total CHD_1	0.05	0.13	0.18	0.33	0.19
	Online	Total CHD_1	0.03	0.03	0.06	0.39	0.16
FRS (ATP-III)							
Points	Model Generated	Hard CHD_1	0.02	0.03	Outcome	Outcome	0.22
	Online	Hard CHD_1	0.03	0.03	Outcome	Outcome	N/A
UKPDS							
	Model Generated	Hard CHD_1	N/A	N/A	0.16	0.29	N/A
	Online	Hard CHD_1	N/A	N/A	0.15	0.33	N/A
Other							
PROCAM (Point Score)	Model Generated	Hard CHD_1	0.01	0.11	0.18	>0.30	N/A
SCORE (High Risk)	Model Generated	CHD Mortality	N/A	0.01	0.02	0.16	N/A

Figure 1. Yield of Literature



*The number of articles excluded exceeds the total number of articles in each category because most of the articles fit into multiple exclusion categories.

Figure 2. Variation in Predicted Outcomes, Patient 2

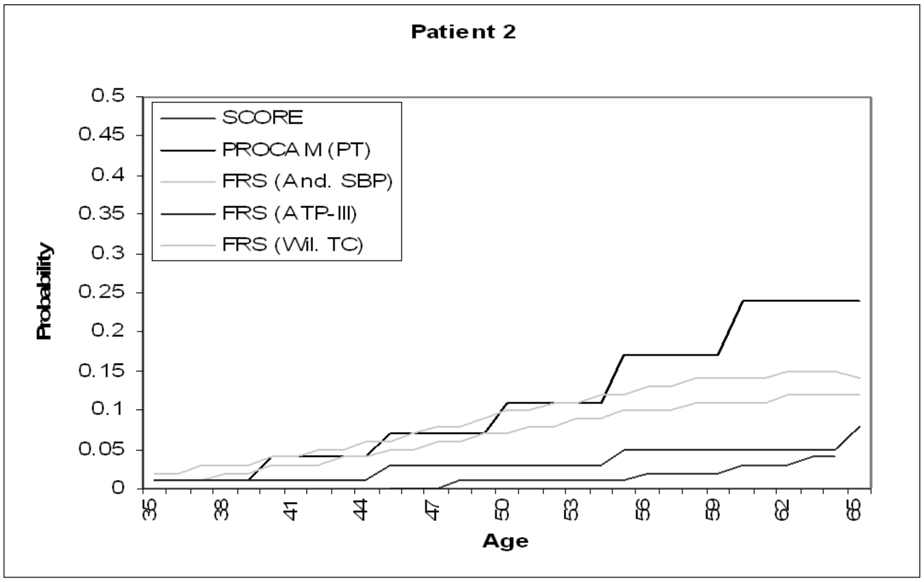


Figure 3. Variation in Predicted Outcomes, Patient 3

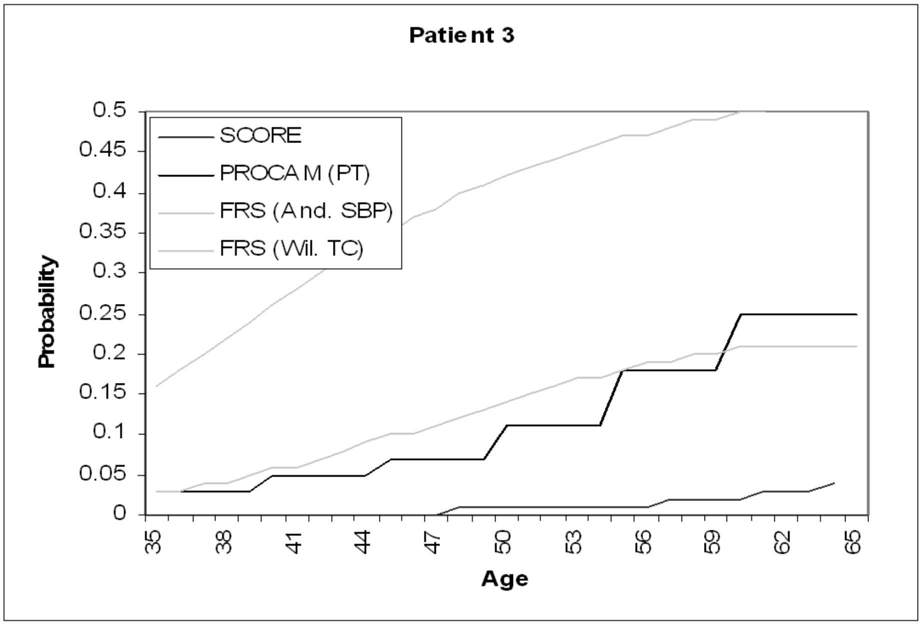
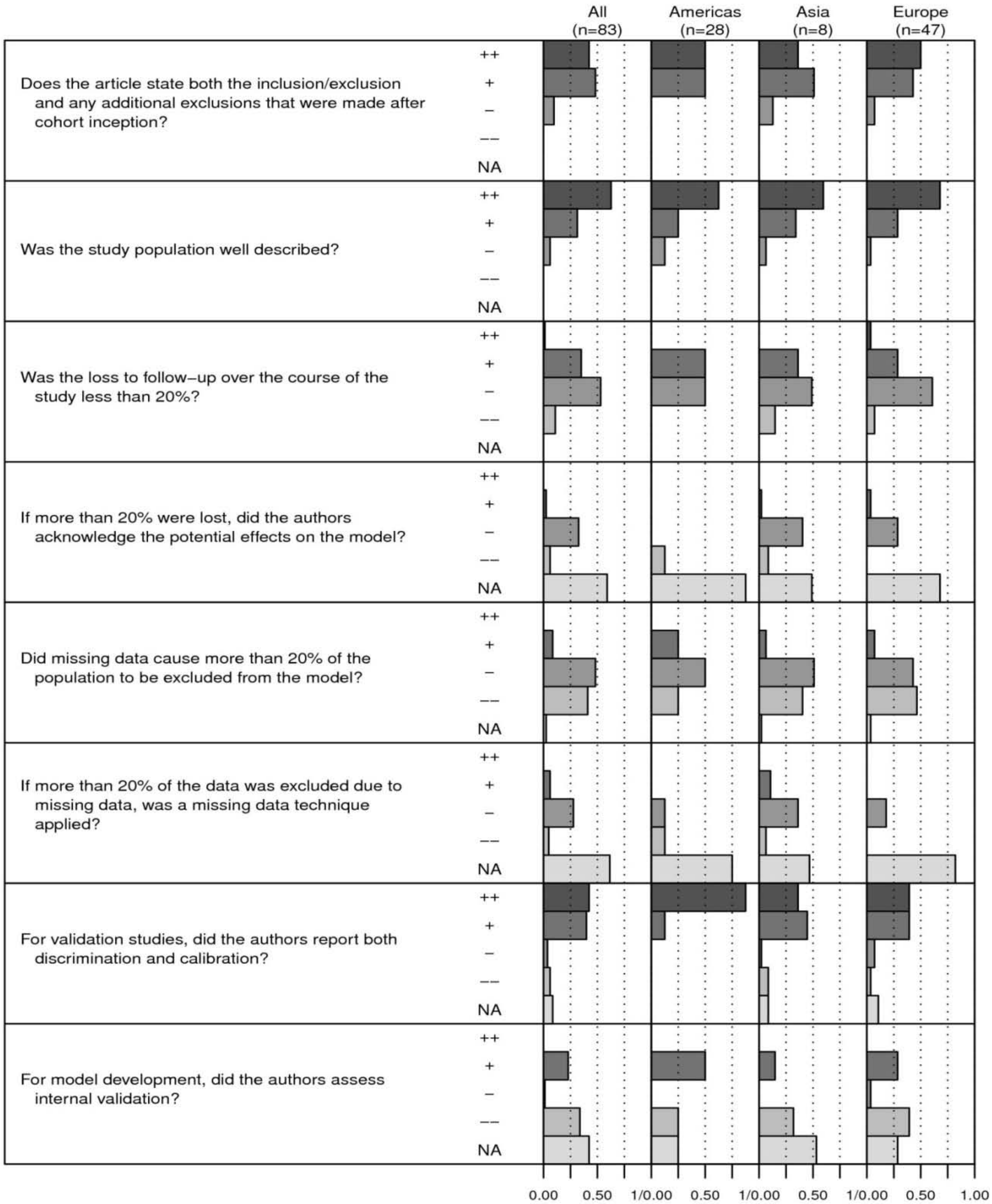


Figure 4. Summary of Quality Scores



Appendix A. Literature Search Terms and Results

SEARCH STRATEGY		
Cardiovascular Diseases		
1	cardiovascular disease*[tiab]	53,927
2	cardiovascular diseases[majr:noexp]	40,508
3	myocardial infarction[majr]	87,024
4	coronary disease[majr]	111,322
5	stroke[majr]	34,282
6	brain ischemia[majr:noexp]	19,070
7	cerebrovascular accident[tiab]	2,344
8	death, sudden, cardiac[majr]	3,973
9	heart diseases[majr:noexp]	31,459
10	cardiovascular mortality[tiab]	4,367
11	coronary[tiab]	224,553
12	artery[tiab]	283,473
13	disease[tiab]	1,398,642
14	*#11 AND (#12 OR #13)*	*151,293*
15	stroke[tiab]	88,070
16	brain[tiab]	480,737
17	cerebrovascular[tiab]	27,374
18	cerebral[tiab]	210,834
19	brainstem[tiab]	25,684
20	*#15 AND (#16 OR #17 OR #18 OR #19)*	*26,438*
21	intracranial hemorrhages[majr]	29,154
22	intracranial hemorrhage, traumatic[majr]	5,957
23	*#21 NOT #22*	*23,197*
24	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #14 OR #20 OR #23	449,543
Risk Assessment		
25	risk assessment[mh]	93,552
26	Risk Assess*[tiab]	18,610
27	Risk Function*[tiab]	314
28	Risk Equation*[tiab]	164
29	Risk Calc*[tiab]	506
30	Risk Scor*[tiab]	2,957
31	Risk Predict*[tiab]	1,641
32	Risk Factor Calc*[tiab]	8
33	Risk Chart*[tiab]	71
34	Risk Engine*[tiab]	40
35	Risk Appraisal*[tiab]	363
36	Prediction Model*[tiab]	2,107
37	Risk algorithm[tiab]	43
38	Scoring* Method*[tiab]	13,615
39	Scoring Scheme*[tiab]	335
40	#25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39	122,344
Modeling Measurements		
41	roc curve[mh]	13,045
42	Roc curve[tiab]	4,402
43	Area Under Curve[mh]	14,816
44	receiver WITH operating WITH curve[tiab]	7,349
45	c-statistic*[tiab]	510
46	C index*[tiab]	230
47	C indices*[tiab]	23
48	hosmer WITH lemeshow[tiab]	383
49	validation studies[pt]	35,385
50	hazard ratio[tiab]	12,036
51	forecasting[mh]	56,935
52	models, statistical[mh]	141,871
53	observ* WITH predict*[tiab]	90,609
54	Predictive Value of Tests[mh]	84,827
55	concordance[tiab]	15,712

Appendix A. Literature Search Terms and Results

56	#41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55	425,065
Coronary Artery Disease Risk Models		
57	assign score*[tiab]	22
58	brhs[tiab]	13
59	British regional heart[tiab]	91
60	British national heart[tiab]	12
61	busselton[tiab]	160
62	decode study[tiab]	18
63	Dundee risk score*[tiab]	4
64	erica risk[tiab]	14
65	findris*[tiab]	5
66	framingham equation*[tiab]	117
67	framingham estim*[tiab]	5
68	framingham heart study algorithm[tiab]	2
69	Framingham algorithm[tiab]	24
70	Framingham guideline*[tiab]	232
71	Framingham risk[tiab]	572
72	Framingham score*[tiab]	102
73	Framingham function*[tiab]	28
74	Framingham model*[tiab]	44
75	Glostrup[tiab]	260
76	New Zealand chart*[tiab]	198
77	precard[tiab]	4
78	PROCAM[tiab]	131
79	Reynolds risk score*[tiab]	11
80	score project[tiab]	21
81	Sheffield table*[tiab]	34
82	shaper score*[tiab]	13
83	Systematic Coronary Risk Evaluation[tiab]	40
84	#57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82 OR #83	1,863
Summation		
85	#40 OR #84	123,397
86	#24 AND #56 AND #85 AND English[la] AND humans[mh] AND 1999:2008[dp]	3,317
87	#88 AND letter[pt]	51
88	#88 AND comment[pt]	131
89	#88 AND editorial[pt]	71
90	#87 OR #88 OR #89	157
91	#86 NOT #90	3,160

Appendix B. Inclusion/Exclusion Forms

Systematic Review of CVD Risk Assessment Tools
Abstract Review Form

First Author, Year: ____________________ Ref ID #__________ Abstractor Initials: ___ ___ ___

Primary Inclusion/Exclusion Criteria			
1. Relevant to SER topic	Yes	No	Cannot Determine
2. Attempts internal or external validation	Yes	No	Cannot Determine
3. Published in English	Yes	No	Cannot Determine
4. Original research (exclude reviews, editorials, commentaries, letters to editor, etc.)	Yes	No	Cannot Determine
5. Eligible Study types a. Randomized controlled trials b. Controlled clinical trials c. Cohorts d. Case-series	Yes	No	Cannot Determine
6. Reports relevant outcomes: a. Coronary Artery Disease (non fatal and fatal MI and sudden coronary heart disease death) b. Cerebrovascular stroke (thrombotic/hemorrhagic) c. Combination of a and b	Yes	No	Cannot Determine
7. Study size ≥ 200 If No, state study size __________	Yes	No	Cannot Determine
8. Study population is adults asymptomatic for CVD If No, state % symptomatic _________%	Yes	No	Cannot Determine

Retain for:

_____**BACKGROUND/DISCUSSION**

_____**REVIEW OF REFERENCES**

_____**Other**____________________________

Appendix B. Inclusion/Exclusion Forms

Systematic Review of CVD Risk Assessment Tools
Full Text Review Form

First Author, Year: ____________________ Ref ID #__________ Abstractor Initials: ___ ___ ___

1. Relevant to SER topic **If NO:** a. Post-PCI ____ b. Post-CABG ____ c. Diagnostic ____ d. Prognostic ____ e. Etiologic ____ f. Not a risk tool ____ g. Other ____	Yes	No
2. Attempts internal or external validation (evaluation of risk model) **If YES:** a. ROC analysis ____ b. O/E ratios ____ c. Calibration Plots ____ d. Hosmer-Lemeshow ____ e. Other ____	Yes	No
3. Published in English	Yes	No
4. Original research (exclude reviews, editorials, commentaries, letters to editor, etc.)	Yes	No
5. Eligible Study types a. Randomized controlled trials ____ b. Controlled clinical trials ____ c. Cohorts ____ d. Case-series ____	Yes	No
6. Reports relevant outcomes: a. Coronary Artery Disease (non fatal and fatal MI and sudden coronary heart disease death) b. Cerebrovascular stroke (thrombotic/hemorrhagic) c. Combination of a. and b.	Yes	No
7. Study size ≥ 200 **If NO:** State study size _________	Yes	No
8. Study population is asymptomatic for CVD **Exclude:** MI, CAD, CABG, Stroke, Unstable Angina, Stable Angina **Include:** PAD, LEAD, Hypertension, Renal Disease, Metabolic Syndrome **If NO:** State % symptomatic ________%	Yes	No

Appendix B. Inclusion/Exclusion Forms

9. Study population is adults aged ≥ 18 years old	Yes	No
10. Study conducted in the United States **If NO:** State country _________	Yes	No
11. Length of Follow-Up _________		

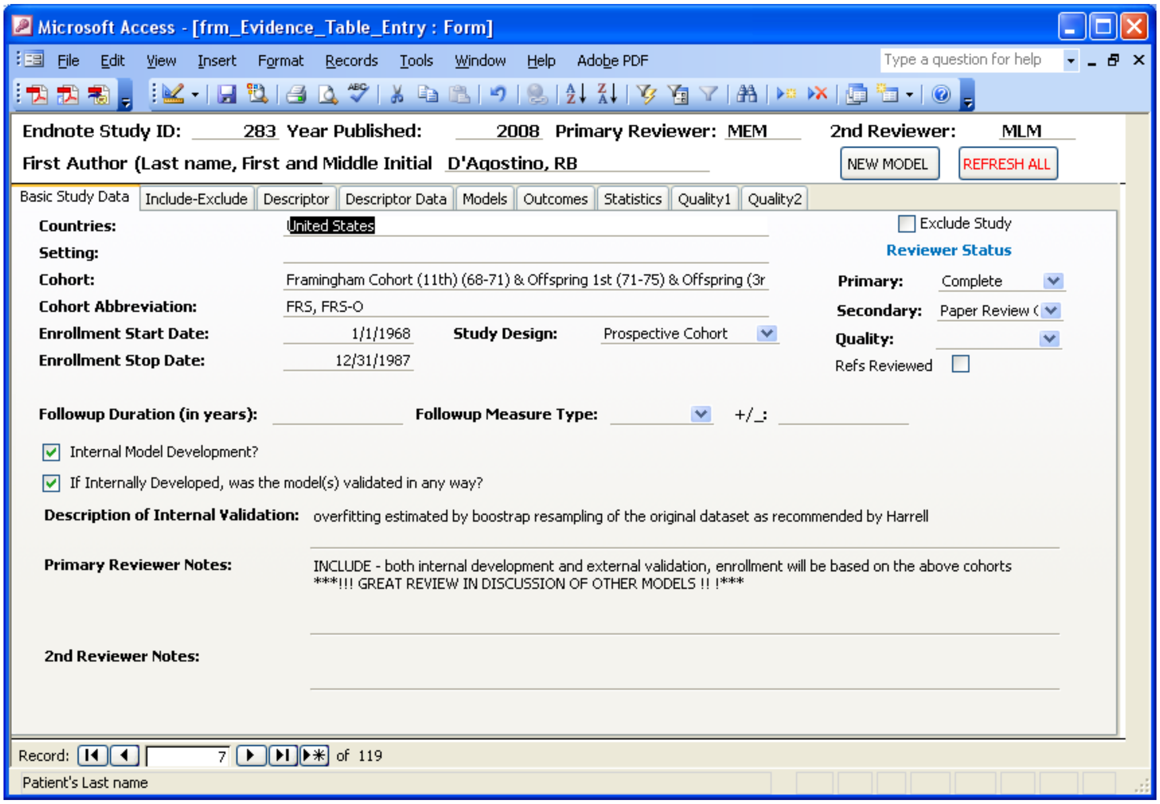
Retain for:

______**BACKGROUND/DISCUSSION**

______**REVIEW OF REFERENCES**

______**Other**______________________________

Appendix C. Sample Data Extraction Form



Microsoft Access - [frm_Evidence_Table_Entry : Form]

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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB

NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Countries: United States

Setting:

Cohort: Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3r

Cohort Abbreviation: FRS, FRS-O

Enrollment Start Date: 1/1/1968 Study Design: Prospective Cohort

Enrollment Stop Date: 12/31/1987

Exclude Study

Reviewer Status

Primary: Complete

Secondary: Paper Review (

Quality:

Refs Reviewed

Followup Duration (in years): Followup Measure Type: +/_:

Internal Model Development?

If Internally Developed, was the model(s) validated in any way?

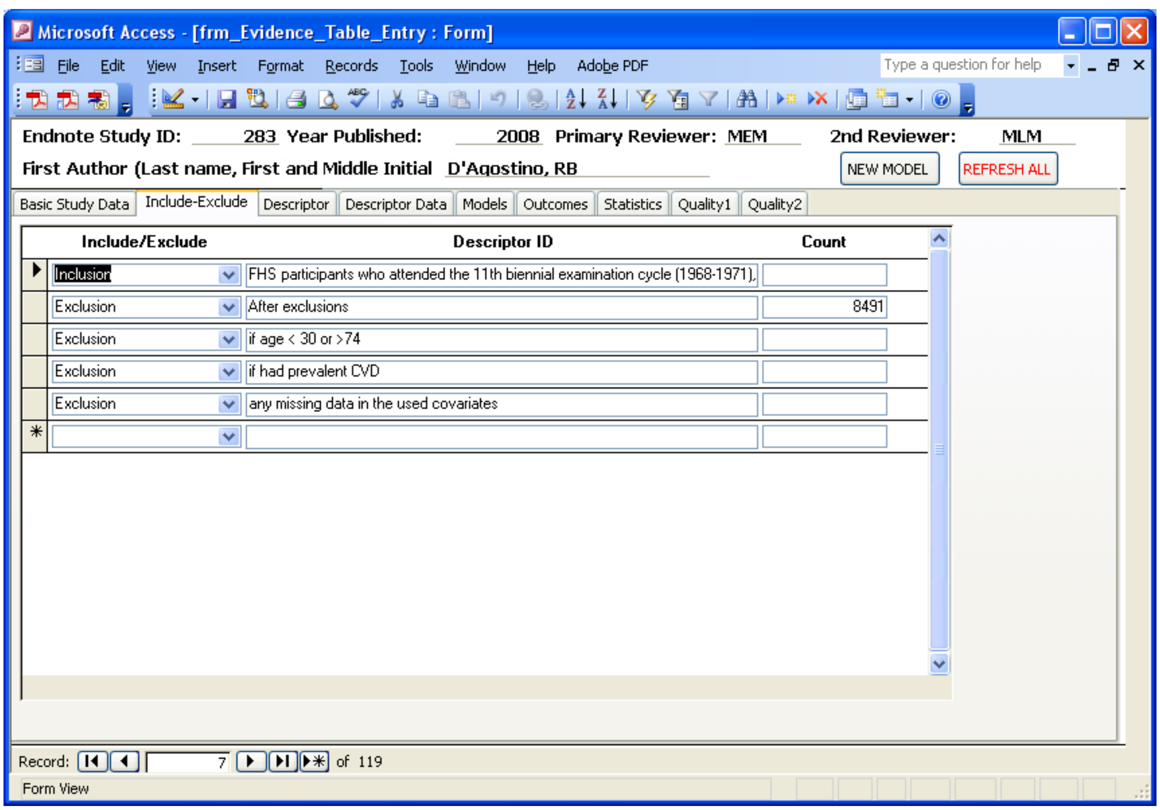
Description of Internal Validation: overfitting estimated by boostrap resampling of the original dataset as recommended by Harrell

Primary Reviewer Notes: INCLUDE - both internal development and external validation, enrollment will be based on the above cohorts ***!!! GREAT REVIEW IN DISCUSSION OF OTHER MODELS !! !***

2nd Reviewer Notes:

Record: 7 of 119

Patient's Last name



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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB

NEW MODEL REFRESH ALL

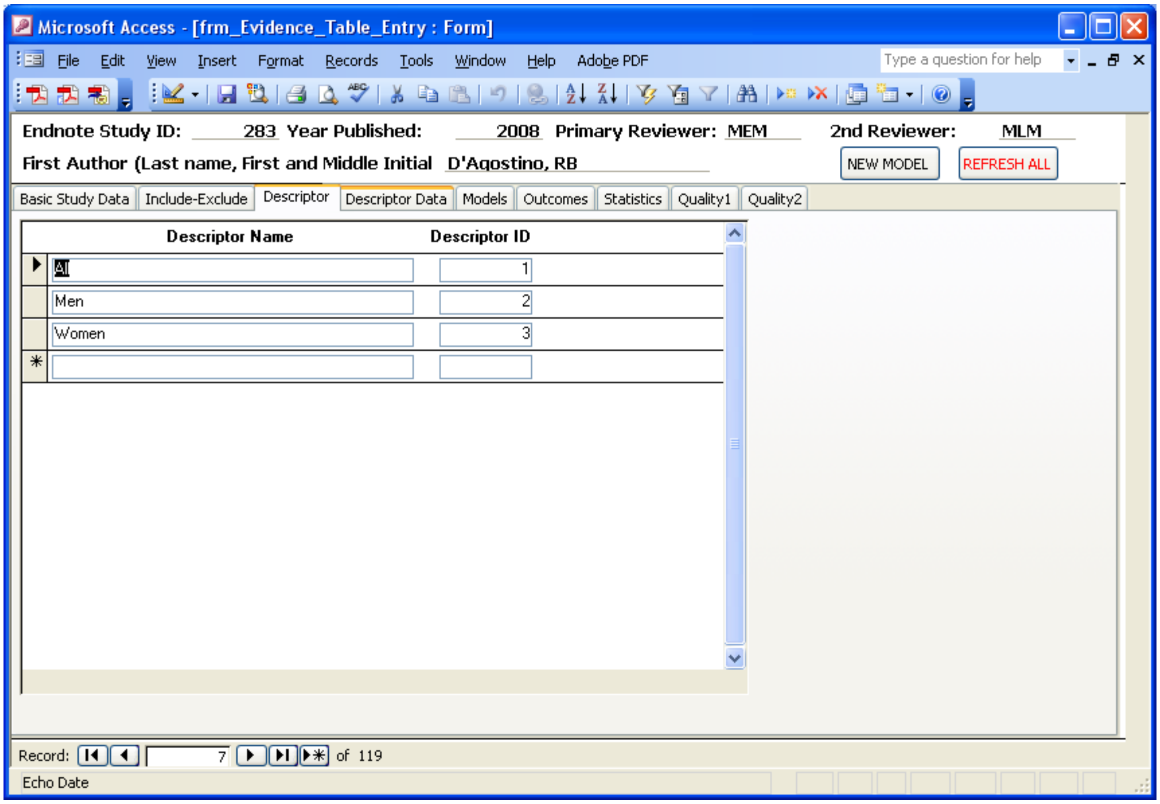
Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Include/Exclude	Descriptor ID	Count
Inclusion	FHS participants who attended the 11th biennial examination cycle (1968-1971),	
Exclusion	After exclusions	8491
Exclusion	if age < 30 or >74	
Exclusion	if had prevalent CVD	
Exclusion	any missing data in the used covariates	

Record: 7 of 119

Form View

Appendix C. Sample Data Extraction Form



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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB

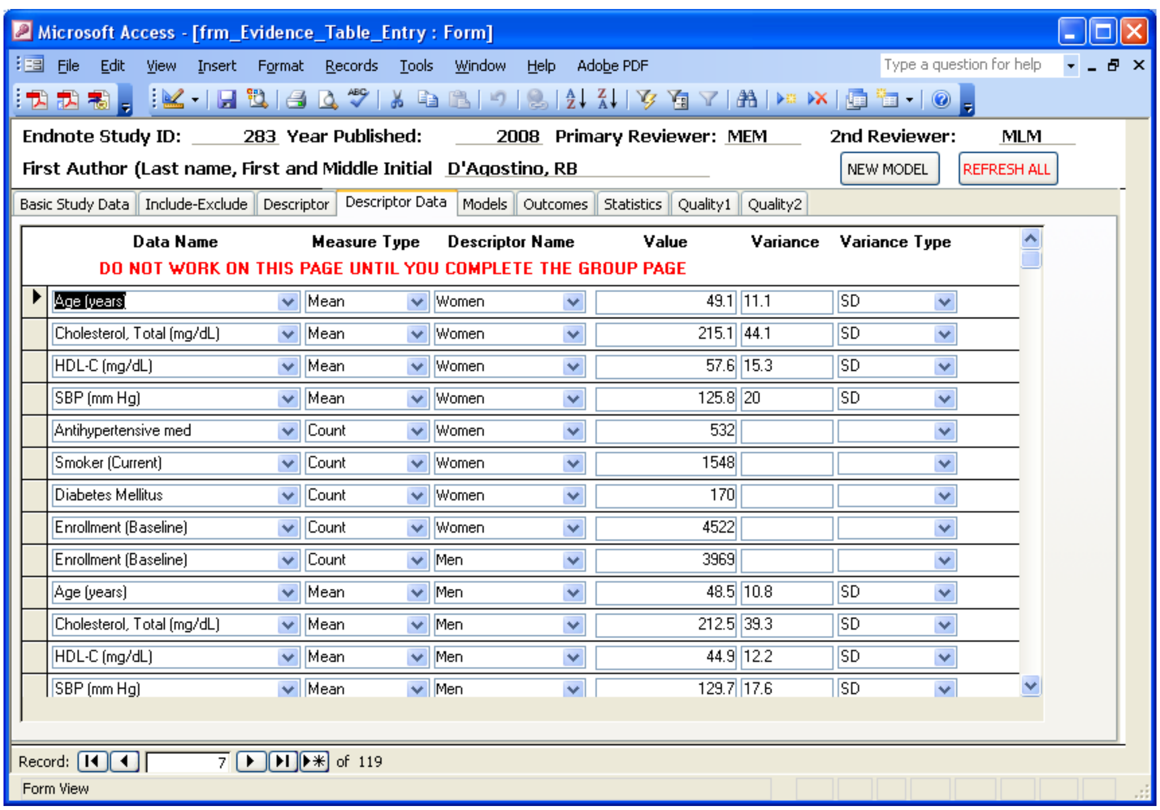
NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Descriptor Name	Descriptor ID
All	1
Men	2
Women	3

Record: 7 of 119

Echo Date



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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB

NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

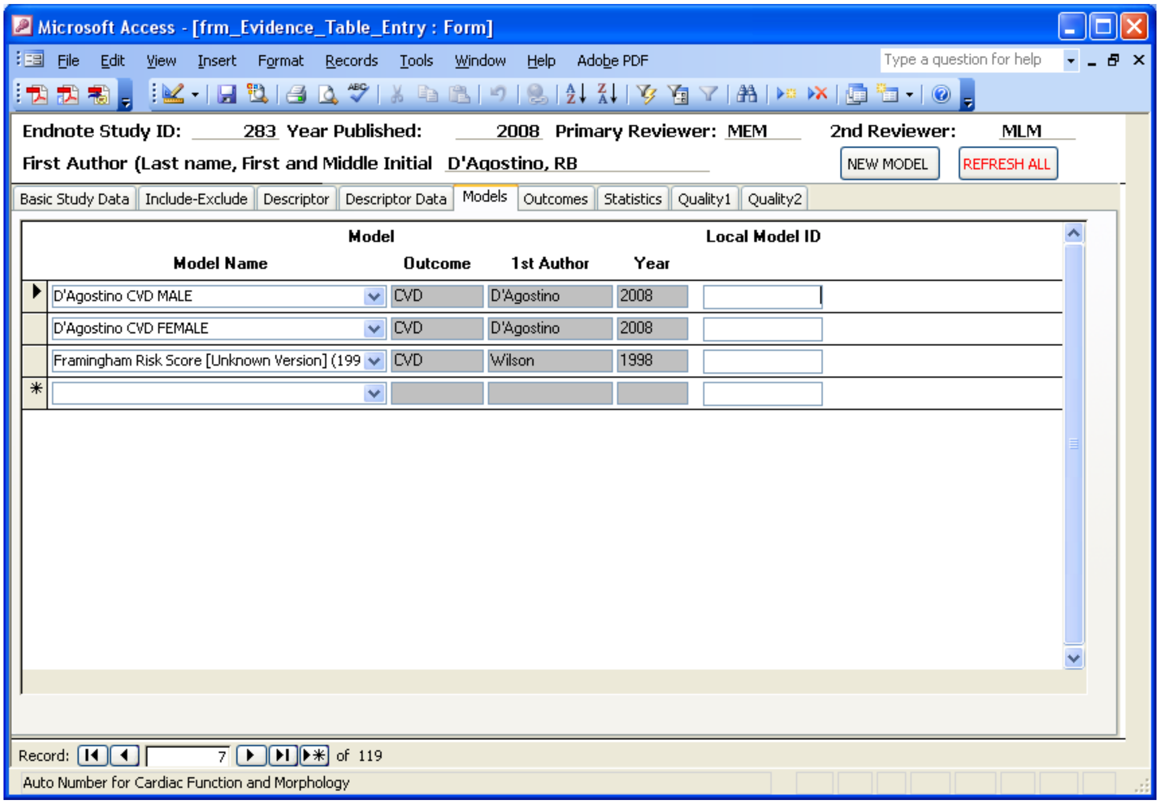
DO NOT WORK ON THIS PAGE UNTIL YOU COMPLETE THE GROUP PAGE

Data Name	Measure Type	Descriptor Name	Value	Variance	Variance Type
Age (years)	Mean	Women	49.1	11.1	SD
Cholesterol, Total (mg/dL)	Mean	Women	215.1	44.1	SD
HDL-C (mg/dL)	Mean	Women	57.6	15.3	SD
SBP (mm Hg)	Mean	Women	125.8	20	SD
Antihypertensive med	Count	Women	532		
Smoker (Current)	Count	Women	1548		
Diabetes Mellitus	Count	Women	170		
Enrollment (Baseline)	Count	Women	4522		
Enrollment (Baseline)	Count	Men	3969		
Age (years)	Mean	Men	48.5	10.8	SD
Cholesterol, Total (mg/dL)	Mean	Men	212.5	39.3	SD
HDL-C (mg/dL)	Mean	Men	44.9	12.2	SD
SBP (mm Hg)	Mean	Men	129.7	17.6	SD

Record: 7 of 119

Form View

Appendix C. Sample Data Extraction Form



Microsoft Access - [frm_Evidence_Table_Entry : Form]

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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

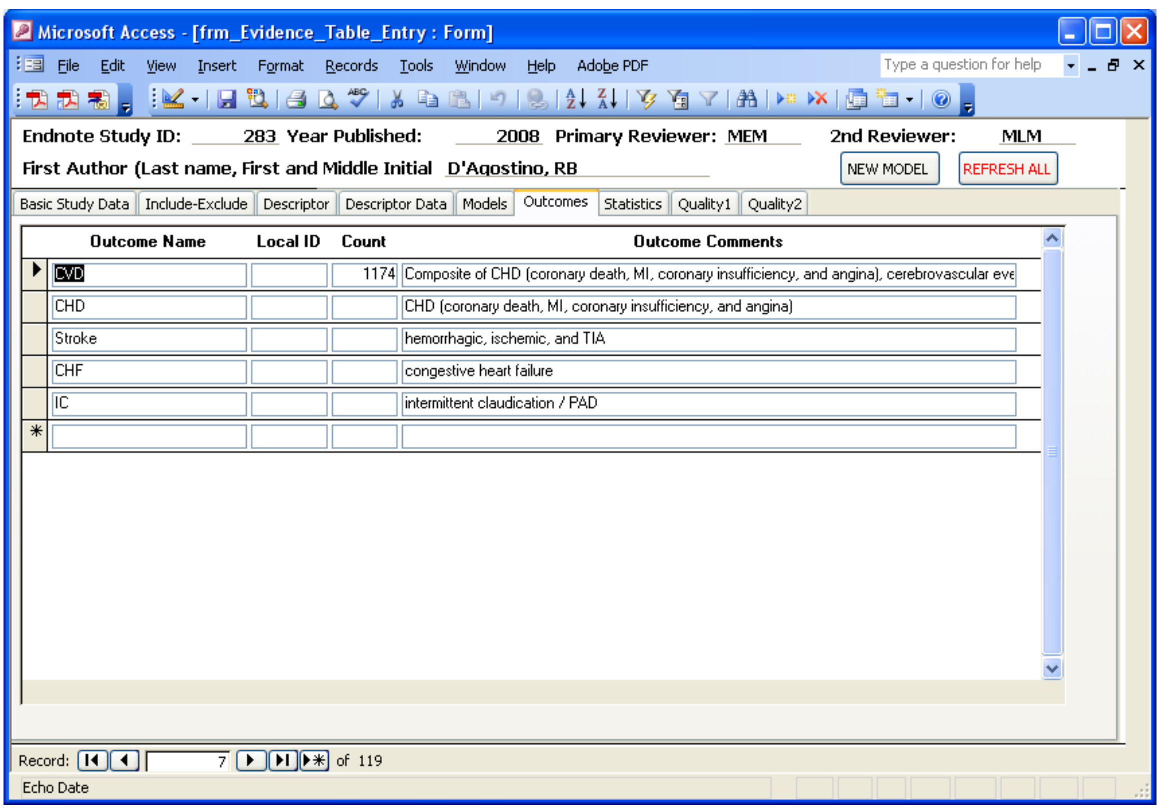
First Author (Last name, First and Middle Initial D'Agostino, RB — NEW MODEL — REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Model Name	Outcome	1st Author	Year	Local Model ID
D'Agostino CVD MALE	CVD	D'Agostino	2008	
D'Agostino CVD FEMALE	CVD	D'Agostino	2008	
Framingham Risk Score [Unknown Version] (199	CVD	Wilson	1998	

Record: 7 of 119

Auto Number for Cardiac Function and Morphology



Microsoft Access - [frm_Evidence_Table_Entry : Form]

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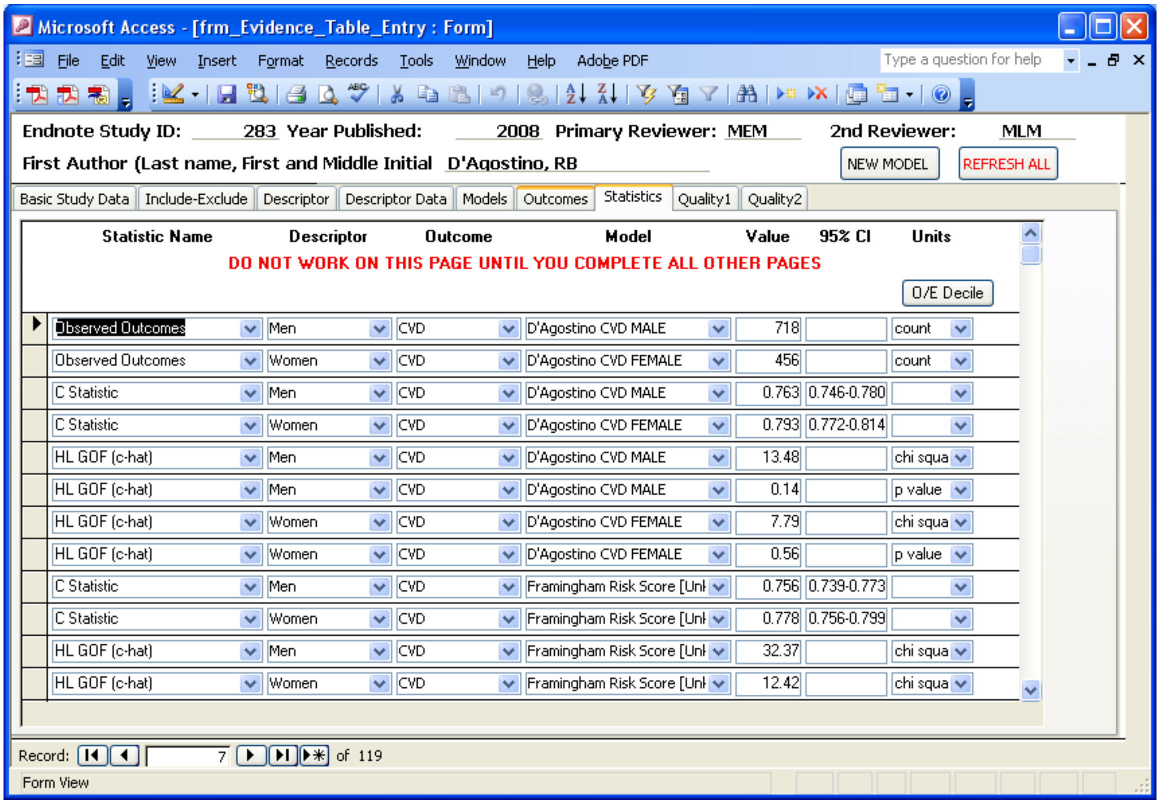
Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Outcome Name	Local ID	Count	Outcome Comments
CVD		1174	Composite of CHD (coronary death, MI, coronary insufficiency, and angina), cerebrovascular eve
CHD			CHD (coronary death, MI, coronary insufficiency, and angina)
Stroke			hemorrhagic, ischemic, and TIA
CHF			congestive heart failure
IC			intermittent claudication / PAD

Record: 7 of 119

Echo Date

Appendix C. Sample Data Extraction Form



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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

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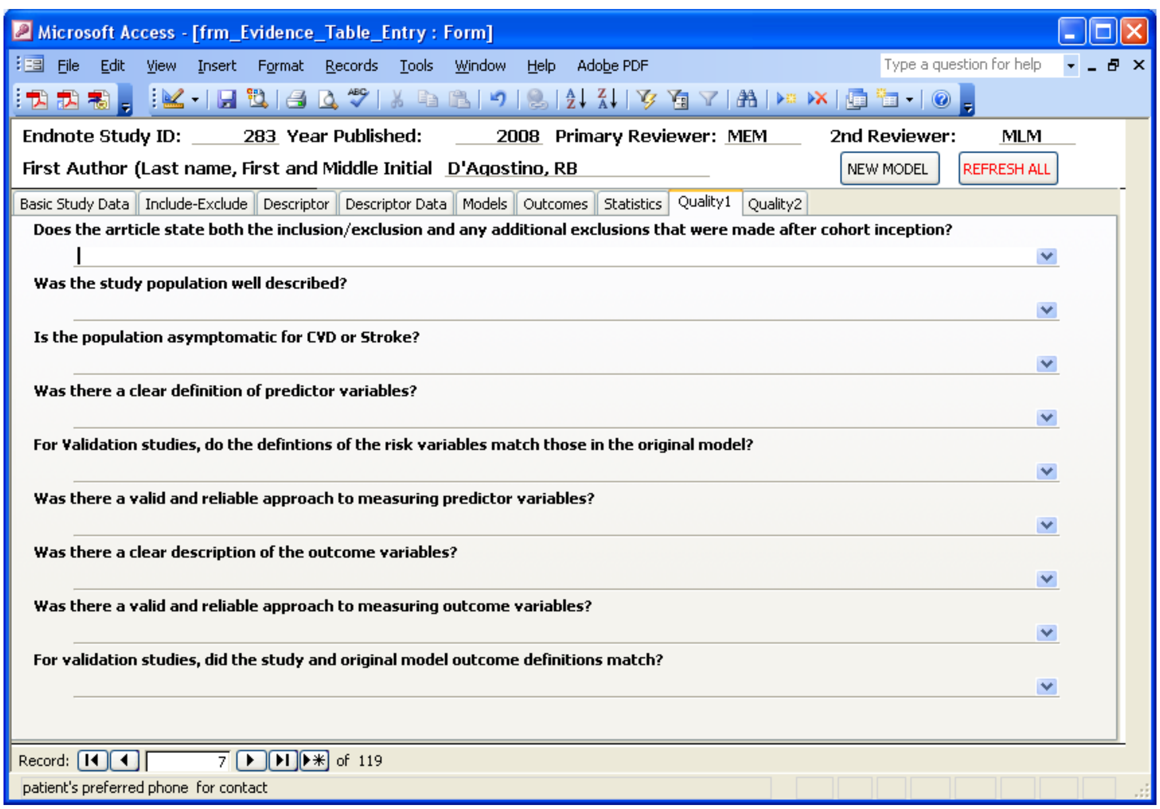
O/E Decile

Statistic Name	Descriptor	Outcome	Model	Value	95% CI	Units
Observed Outcomes	Men	CVD	D'Agostino CVD MALE	718		count
Observed Outcomes	Women	CVD	D'Agostino CVD FEMALE	456		count
C Statistic	Men	CVD	D'Agostino CVD MALE	0.763	0.746-0.780	
C Statistic	Women	CVD	D'Agostino CVD FEMALE	0.793	0.772-0.814	
HL GOF (c-hat)	Men	CVD	D'Agostino CVD MALE	13.48		chi squa
HL GOF (c-hat)	Men	CVD	D'Agostino CVD MALE	0.14		p value
HL GOF (c-hat)	Women	CVD	D'Agostino CVD FEMALE	7.79		chi squa
HL GOF (c-hat)	Women	CVD	D'Agostino CVD FEMALE	0.56		p value
C Statistic	Men	CVD	Framingham Risk Score [Unl	0.756	0.739-0.773	
C Statistic	Women	CVD	Framingham Risk Score [Unl	0.778	0.756-0.799	
HL GOF (c-hat)	Men	CVD	Framingham Risk Score [Unl	32.37		chi squa
HL GOF (c-hat)	Women	CVD	Framingham Risk Score [Unl	12.42		chi squa

Record: 7 of 119

Form View



Microsoft Access - [frm_Evidence_Table_Entry : Form]

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Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Does the arrticle state both the inclusion/exclusion and any additional exclusions that were made after cohort inception?

Was the study population well described?

Is the population asymptomatic for CVD or Stroke?

Was there a clear definition of predictor variables?

For Validation studies, do the defintions of the risk variables match those in the original model?

Was there a valid and reliable approach to measuring predictor variables?

Was there a clear description of the outcome variables?

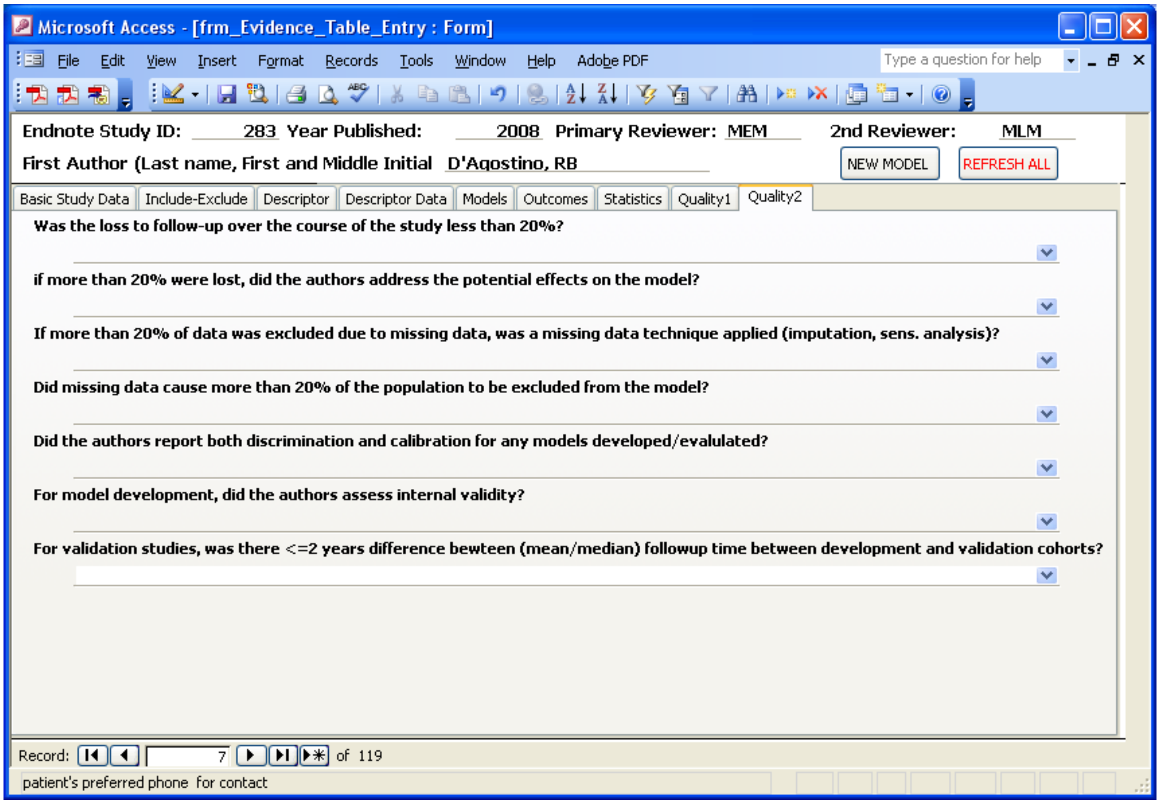
Was there a valid and reliable approach to measuring outcome variables?

For validation studies, did the study and original model outcome definitions match?

Record: 7 of 119

patient's preferred phone for contact

Appendix C. Sample Data Extraction Form



Microsoft Access - [frm_Evidence_Table_Entry : Form]

File Edit View Insert Format Records Tools Window Help Adobe PDF

Type a question for help

Endnote Study ID: 283 Year Published: 2008 Primary Reviewer: MEM 2nd Reviewer: MLM

First Author (Last name, First and Middle Initial D'Agostino, RB

NEW MODEL REFRESH ALL

Basic Study Data | Include-Exclude | Descriptor | Descriptor Data | Models | Outcomes | Statistics | Quality1 | Quality2

Was the loss to follow-up over the course of the study less than 20%?

if more than 20% were lost, did the authors address the potential effects on the model?

If more than 20% of data was excluded due to missing data, was a missing data technique applied (imputation, sens. analysis)?

Did missing data cause more than 20% of the population to be excluded from the model?

Did the authors report both discrimination and calibration for any models developed/evalulated?

For model development, did the authors assess internal validity?

For validation studies, was there <=2 years difference bewteen (mean/median) followup time between development and validation cohorts?

Record: 7 of 119

patient's preferred phone for contact

Appendix D. Summary Table 1: Online Tools

Model	Model Description	URL Accessed	Date of URL Access
Framingham	Based upon ATP III and Framingham Heart Study	http://hp2010.nhlbihin.net/atpiii/calculator.asp?usertype=prof	6/30/2009
Framingham	Based upon Framingham Heart Study and ATP III	https://www.americanheart.org/gglRisk/locale/en_US/index.html?gtype=health	6/30/2009
Framingham	Based upon Framingham Heart Study	http://www.cardiacriskcalculator.org/	6/30/2009
Framingham	Based upon Framingham Heart Study (1998)	http://www.statcoder.com/cardiac.htm	6/30/2009
Framingham	Based upon Framingham Heart Study (1998) and ATP III	https://www.heartdecision.org/chdrisk/v_hd/main?p=__home__home&urlstring=	6/30/2009
Framingham	Based upon Framingham Heart Study	http://calculators.epnet.com/?docid=healthcalculators/chd/precalcdoc&token=8ce583c0-2d91-46f6-af0a-aa4c845a0528&DeliveryContext=coe&CollectionIID=347&frame=parent	7/1/2009
Framingham	Based upon Framingham Heart Study and ATP III	http://www.americanheart.org/presenter.jhtml?identifier=3003499	7/1/2009
Framingham	Based upon Framingham Heart Study (2001) and ATP III	http://www.chd-taskforce.com/framingham.php?iSprache=1&iversion=1&SiVersion=0	7/1/2009
Framingham	Based upon Framingham Heart Study	https://www.heartagecalculator.com/HeartHealth/HeartAgeCalculator.aspx?hostID=1503	7/1/2009
Framingham	Based upon Framingham Heart Study, JBS Calculator	http://www.patient.co.uk/showdoc/40000133/	7/1/2009
Framingham	Based upon Framingham Heart Study	http://cvrisk.mvm.ed.ac.uk/calculator/calc.asp	7/1/2009
Framingham	Based upon Framingham Heart Study (ETHRISK)	http://www.epi.bris.ac.uk/CVDethrisk/CHD_CVD_form.html	7/1/2009
Framingham	Based upon Framingham Heart Study	http://www.cardiosmart.org/CardioSmart/Default.aspx?id=298, https://www.itsmyhealthrecord.com/ACCriskform2008.lasso	7/2/2009
Framingham	Based upon Framingham Heart Study	http://my.clevelandclinic.org/ccforms/Heart_Center_Risk_Tool.aspx	7/2/2009
Framingham	Calculators based upon Framingham Heart Study	http://www.framinghamheartstudy.org/risk/index.html	6/30/2009
ATP III	Based upon Framingham Heart Study and ATP III	https://www.americanheart.org/gglRisk/locale/en_US/index.html?gtype=health	6/30/2009
ATP III	Based upon ATP III and Framingham Heart Study	http://hp2010.nhlbihin.net/atpiii/calculator.asp?usertype=prof	6/30/2009
ATP III	Based upon ATP III	http://www.mayoclinic.com/health/heart-disease-risk/HB00047	6/30/2009
ATP III	Based upon Framingham Heart Study (1998) and ATP III	https://www.heartdecision.org/chdrisk/v_hd/main?p=__home__home&urlstring=	6/30/2009
ATP III	Based upon Framingham Heart Study and ATP III	http://www.americanheart.org/presenter.jhtml?identifier=3003499	7/1/2009
ATP III	Based upon Framingham Heart Study (2001) and ATP III	http://www.chd-taskforce.com/framingham.php?iSprache=1&iversion=1&SiVersion=0	7/1/2009
Other	Pocock SJ (2001) multivariate Cox model	http://www.riskscore.org.uk/	6/30/2009
Other	N/A	http://doctorwidget.com/cvd/cvd_mathv2.htm	6/30/2009
Other	National Vascular Disease Prevention Alliance (NVDPA) for Australia (did not give a mathematical model)	http://www.cvdcheck.org.au/playerProductInstall2.html	7/2/2009

Appendix D. Summary Table 1: Online Tools

Model	Model Description	URL Accessed	Date of URL Access
Other	FDS model for 5-year risk of major CVD (Australia)	http://www.medicine.uwa.edu.au/download.cfm?DownloadFile=75841E31-96BA-5DAE-B9B5B5B8E85E85C3	7/2/2009
Other	N/A	http://ww2.heartandstroke.ca/hs_Risk.asp?media=hsf_hmpg	7/2/2009
Other	N/A	http://www.goredforwomen.org/index.aspx	7/2/2009
Other	N/A	https://www.beverlyhospital.org/services/online-tools/health-risk-assessments/heart-health	7/2/2009
Other	HeartScore (no other model listed)	https://escol.escardio.org/heartscore3/calc.aspx?model=europehigh	7/2/2009
Other	HeartScore	https://escol.escardio.org/heartscore3/calc.aspx?model=europelow	7/2/2009
Other	JBS/BNF	http://cvrisk.mvm.ed.ac.uk/calculator/calc.asp	7/1/2009
Other	BVN RISK does not purport to forecast a vascular event; instead, it offers a tangible prediction that a vascular study may uncover significant evidence of vascular disease	http://www.csun.edu/studenthealthcenter/online/BVN_calculator/BVN_calculator.php	7/2/2009
Other	Based upon 2002 NHANES and ATP III	http://www.csun.edu/studenthealthcenter/online/BVN_calculator/BVN_calculator.php	7/2/2009
Other	QRISK2 Men	http://www.qrisk.org	6/30/2009
Other	QRISK2 Women	http://www.qrisk.org	6/30/2009
Other	ASSIGN Men	http://assign-score.com/estimate-the-risk/	6/30/2009
Other	ASSIGN Women	http://assign-score.com/estimate-the-risk/	6/30/2009
Other	SHS Men	http://strongheart.ouhsc.edu/CHDcalculator/calculator.html	6/30/2009
Other	SHS Women	http://strongheart.ouhsc.edu/CHDcalculator/calculator.html	6/30/2009
Other	REGICOR model	http://www.regicor.org/conttemp?idioma=angles	6/30/2009
Other	CUORE	http://www.cuore.iss.it/sopra/calc-rischio_en.asp	7/1/2009
Other	UKPDS	http://www.dtu.ox.ac.uk/index.php?maindoc=/riskengine/	7/1/2009
Other	PROCAM	http://www.scopri.ch/riskalgorithms.htm	7/1/2009
Other	ASSIGN	http://cvrisk.mvm.ed.ac.uk/calculator/calc.asp	7/1/2009

Appendix E. Summary Table 2

Table 2a. Data Sources Summary (Primary Models) – Americas

Enroll Start Date	Enroll End Date	First Author	Year Published	Country	Cohort	Cohort Abbreviation	Enrollment Base	Enrollment Final	Follow- Up (yrs)
		Liao Y[1]	1999	U.S.	NHANES I and II (pooled)	NHANES I and II (pooled)		18542	
01/01/1948	12/31/1974	Wilson PWF[2]	1998	U.S.	Framingham Cohort (11th exam) or Framingham Offspring (1st exam)	FRS, FRS-O	5345		12
01/01/1954	12/31/1958	Liao Y[3]	1999	U.S.	Framingham Heart Study (4th exam)	FRS	4169		24
01/01/1965	12/31/1968	D'Agostino RB[4]	2001	Puerto Rico	Puerto Rico Heart Health Program	PRHHP		8713	
01/01/1967	01/31/1973	Berry JD[5]	2007	U.S.	Chicago Young Adults	CHA	10375		32*
01/01/1968	12/31/1987	D'Agostino RB[6]	2008	U.S.	Framingham Cohort (11th exam) (68-71) & Offspring (1st exam) (71-75) & Offspring (3rd exam) (84-87)	FRS, FRS-O	8491		
01/01/1971		Wilson PWF[7]	2008	U.S.	Framingham Offspring Study	FRS-O	5124	4780	~24
01/01/1971	12/31/1974	D'Agostino RB[4]	2001	U.S.	Framingham Study (11th exam) or Framingham Offspring Study (1st exam)	FRS, FRS-O		5251	12**
01/01/1971	12/31/1975	Liao Y[1]	1999	U.S.	First National Health and Nutrition Examination Survey	NHANES I	6611		20
01/01/1971	12/31/1992	Gaizano TA[8]	2008	U.S.	First National Health and Nutrition Examination Survey Epidemiologic Follow-Up Study	NHANES-I EFS	14407	6186	21
01/01/1976	12/31/1980	Liao Y[1]	1999	U.S.	Second National Health and Nutrition Examination Survey	NHANES II	5705		15
01/01/1980	12/31/1982	D'Agostino RB[4]	2001	U.S.	Honolulu Heart Program	HHP		2755	
01/01/1980	12/31/2000	Miyasaka Y[9]	2007	U.S.	Adult Residents of Olmsted County, MN	Mayo	2768		6* [5.2]
01/01/1983	12/31/1996	Vaidya D[10]	2007	U.S.	John Hopkins Sibling Study	JHSS		784	
01/01/1986	12/31/1989	Mainous AG[11]	2008	U.S.	Atherosclerosis Risk in Communities Study	ARIC	9307		
01/01/1987	12/31/1989	Chambless LE[12]	2004	U.S.	Atherosclerosis Risk in Communities Study	ARIC	13161		12.3†
01/01/1987	12/31/1989	D'Agostino RB[4]	2001	U.S.	Atherosclerosis Risk in Communities Study	ARIC	14178		
01/01/1987	12/31/1989	Folsom A[13]	2003	U.S.	Atherosclerosis Risk in Communities Study	ARIC		14054	10.2†
01/01/1987	12/31/1989	Mainous AG[14]	2007	U.S.	Atherosclerosis Risk In Communities Study	ARIC	14343		
01/01/1987	12/31/1989	McNeill AM[15]	2005	U.S.	Atherosclerosis Risk in Communities Study	ARIC		12089	11*
01/01/1989	12/31/1990	D'Agostino RB[4]	2001	U.S.	Cardiovascular Health Study	CHS		2557	
01/01/1989	12/31/1991	D'Agostino RB[4]	2001	U.S.	Strong Heart Study (OK and Aberdeen area of ND and SD)	SHS		3782	
01/01/1989	12/01/2001	Lee ET[16]	2006	U.S.	Strong Heart Study	SHS	4372		
01/01/1990	12/31/1992	Greenland P[17]	2004	U.S.	South Bay Heart Watch	SBHW		1029	7†
12/01/1990	12/31/1992	Detrano RC[18]	1999	U.S.	South Bay Heart Watch	SBHW	1196	1194	3.42
09/01/1992		Cook NR[19]	2006	U.S.	Women's Health Study	WHS		15048	10*
09/01/1992		Ridker PM[20]	2007	U.S.	Women's Health Study (Validation Cohort)	WHS (Val)		8158	10.2†

*Mean. **Other. † Median.

Table 2b. Data Sources Summary (Primary Models) – Europe

Enroll Start Date	Enroll End Date	First Author	Year Published	Country	Cohort	Cohort Abbreviation	Enrollment Base	Enrollment Final	Follow-Up (yrs)
		Bernard S[21]	2005	France	Lyon, France	Lyon	229		5**
01/01/1970	12/31/1973	Dunder K[22]	2004	Sweden	Uppsala Longitudinal Study of Adult Men	ULSAM	1108		28.7
01/01/1970	12/31/1973	Strom Moller C[23]	2007	Sweden	Uppsala Longitudinal Study of Adult Men (baseline age 70 cohort)	ULSAM (70)		1221	23
08/28/1972	03/30/1975	Erikssen G[24]	2004	Norway	Healthy Norwegian men aged 40-60 years recruited from 5 government agencies	NorGov		2014	26**
01/01/1975	12/31/1979	Reissigova J[25]	2007	Czech Republic	Study of Atherosclerotic Risk Factors	STULONG	646		
01/01/1978	12/31/1995	Assmann G[26]	2007	Germany	PROCAM cohort; employees of 52 companies and local	PROCAM		7295	12* [6]

Appendix E. Summary Table 2

Enroll Start Date	Enroll End Date	First Author	Year Published	Country	Cohort	Cohort Abbreviation	Enrollment Base	Enrollment Final	Follow-Up (yrs)
					government authorities in Germany, aged 20-78 years				
01/01/1979	12/31/1985	Assmann G[27]	2002	Germany	PROCAM cohort; employees with followup every 2 years	PROCAM	5389	5159	10**
01/01/1979	12/31/1999	Assmann G[28]	2008	Germany	Cohort of men and women employed in Germany	PROCAM		7134	10**
01/01/1983	12/31/1996	Ferrario M[29]	2005	Italy	CUORE	CUORE	6865		9.1†
01/01/1984	12/31/1995	Woodward M[30]	2007	Scotland	Scottish Hearth Health Extended Cohort	SHHEC	13297		
01/01/1989		Cooper JA[31]	2005	UK	Second Northwick Park Heart Study	NPHS-II		2732	10.8†
01/01/1989	12/31/1991	Macfarlane PW[32]	2007	Scotland	West of Scotland Coronary Prevention Study	WOSCOPS	6595		4.9*
01/01/1990	12/31/1991	Stephens JW[33]	2004	UK	Diabetes clinic at University College London Hospitals NHS Trust	NHS Trust	798		
01/01/1993	03/31/2008	Hippisley-Cox J[34]	2008	UK	Members of the QRESEARCH database	QRESEARCH	2285815		15
03/01/1993	02/28/1998	Simmons RK[35]	2008	UK	European Prospective Investigation of Cancer–Norfolk	EPIC-Norfolk	10295		8.5*
01/01/1994	12/31/1995	Vergnaud AC[36]	2008	France	Participants in Supplementation en Vitamines et Mineraux Antioxydants randomized primary prevention trial followed annually since 1994/5	SU.VI.MAX		3440	10**
01/01/1994	12/31/1996	Bastuji-Garin S[37]	2002	Western Europe and Israel	INSIGHT trial cohort of middle-aged patients with hypertension	INSIGHT	4407	4147	3.7†
01/01/1995	12/31/1998	Marrugat J[38]	2007	Spain	Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents cohort	VERIFICA	5732		
01/01/1995	06/30/2004	Donnan PT[39]	2006	UK	Subjects with type 2 diabetes registered with a Tayside general practitioner	DARTS		4569	4.1† [9.5]
01/01/1995	04/01/2007	Hippisley-Cox JC[40]	2007	UK	QRESEARCH database, constructed from 160 general practices in UK; validation cohort	QRESEARCH (Val)	614553		6.5†
01/01/1997	12/31/1999	Becker A[41]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological exam	LudwigU	1726		3.36* [0.61]
09/01/1997	09/30/1999	de Ruijter W[42]	2009	Netherlands	Leiden 85-plus study	L85	302		5
01/01/1998	12/31/2003	Cederholm. J[43]	2008	Sweden	Swedish National Diabetes Register	SNDR	11646		5.64*
01/01/1999	12/31/2001	May MD[44]	2006	UK	British Women's Heart and Health Cohort	BWHH	3582		4.7*

*Mean. **Other. †Median.

Table 2c. Data Sources Summary (Primary Models) – Asia

Enroll Start Date	Enroll End Date	First Author	Year Published	Country	Cohort	Cohort Abbreviation	Enrollment Base	Enrollment Final	Follow-Up (yrs)
01/01/1974	12/31/1993	Barzi F[45]	2007	China	Asia Pacific Cohort Studies Collaboration; total Chinese cohort	APCSC China	25682		8.3*
01/01/1992	12/31/1995	Jee SH[46]	2008	Korea	Koreans insured by National Health Insurance Corporation (NHIC)	NHIC	1223740	1205268	13**
01/01/1992	12/31/1999	Liu J[47]	2004	China	Chinese Multi-Provincial Cohort study; aged 35-64 years from 16 centers in 11 provinces (1992-1993) and Beijing (1996-1999)	MUCA	30121		
01/01/1993	12/31/1994	Wu Y[48]	2006	China	MUCA II	MUCA II	9903		11
01/01/1995		Yang X[49]	2008	China	Hong Kong Diabetes Registry	HKD Registry	7067		5.4* [4.94]
01/01/1995	07/30/2005	Yang X[50]	2007	China	Hong Kong Diabetes Registry	HKD Registry	7209	3541	5.37* [4.9]

*Median. **Other.

Appendix F. Summary Table 3

Table 3a. Data Sources Details (Primary Models) – Americas All

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Female (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Liao Y[1]	1999	NHANES I and II (pooled)	All			57.5								
Wilson PWF[2]	1998	FRS, FRS-O	All			53.4	39	LDL: 141.8 HDL: 51.7	4.5			32.8	8.9	
Liao Y[3]	1999	FRS	All	49.8		55.7	47.7	Tot: 238		132.9**	83.3**			
D'Agostino RB[4]	2001	PRHHP	All	54.1	H: 100	0	44		7			34		
Berry JD[5]	2007	CHA	All	29.8		0	47	Tot: 189.8	0	134.4**	78.1**			
D'Agostino RB[6]	2008	FRS, FRS-O	All	48.8		53.3	34.7	HDL: 51.7 Tot: 213.9	5	127.6			11	
Wilson PWF[7]	2008	FRS-O	All	36.7 (9.75 [SD])	W: 100	51.6	45.2	HDL: 50.7 Tot: 196.8	2.8	122.2 (16.67 [SD])				
D'Agostino RB[4]	2001	FRS, FRS-O	All	49	W: 100	53.6	22.2		4.5			32.2		
Liao Y[1]	1999	NHANES I	All	52	W: 100	58.4	35.2			134.6	84.4			
Gaizano TA[8]	2008	NHANES-I EFS	All	47.8		54.1	42.9	Tot: 220.8	3.8	132.3			9.7	
Liao Y[1]	1999	NHANES II	All	54.5	W: 100	53.5				132.4	82.9			
D'Agostino RB[4]	2001	HHP	All	61.9		0	32		14			33		
Miyasaka Y[9]	2007	Mayo	All			52.4	52		12.8				43.9	73.7
Vaidya D[10]	2007	JHSS	All	45.6	W: 83.3 B: 16.7	48.5	33	LDL: 152.4 HDL: 50.3 Tot: 232.6	6.3	133.1	84.7			45.2
Mainous AG[11]	2008	ARIC	All	59.7		58	17.7	HDL: 53.9 Tot: 207.6	0	122.8				
Chambless LE[12]	2004	ARIC	All			55.3								
D'Agostino RB[4]	2001	ARIC	All	54	W: 73.5 B: 26.5	56.7	26		8.6			16.8		
Folsom A[13]	2003	ARIC	Diabetes		W: 55 B: 45									
Folsom A[13]	2003	ARIC	All			56.8			10.7					
Mainous AG[14]	2007	ARIC	All	54.1	W: 73.7 B: 26.3	56.5	26		6.9			14.8	28.2	
McNeill AM[15]	2005	ARIC	All	54	W: 74.6 B: 25.6	100	26.6	LDL: 136.7	0			39.1		
D'Agostino RB[4]	2001	CHS	All	69.4	W: 100	62.6	13.9		11.9			33.7		
D'Agostino RB[4]	2001	SHS	All	56.1	O: 100	59.6	34.1		47.3			25.2		
Lee ET[16]	2006	SHS	All	56.2		60.6	33.7	LDL: 118.2 Tot: 191.1	44	127.6	76.7			
Greenland P[17]	2004	SBHW	All	65.7 (7.8 [SD])	W: 84.9 B: 5.3 H: 4.5 O: 5.2	10.2	17.7		0			41.4		
Detrano RC[18]	1999	SBHW	All	66 (8 [SD])		11		HDL: 45.3	18	142 (20 [SD])	80 (11 [SD])	32		
Cook NR[19]	2006	WHS	All	54 (8 [SD])		100			0				12	

Appendix F. Summary Table 3

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Female (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Ridker PM[20]	2007	WHS (Val)	All	52* (49-59 [IQR])	W: 94.5 B: 1.9 H: 1 O: 1.8	100	11.5		2.9	125* (115-135 [IQR])	80* (70-80 [IQR])	25.3		

* Median. **Derived.

Table 3b. Data Sources Details (Primary Models) – Americas Men

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Liao Y[1]	1999	NHANES I and II (pooled)	Men										
Liao Y[1]	1999	NHANES I and II (pooled)	Black men	54.5 (13.4 [SD])		46.7		5.9	141.7 (25.0 [SD])	89.2 (14.3 [SD])	61.6		
Liao Y[1]	1999	NHANES I and II (pooled)	White men	53.5 (13.2 [SD])		38.6		3.8	134.9 (20.1 [SD])	85 (11.5 [SD])	49.1		
Wilson PWF[2]	1998	FRS, FRS-O	Men			40.4	LDL: 142.9 HDL: 44.8	5.2			36	6.8	
Liao Y[3]	1999	FRS	Men	49.6 (8.5 [SD])		59.7			132 (20 [SD])	84 (11.7 [SD])			
D'Agostino RB[4]	2001	PRHHP	Men										
Berry JD[5]	2007	CHA	Men				Tot: 189.8			78.1			
Berry JD[5]	2007	CHA	Older (30-39)	34.5 (2.9 [SD])		44.7	Tot: 199.4	0	134.8 (15.7 [SD])	79.8 (10.5 [SD])			
Berry JD[5]	2007	CHA	Younger (18-29)	25 (3 [SD])		49.4	Tot: 180	0	133.9 (14.8 [SD])	76.3 (10 [SD])			
D'Agostino RB[6]	2008	FRS, FRS-O	Men	48.5 (10.8 [SD])		35.2	HDL: 44.9 Tot: 212.5		129.7 (17.6 [SD])			10.1	
D'Agostino RB[4]	2001	FRS, FRS-O	Men	48.3		40		5			40		
Liao Y[1]	1999	NHANES I	Men	53.2 (10.5 [SD])		41.6			135.6 (19.7 [SD])	86.2 (11.5 [SD])			
Gaizano TA[8]	2008	NHANES-I EFS	Men	48.3 (14 [SD])		36.2	Tot: 218.9	3.56	133.8 (19.8)			7.65	
Liao Y[1]	1999	NHANES II	Men	54.3 (10.5 [SD])		37.7			133.4 (19.3 [SD])	84.6 (11.4 [SD])			
Miyasaka Y[9]	2007	Mayo	Men									35.2	65.5
Vaidya D[10]	2007	JHSS	Men	45.2 (7.3 [SD])	W: 88.7 B: 11.3		LDL: 149.9 HDL: 44.6 Tot: 232.8		131.7 (16.8 [SD])	82.6 (9.9 [SD])			39.9
Mainous AG[11]	2008	ARIC	Men	60		18.7	HDL: 45.5 Tot: 200	0	124				
Chambless LE[12]	2004	ARIC	Men										
D'Agostino RB[4]	2001	ARIC	Men								17.9		
D'Agostino RB[4]	2001	ARIC	White men	54.6		24		6			13		

Appendix F. Summary Table 3

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
D'Agostino RB[4]	2001	ARIC	Black men	53.7		38		14			34		
Mainous AG[14]	2007	ARIC	Men	54.4 (5.7 [SD])	W: 77 B: 23	27.5					14.7	23.5	
McNeill AM[15]	2005	ARIC	Men	54 (5.7 [SD])		29.6	LDL: 139				39.9		
D'Agostino RB[4]	2001	CHS	Men	69.7		12		15			35		
D'Agostino RB[4]	2001	SHS	Men	55.4		40		42			27		
Lee ET[16]	2006	SHS	Men	55.5			LDL: 118.9 Tot: 189.3	39.7	128	79.4			

Table 3c. Data Sources Details (Primary Models) – Americas Women

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Liao Y[1]	1999	NHANES I and II (pooled)	White women	52.2 (13.8 [SD])		29.3		4.3	132.5 (23.7 [SD])	81.7 (11.9 [SD])	42.7		
Liao Y[1]	1999	NHANES I and II (pooled)	Black women	50.9 (13.8 [SD])		32.8		7.1	141.2 (27.9 [SD])	87.2 (14.1 [SD])	62.5		
Wilson PWF[2]	1998	FRS, FRS-O	Women			37.7	LDL: 140.8 HDL: 57.7	4			30	10.7	
Liao Y[1]	1999	FRS	Women	49.9 (8.5 [SD])		38.1			133.6 (24.7 [SD])	82.7 (12.3 [SD])			
D'Agostino RB[6]	2008	FRS, FRS-O	Women	49.1 (11.1 [SD])		34.2	HDL: 57.6 Tot: 215.1		125.8 (20 [SD])			11.8	
D'Agostino RB[4]	2001	FRS, FRS-O	Women	49.6		38		4			29		
Liao Y[1]	1999	NHANES I	Women	51.2 (11.0 [SD])		30.7			133.9 (23.4 [SD])	83.2 (11.9 [SD])			
Gaizano TA[8]	2008	NHANES-I EFS	Women	47.4 (14.1[SD])		48.5	Tot: 222.5	4.09	131 (23.3)			11.41	
Liao Y[1]	1999	NHANES II	Women	54.7 (10.5 [SD])		29.7			131.5 (22 [SD])	81.4 (11.7 [SD])			
Miyasaka Y[9]	2007	Mayo	Women									51.7	81.1
Vaidya D[10]	2007	JHSS	Women	46.1 (7.4 [SD])	W: 77.6 B: 22.4		LDL: 155.1 HDL: 56.3 Tot: 232.3		134.5 (13.8 [SD])	86.9 (9.4 [SD])			50.8
Mainous AG[11]	2008	ARIC	Women	59.5		17	HDL: 60.3 Tot: 213	0	122				
D'Agostino RB[4]	2001	ARIC	White women	53.9		25		6			11		
D'Agostino RB[4]	2001	ARIC	Black women	53.3		25		17			28		
D'Agostino RB[4]	2001	ARIC	Women								15.9		
Mainous AG[14]	2007	ARIC	Women	53.8 (5.7 [SD])	W: 71.1 B: 28.9	24.8					14.9	32	
McNeill AM[15]	2005	ARIC	Women	54 (5.7 [SD])		24.7	LDL: 135				38.5		
D'Agostino RB[4]	2001	CHS	Women	69.3		15		10			33		
D'Agostino RB[4]	2001	SHS	Women	56.5		30		51			24		

Appendix F. Summary Table 3

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Lee ET[16]	2006	SHS	Women	56.6			LDL: 117.7 Tot: 192.3	46.7	127.3	75			

Table 3d. Data Sources Details (Primary Models) – Europe All

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Female (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Assmann G[26]	2007	PROCAM	All			29.4			6.2					
Assmann G[27]	2002	PROCAM	All	46.7 (7.5 [SD])		0	31.1	LDL: 148.5 HDL: 45.7	6.7	131.4 (18.4 [SD])				
Bastuji-Garin S[37]	2002	INSIGHT	All	64.1 (1.6 [SD])		55.3	32		19	166 (15 [SD])		100		
Becker A[41]	2008	LudwigU	All	57.7 (13.3 [SD])		41	34.1		17			52		
Bernard S[21]	2005	Lyon	All	55.5 [%]		35.4	23.1	LDL: 136.5 Tot: 74.1	100			47.6	25.8	
Cederholm J[43]	2008	SNDR	All			43.1	17.8		100	144.5 (18.1 [SD])				
Cooper JA[31]	2005	NPHS-II	All		W: 100	0			2.1					
de Ruijter W[42]	2009	L85	All			70.7			14.2	154* (144, 167 [IQR])				
Donnan PT[39]	2006	DARTS	All	59.5 (12.1 [SD])	W: 99 O: 1	47.4	23.5	Tot: 210.6	100	144 (21 [SD])	82 (11 [SD])		61.9	
Dunder K[22]	2004	ULSAM	All			0	54.5	LDL: 208.65 Tot: 277.29	1.5	132 (18 [SD])	83 (11 [SD])			
Erikssen G[24]	2004	NorGov	All	49.8 (5.5 [SD])		0	43.8	Tot: 261.3	0	130.1 (17.9 [SD])			0	
Ferrario M[29]	2005	CUORE	All	50.8 (9.2 [SD])		0	39	HDL: 50.2	5	138.5 (20.5 [SD])			10	
Hippisley-Cox J[34]	2008	QRESEARCH	All		W: 95.8 B: 0.8 O: 3.4	75.4	25.3		2.9				6.3	
Hippisley-Cox JC[40]	2007	QRESEARCH (Val)	All			50.3	25.5	Tot: 226.2	0	133.9			10.6	
Macfarlane PW[32]	2007	WOSCOPS	All	55.2		0	44	LDL: 192 HDL: 44	1.2	135.5	84	15.7		
Marrugat J[38]	2007	VERIFICA	All	56.3		57.3	24.7	HDL: 53.7	16.4	135.1	81.3	44.8	30.9	
May MD[44]	2006	BWHH	All	68.6 (5.5 [SD])		100		Tot: 257.4	4.4	148 (25 [SD])				
Reissigova J[25]	2007	STULONG	All	51.2 (3.7 [SD])		0			0			54.8		
Simmons RK[35]	2008	EPIC-Norfolk	All	57.9		56.2	11.9	HDL: 56.7 Tot: 235.9	2.8	134.5				
Stephens JW[33]	2004	NHS Trust	All		W: 69 B: 5 O: 26	36	19.5		100					

Appendix F. Summary Table 3

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Female (%)	Smoker (%)	Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)	HTN or HTN Med Use (%)
Strom Moller C[23]	2007	ULSAM (70)	All	71 (0.6 [SD])		0	20.8	LDL: 152.1 Tot: 226.2		146.8 (18.5 [SD])				
Vergnaud AC[36]	2008	SU.VI.MAX	All	52 (4.7 [SD])		0		LDL: 152.1 Tot: 241.8	2.4	129.4 (13.8 [SD])	83.5 (8.5 [SD])			
Woodward M[30]	2007	SHHEC	All	48.8		50.8	41	Tot: 245.7	1.4	131.9				

* Median.

Table 3e. Data Sources Details (Primary Models) – Europe Men

First Author	Year Published	Cohort Abbreviation	Mean Age (yrs)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)
Cederholm J[43]	2008	SNDR		18.5		100	143.9 (17.4 [SD])			
Hippisley-Cox J[34]	2008	QRESEARCH (Derivation)	48* (40-58 [IQR])							5.6
Hippisley-Cox J[34]	2008	QRESEARCH		27.6						
Hippisley-Cox J[34]	2008	QRESEARCH (Validation)	47* (40-57 [IQR])							5.4
Hippisley-Cox JC[40]	2007	QRESEARCH Validation)	47* (40-57 [IQR])		Tot: 222.3	0	135.4 (19.7 [SD])			8.5
Marrugat J[38]	2007	VERIFICA	55.7 (10.6 [SD])	43.8	HDL: 48.5 Tot: 228.8	18.8	135 (17.8 [SD])	81.9 (10.3 [SD])	41.6	27.1
Simmons RK[35]	2008	EPIC-Norfolk	58.3 (9.7 [SD])		HDL: 50 Tot: 232		136.8 (17 [SD])			
Stephens JW[33]	2004	NHS Trust				100				
Woodward M[30]	2007	SHHEC	48.9		Tot: 242.97	1.5	133.8 (0.2 [SD])			

* Median.

Table 3f. Data Sources Details (Primary Models) – Europe Women

First Author	Year Published	Cohort Abbreviation	Mean Age (yrs)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)
Woodward M[30]	2007	SHHEC	48.8		Tot: 249.99	1.4	130.1 (0.3 [SD])			
Woodward M[30]	2007	SHHEC	48.8		Tot: 249.99	1.3	130.1 (0.3 [SD])			
Stephens JW[33]	2004	NHS Trust				100				
Hippisley-Cox J[34]	2008	QRESEARCH		23.1						
Hippisley-Cox J[34]	2008	QRESEARCH (Validation)	49* (41-59 [IQR])							6.9
Hippisley-Cox J[34]	2008	QRESEARCH (Derivation)	49* (41-60 [IQR])							7.1
Simmons RK[35]	2008	EPIC-Norfolk	57.6 (9.6 [SD])		HDL: 62 Tot: 239		132.7 (18.7 [SD])			

Appendix F. Summary Table 3

First Author	Year Published	Cohort Abbreviation	Mean Age (yrs)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)
Marrugat J[38]	2007	VERIFICA	56.8 (10.4 [SD])	10.6	HDL: 57.6 Tot: 234.1	14.6	135.2 (18.8 [SD])	80.9 (10.8 [SD])	47.2	33.7
Hippisley-Cox JC[40]	2007	QRESEARCH Validation)	49* (41-59 [IQR])		Tot: 230.1	0	132.4 (21.6 [SD])			12.6
Cederholm J[43]	2008	SNDR		16.8		100	145.2 (19.0 [SD])			

* Median.

Table 3g. Data Sources Details (Primary Models) – Asia All

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Female (%)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	Mean DBP (mmHg)	HTN (%)	HTN Med Use (%)
Barzi F[45]	2007	APCSC China	All	46.6	O: 100	41.4	42.8	Tot: 175.5		120.6			
Jee SH[46]	2008	NHIC	All	46.6	O: 100	36.5	39	Tot: 192.5	4.5	123.4		33.3	
Liu J[47]	2004	MUCA	All		O: 100	46.7	33.3		5.5			25.7	
Wu Y[48]	2006	MUCA II	All	46 (6 [SD])	50.6	45				119 (19 [SD])	77 (11 [SD])		
Yang X[49]	2008	HKD Registry	All	57* (21 [IQR])	O: 100	54.6	20.6		100	134* (27 [IQR])	76* (14 [IQR])		33.7
Yang X[50]	2007	HKD Registry	Stroke	68* (12 [IQR])						144* (30 [IQR])	77* (14 [IQR])		34.2
Yang X[50]	2007	HKD Registry	Non-stroke	56* (20 [IQR])						133* (27 [IQR])	76* (14 [IQR])		46
Yang X[50]	2007	HKD Registry	All		O: 100	54.5	20.3		100				45.4

*Median.

Table 3h. Data Sources Details (Primary Models) – Asia Men

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	HTN (%)
Barzi F[45]	2007	APCSC China	Men	47 (8 [SD])	O:100	68.4	Tot: 175.5		121 (18 [SD])	
Jee SH[46]	2008	NHIC	Men	45 (11.0 [SD])	O:100	59.1	Tot: 191.3	4.8	124.5 (16.0 [SD])	35.7
Liu J[47]	2004	MUCA	Men		O:100	59		6.9		29

Table 3i. Data Sources Details (Primary Models) – Asia Women

First Author	Year Published	Cohort Abbreviation	Group	Mean Age (yrs)	Race (%)	Smoker (%)	Mean Cholesterol Level (mg/dL)	Diabetes (%)	Mean SBP (mmHg)	HTN (%)
Barzi F[45]	2007	APCSC China	Women	46 (8 [SD])	O:100	6.5	Tot: 171.6		120 (20 [SD])	
Jee SH[46]	2008	NHIC	Women	49.4 (12.1 [SD])	O:100	4.1	Tot: 194.5	4.1	121.5 (19.1 [SD])	29.2
Liu J[47]	2004	MUCA	Women		O:100	4		5		22

Appendix G. Summary Table 4

Primary Models With at Least One External Validation*

Model Name	Model Outcome	Model Pub Year	Study Count	Cohort Abbrev	Enroll Start	Enroll End	Enrollment	Followup Duration
ASSIGN[30]	CVD 11	2007	2	SHHEC	01/01/1984	12/31/1995	13297	
DARTS[39]	Hard CHD 1	2006	2	DARTS	01/01/1995	06/30/2004	4569	4.1
FINRISK	CVD	2005	4	FINRISK			14694	
FRS (1991)[51, 52]	CVD 2	1991	26	FRS, FRS-O	01/01/1948	12/31/1975	5573	12
FRS (1991)[51, 52]	Total CHD 1	1991	5	FRS, FRS-O	01/01/1948	12/31/1975	5573	12
FRS (1991) Stroke[51, 52]	Stroke 4	1991	3	FRS, FRS-O	01/01/1948	12/31/1975	5573	12
FRS (ATP)[4]	Hard CHD 1	2001	16	FRS, FRS-O				
FRS (Custom 4 Variable)[3]	CHD Mortality	1999	3	FRS	01/01/1954	12/31/1958	4169	24
FRS [LDL] (1998)[2]	Total CHD 1	1998	2	FRS, FRS-O	01/01/1948	12/31/1974	5345	12
FRS [TC] (1998)[2]	Total CHD 1	1998	10	FRS, FRS-O	01/01/1948	12/31/1974	5345	12
FRS [Unknown Version] (1998)[2]	Total CHD 1	1998	12	FRS, FRS-O	01/01/1948	12/31/1974	5345	12
FRS Hard CHD [TC] (1998)[2]	Hard CHD 1	1998	3	FRS, FRS-O	01/01/1948	12/31/1974	5345	12
PROCAM CHD (Cox model)[27]	Hard CHD 1	2002	11	PROCAM	01/01/1979	12/31/1985	5159	10
QRISK[40]	CVD 4	2007	4	QRESEARCH	01/01/1995	04/01/2007	614553	6.5
SCORE (High Risk TC)[53]	CVD Mortality	2003	2	SCORE			205178	
SCORE (Low Risk TC)[53]	CVD Mortality	2003	3	SCORE			205178	
SCORE (Unknown Version)[53]	*CVD Mortality*	*2003*	*6*	*SCORE*			*205178*	
UKPDS 56[54]	Hard CHD 1	2001	5	UKPDS			4540	
UKPDS 60[54]	Stroke 1	2002	2	UKPDS	01/01/1977	12/31/1991	4549	10.5

*Models in italics are not counted as separate models as they were underspecified in the source manuscript; thus, the exact version of the model that was used could not be determined.

Primary Models With No External Validation*

Model Name	Model Outcome	Model Pub Year	Cohort Abbrev	Enroll Start	Enroll End	Enrollment	Follow-up Duration
ARIC[13] Version 1: Basic risk factors Version 2: Basic & DM-Specific risk factors SubVersion A: liberal definition of DM SubVersion B: restrictive definition of DM Version 3: DM-Specific risk factors SubVersion A: liberal definition of DM SubVersion B: restrictive definition of DM	Hard CHD 2	2003	ARIC	01/01/1987	12/31/1989	14054	10.2
ATP-III (Remodel) + genotype[55]	CVD 3	2009	WGHS	01/01/1992	03/31/2004	22129	10.2
Chicago Young Adults[5]	CHD Mortality	2007	CHA	01/01/1967	01/31/1973	10375	32
ARIC Stroke (Chambless)[12] Version 1: Basic Version 2: Basic + Age + Race Version 3: Basic + NTRF + Age + Race	Stroke 3	2004	ARIC	01/01/1987	12/31/1989	13161	12.3
CMCS Cox Model[47]	Hard CHD 1	2004	MUCA	01/01/1992	12/31/1999	30121	
CRM[33]	CVD	1999	NHS Trust	01/01/1990	12/31/1991	798	
CUORE[29]	Hard CHD 2	2005	CUORE	01/01/1983	12/31/1996	6865	9.1
D'Agostino CVD FEMALE[6]	CVD 2	2008	FRS, FRS-O	01/01/1968	12/31/1987	8491	
SBHW (Detrano)[18]	Hard CHD 1	1999	SBHW	12/01/1990	12/31/1992	1194	3.42

Appendix G. Summary Table 4

Model Name	Model Outcome	Model Pub Year	Cohort Abbrev	Enroll Start	Enroll End	Enrollment	Follow-up Duration
Version 1: Data Derived Version 2: Data Derived + Ca							
Dubbo model[56]	CVD 4	2003	DUBBO-All	01/01/1988		2102	
WOSCOPS[32] Version 1: ECG + Age, smoking only Version 2: ECG + Clinical Vars Version 3: ECG + Age	MI	2007	WOSCOPS	01/01/1989	12/31/1991	6595	4.9
Erikssen NorGov[24] Version 1: CRF Model Version 2: CRF-X Model Version 3: X Model	CHD Mortality	2004	NorGov	08/28/1972	03/30/1975	2014	26
European Society of Cardiology (ESC)[57]	Total CHD 1	1994	FRS, FRS-O	01/01/1948	12/31/1975	5573	12
FRS (1991) CHD Mortality[51, 52]	CHD Mortality	1991	FRS, FRS-O	01/01/1948	12/31/1975	5573	12
EPIC-Norfolk HgbA1c[35] Version 1: FRS '98 Vars + HgbA1c Version 2: FRS '98 Vars w/o DM + HgbA1c	Total CHD 1	2008	EPIC-Norfolk	03/01/1993	02/28/1998	10295	8.5
FRS (2001 ATP) + CACS[17]	Hard CHD 1	2004	SBHW	01/01/1990	12/31/1992	1029	7
FRS (2007 Barzi)[45]	CVD 8	2007	FRS, FRS-O	01/01/1948	12/31/1974	5345	12
FRS (Wilson 1998) + ECG[23]	CVD Mortality	2007	ULSAM (70)	01/01/1970	12/31/1973	1221	23
NHANES-EFS I (Gaziano)[8] Version 1: Lab-Based Model Version 2: Non-Lab Based Model	CVD 7	2008	NHANES-I EFS	01/01/1971	12/31/1992	6186	21
Hong Kong Diabetes Risk Score[50]	Stroke 1	2007	HKD Registry	01/01/1995	07/30/2005	3541	5.37
Hong Kong Total CHD Score[49]	Total CHD 1	2008	HKD Registry	01/01/1995		7067	5.4
JBSRC[33]	CVD	1998	NHS Trust	01/01/1990	12/31/1991	798	
Korean Stroke Risk Prediction (KSRP)[46]	Stroke 6	2008	NHIC	01/01/1992	12/31/1995	1205268	13
Metabolic Syndrome Model[15]	Hard CHD 2	2005	ARIC	01/01/1987	12/31/1989	12089	11
Miyasaka CHD Post-AF[9]	Total CHD 1	2007	Mayo	01/01/1980	12/31/2000	2768	6
New Zealand risk charts[58]	CVD	1996					
NHANES I (4 Variables)[3]	CHD Mortality	1999	NHANES I	01/01/1971	12/31/1975	6611	20
NHANES I and II, pooled[3]	CHD Mortality	1999	NHANES I and II (pooled)			18542	
NHANES II (4 Variable)[3]	CHD Mortality	1999	NHANES II	01/01/1976	12/31/1980	5705	15
NPHS-II[31] Score 1 (basic) Score 2 (basic + DM + Fam Hx) Score 3 (basic + DM) Score 4 (basic + Fam Hx) Score 5 (basic + Fibrinogen) Score 6 (basic + Lipoprotein A) Score 7 (basic + ApoAI + ApoB)	Hard CHD 2	2005	NPHS-II	01/01/1989		2732	10.8
Personal HEART[14]	Hard CHD 2	2007	ARIC	01/01/1987	12/31/1989	14343	
PROCAM (BMI-modified)[28]	Hard CHD 1	2008	PROCAM	01/01/1979	12/31/1999	7134	10
PROCAM CHD (Point Score)[27]	Hard CHD 1	2002	PROCAM	01/01/1979	12/31/1985	5159	10
PROCAM CHD (Weibull model)[26]	Hard CHD 1	2007	PROCAM	01/01/1978	12/31/1995	7295	12
PROCAM Stroke (Cox model)[26]	Stroke 2	2007	PROCAM	01/01/1978	12/31/1995	7295	12
QRISK2[34]	CVD 1	2008	QRESEARCH	01/01/1993	03/31/2008	2285815	15
QT Dispersion[32]	Hard CHD 1	2007	WOSCOPS	01/01/1989	12/31/1991	6595	4.9

Appendix G. Summary Table 4

Model Name	Model Outcome	Model Pub Year	Cohort Abbrev	Enroll Start	Enroll End	Enrollment	Follow-up Duration
Reynolds Risk Score (Remodel) + genotype[55]	CVD 3	2009	WGHS	01/01/1992	03/31/2004	22129	10.2
Ridker Model A[20]	CVD 3	2007	WHS (Val)	09/01/1992		8158	10.2
Ridker Model A, PHS-II[59]	CVD 15	2008	PHS-II	12/01/1995		10724	10.8
Ridker Model B[25]	CVD 3	2007	STULONG	01/01/1975	12/31/1979	646	
SCORE (High Risk TC-HDL Ratio)[53]	CVD Mortality	2003	SCORE			205178	
SHS Model[16]	Hard CHD 1	2006	SHS	01/01/1989	12/01/2001	4372	
Swedish NDR[43]	CVD 5	2008	SNDR	01/01/1998	12/31/2003	11646	5.64
ULSAM[22]	MI	2004	ULSAM	01/01/1970	12/31/1973	1108	28.7
USA-PRC (Point Scoring)[48]	CVD 17	2006	USA-PRC	09/01/1983	10/31/1984	9903	15.1
USA-PRC (Simplified)[48]	CVD 17	2006	USA-PRC	09/01/1983	10/31/1984	9903	15.1
WHS Model [19] Version 1: Basic Version 2: Basic + hsCRP	CVD 3	2006	WHS	09/01/1992		15048	10
Wilson AFT CeVD[7] Model A Model A No BMI Model B Model C Model D Model D No BMI	Stroke 2	2008	FRS-O	01/01/1971		4780	24
Wilson AFT CHD[7] Model A Model A No BMI Model B Model C Model D Model E Model E No BMI	Total CHD 1	2008	FRS-O	01/01/1971		4780	24
Wilson AFT CVD[7] Model A Model A No BMI Model B Model B No BMI	CVD 12	2008	FRS-O	01/01/1971		4780	24

*Some studies have grouped models in which various variables were added and removed from candidate models in that evaluation.

Appendix H. Summary Table 5

Table 5a. Model Parameters – Accelerated Failure Time (First CHD)[7]

Model*	AFT (A, No BMI)	AFT (A)	AFT (B)	AFT (C)	AFT (D)	AFT (E)	AFT (E, No BMI)
Outcome	**First CHD**	**First CHD**	**First CHD**	**First CHD**	**First CHD**	**First CHD**	**First CHD**
Age	1.57 (1.49 - 1.64) (yrs)	1.55 (1.47 - 1.62) (yrs)	1.53 (1.46 - 1.61) (yrs)	1.50 (1.43 - 1.58) (yrs)	1.49 (1.42 - 1.57) (yrs)	1.48 (1.40 - 1.56) (yrs)	1.48 (1.40 - 1.56) (yrs)
Female	0.35 (0.29 - 0.43)	0.38 (0.31 - 0.47)	0.48 (0.39 - 0.59)	0.40 (0.33 - 0.49)	0.49 (0.40 - 0.60)	0.49 (0.40 - 0.61)	0.49 (0.40 - 0.60)
Total Cholesterol			1.38 (1.30 - 1.47) (TotChol/HDL mg/dL)		1.38 (1.30 - 1.46) (TotChol/HDL mg/dL)	1.37 (1.29 0 1.46) (TotChol/HDL mg/dL)	1.39 (1.31 - 1.47) (TotChol/HDL mg/dL)
Body Mass Index		1.28 (1.17 - 1.39)	1.17 (1.07 - 1.28)	1.21 (1.11 - 1.33)	1.11 (1.01 - 1.23)	1.10 (1.00 - 1.21)	
Systolic BP				1.18 (1.08 - 1.27) (mmHg)	1.18 (1.09 - 1.28) (mmHg)	1.17 (1.08 - 1.28) (mmHg)	1.20 (1.11 - 1.30) (mmHg)
Diabetes Mellitus						1.60 (1.16 - 2.21) (fasting glucose ≥126 or Med use)	1.66 (1.20 - 2.28) (fasting glucose ≥126 or Med use)
Smoker	2.01 (1.68 - 2.41) (Current)	2.09 (1.74 - 2.50) (Current)	1.91 (1.60 - 2.29) (Current)	2.13 (1.78 - 2.55) (Current)	1.97 (1.64 - 2.36) (Current)	1.97 (1.64 - 2.36) (Current)	1.95 (1.63 - 2.33) (Current)

Table 5b. Model Parameters – Accelerated Failure Time (First CeVD)[7]

Model	AFT (A, No BMI)	AFT (A)	AFT (B)	AFT (C)	AFT (D)	AFT (D, No BMI)
Outcome	**First CeVD**	**First CeVD**	**First CeVD**	**First CeVD**	**First CeVD**	**First CeVD**
Age	1.70 (1.53 - 1.89) (yrs)	1.66 (1.49 - 1.85) (yrs)	1.64 (1.48 - 1.83) (yrs)	1.59 (1.42 - 1.78) (yrs)	1.58 (1.41 - 1.77) (yrs)	1.58 (1.42 - 1.77) (yrs)
Total Cholesterol			1.20 (1.03 - 1.40) (TotChol/HDL mg/dL)		1.19 (1.03 - 1.39) (TotChol/HDL mg/dL)	1.23 (1.07 - 1.42) (TotChol/HDL mg/dL)
Body Mass Index		1.35 (1.15 - 1.59)	1.29 (1.09 - 1.54)	1.26 (1.06 - 1.49)	1.21 (1.01 - 1.44)	
Systolic BP				1.25 (1.06 - 1.47) (mmHg)	1.24 (1.05 - 1.47) (mmHg)	1.30 (1.11 - 1.52) (mmHg)
Smoker	1.56 (1.07 - 2.26) (Current)	1.62 (1.12 - 2.36) (Current)	1.54 (1.06 - 2.24) (Current)	1.67 (1.15 - 2.44) (Current)	1.60 (1.10 - 2.32) (Current)	1.56 (1.07 - 2.27) (Current)

Table 5c. Model Parameters – Accelerated Failure Time (Total CVD)[7]

Model	AFT (A, No BMI)	AFT (A)	AFT (B)	AFT (B, No BMI)
Outcome	**Total CVD**	**Total CVD**	**Total CVD**	**Total CVD**
Age	1.59 (1.52 - 1.65) (yrs)	1.56 (1.50 - 1.63) (yrs)	1.49 (1.42 - 1.55) (yrs)	1.49 (1.43 - 1.55) (yrs)
Female	0.42 (0.36 - 0.49)	0.46 (0.39 - 0.54)	0.58 (0.49 - 0.69)	0.57 (0.49 - 0.68)
Total Cholesterol			1.32 (1.25 - 1.40) (TotChol/HDL mg/dL)	1.34 (1.27 - 1.41) (TotChol/HDL mg/dL)
Body Mass Index		1.27 (1.18 - 1.37)	1.09 (1.01 - 1.18)	
Systolic BP			1.23 (1.15 - 1.32) (mmHg)	1.25 (1.17 - 1.33) (mmHg)
Diabetes Mellitus			1.66 (1.26 - 2.20) (fasting glucose ≥126 or Med use)	1.73 (1.31 - 2.28) (fasting glucose ≥126 or Med use)
Smoker	2.01 (1.73 - 2.34) (Current)	2.08 (1.79 - 2.42) (Current)	2.01 (1.72 - 2.34) (Current)	1.99 (1.70 - 2.31) (Current)

Appendix H. Summary Table 5

Table 5d. Model Parameters – Atherosclerosis Risk in Communities[4,11-13,15]

Model	ARIC 87-00 (Men)	ARIC 87-00 (Women)
Outcome	Ischemic Stroke	Ischemic Stroke
Age	2.24 (1.76 - 2.86) (Age/10)	1.99 (1.52 - 2.62) (Age/10)
Race (Black)	1.42 (1.07 - 1.89)	1.52 (1.10 - 2.08)
Systolic BP	1.45 (1.28 - 1.63) (mmHg)	1.42 (1.25 - 1.61) (mmHg)
Hypertension	1.58 (1.21 - 2.06) (Med use)	1.50 (1.10 - 2.06) (Med use)
Diabetes Mellitus	2.43 (1.83 - 3.23) (fasting glucose ≥126, nonfasting ≥200)	3.12 (2.26 - 4.29) (fasting glucose ≥126, nonfasting ≥200)
Smoker	2.00 (1.54 - 2.60) (Current)	2.23 (1.64 - 3.03) (Current)
Left Ventricular Hypertropy	1.47 (0.84 - 2.57)	2.24 (1.35 - 3.74)
Previous Coronary Heart Disease	2.08 (1.47 - 2.95)	1.88 (0.98 - 3.58)

Table 5e. Model Parameters – Adult Treatment Panel/Agatston Calcium Score[60]

Model	ATP/Agatston Calcium Score
Hyperlipidemia (Undefined)	2.89 (1.49 - 2.28)
Hypertension	1.97 (1.53 - 2.10) (Arterial, undefined)
Diabetes Mellitus	3.21 (2.11 - 3.89) (Undefined)
Smoker	2.31 (1.59 - 2.71) (Current)
Agatston > 75th percentile	5.2 (4.03 - 6.37)

Table 5f. Model Parameters – CUORE[29]

Model	CUORE (Men)
Age	1.065 (1.050 - 1.081) (yrs)
Total Cholesterol	1.093 (1.091 - 1.096) (mg/dL)
HDL	0.884 (0.876 - 0891) (mg/dL)
Systolic BP	1.092 (1.086 - 1.098) (mmHg)
Hypertension	1.833 (1.354 - 2.483) (Med use)
Diabetes Mellitus	1.521 (1.034 - 2.238) (self report, FBG ≥126 or Med use)
Smoker	1.876 (1.495 - 2.353) (Current)
Family History	1.377 (1.059 - 1.791) (CVD)

Table 5g. Model Parameters – Framingham Risk Score[4,6]

Model	FRS D'Agostino (Men)	FRS D'Agostino (Women)
Age	21.35 (14.03 - 32.48) (Natural Log Age yrs)	10.27 (5.65 - 18.64) (Natural Log Age yrs)
Total Cholesterol	3.08 (2.05 - 4.62) (Natural Log Total mg/dL)	3.35 (2.00 - 5.62) (Natural Log Total mg/dL)
HDL	0.39 (0.30 - 0.52) (Natural Log HDL mg/dL)	0.49 (0.35 - 0.69) (Natural Log HDL mg/dL)
Systolic BP	6.91 (3.91 - 12.20) (Natural Log SBP mmHg NoMedTx) 7.38 (4.22 - 12.92) (Natural Log SBP mmHg MedTx)	15.82 (7.86 - 31.87) (Natural Log SBP mmHg NoMedTx) 16.82 (8.46 - 33.46) (Natural Log SBP mmHg MedTx)
Diabetes Mellitus	1.78 (1.43 - 2.20) (≥140 mg/dL orig, ≥126 offspring, or Med use)	2.00 (1.49 - 2.67) (≥140 mg/dL orig, ≥126 offspring, or Med use)
Smoker	1.92 (1.65 - 2.24) (Current)	1.70 (1.40 - 2.06) (Current)

Appendix H. Summary Table 5

Table 5h. Model Parameters – HEART (ARIC)[14]

Model	HEART [ARIC] (Men)	HEART [ARIC] (Women)
Age	REF (45-49) 1.15 (0.87 - 1.52) (50-54) 1.63 (1.26 - 2.12) (55-59) 1.94 (1.50 - 2.51) (60-64)	REF (45-49) 1.57 (1.07 - 2.30) (50-54) 2.04 (1.40 - 2.96) (55-59) 2.27 (1.55 - 3.32) (60-64)
Hx of Hypercholesterolemia (Pt Report)	1.54 (1.26 - 1.88)	1.58 (1.22 - 2.06)
Body Mass Index		REF (<30) 1.47 (1.14 - 1.90) (≥30)
Hypertension	1.44 (1.20 - 1.72) (Hx, Pt Report)	2.43 (1.86 - 3.16) (Hx, Pt Report)
Diabetes Mellitus	1.86 (1.42 - 2.44) (Self report)	3.68 (2.74 - 4.96) (Self report)
Smoker	REF (Never) 1.60 (1.26 - 2.02) (Current) 1.15 (0.92 - 1.44) (Former)	REF (Never) 3.22 (2.47 - 4.22) (Current) 0.99 (0.69 - 1.42) (Former)
Family History	1.52 (1.09 - 2.10) (CVD)	
Physical Activity	REF (Often/Very Often) 1.16 (0.88 - 1.55) (Sometimes) 1.39 (1.08 - 1.79) (Seldom/Never)	

Table 5i. Model Parameters – Hong Kong[49,50]

Model	Hong Kong	Hong Kong
Outcome	**CHD**	**CHD**
Age	1.03 (1.01 - 1.04) (yrs)	1.07 (1.05 - 1.08) (yrs)
Female	0.70 (0.51 - 0.97)	
non-HDL Cholesterol (mmol/L)	1.30 (1.15 - 1.48)	
Diabetes Mellitus	1.04 (1.02 - 1.06) (yrs Dx)	1.09 (1.02 - 1.18) (HgbA1c %)
log10	0.62 (0.40 - 0.95) (EGFR) 1.13 (1.03 - 1.25) (1+albumin/creatinine ratio)	1.70 (1.45 - 2.00) (albumin/creatinine ratio)
Smoker	1.55 (1.08 - 2.22) (Current)	
Previous Coronary Heart Disease		1.76 (1.15 - 2.69)

Table 5j. Model Parameters – Intervention as a Goal in Hypertension Treatment[37]

Model	INSIGHT (Italy)	INSIGHT (Spain)	INSIGHT (France)	INSIGHT (Scandinavia)	INSIGHT (Netherlands)	INSIGHT (UK)
Age	1.034 (0.961 - 1.113) (yrs)	1.067 (0.981 - 1.160) (yrs)	1.066 (0.997 - 1.141) (yrs)	0.991 (0.893 - 1.100) (yrs)	1.096 (1.016 - 1.181) (yrs)	1.011 (0.975 - 1.049) (yrs)
Female	0.720 (0.302 - 1.717)	0.411 (0.159 - 1.059)	0.478 (0.223 - 1.025)	0.421 (0.135 - 1.311)	0.376 (0.161 - 0.877)	0.807 (0.539 - 1.208)
Total Cholesterol	1.303 (1.045 - 1.625) (TotChol/HDL mg/dL)	1.364 (1.002 - 1.858) (TotChol/HDL mg/dL)	1.083 (0.866 - 1.354) (TotChol/HDL mg/dL)	0.919 (0.630 - 1.340) (TotChol/HDL mg/dL)	1.295 (1.063 - 1.578) (TotChol/HDL mg/dL)	1.221 (1.099 - 1.356) (TotChol/HDL mg/dL)
Systolic BP	1.000 (0.972 - 1.028) (mmHg)	1.014 (0.987 - 1.042) (mmHg)	0.988 (0.960 - 1.018) (mmHg)	1.000 (0.970 - 1.031) (mmHg)	0.999 (0.977 - 1.022) (mmHg)	1.011 (0.999 -1.024) (mmHg)
Diabetes Mellitus	1.270 (0.496 - 3.254) (Med use or FBG ≥140 mg/dL)	1.174 (0.449 - 3.071) (Med use or FBG ≥140 mg/dL)	2.850 (1.351 - 6.013) (Med use or FBG ≥140 mg/dL)	1.187 (0.319 - 4.423) (Med use or FBG ≥140 mg/dL)	0.925 (03.09 - 2.773) (Med use or FBG ≥140 mg/dL)	1.640 (0.983 - 2.733) (Med use or FBG ≥140 mg/dL)
Smoker	2.214 (0.912 - 4.946) (Current)	1.256 (0.404 - 3.910) (Current)	1.482 (0.670 - 3.275) (Current)	1.783 (0.579 - 5.490) (Current)	1.444 (0.643 - 3.242) (Current)	1.248 (0.811 - 1.920) (Current)

Appendix H. Summary Table 5

Table 5k. Model Parameters – Korean Stroke Risk Prediction[46]

Model	KSRP (Men)	KSRP (Women)
Age	1.085 (1.083 - 1.086) (yrs)	1.082 (1.079 - 1.084) (yrs)
Total Cholesterol	REF (<200 mg/dL) 1.062 (1.023 - 1.104) (200-239 mg/dL) 1.193 (1.133 - 1.256) (≥240 mg/dL)	REF (<200 mg/dL) 1.023 (0.973 - 1.076) (200-239 mg/dL) 1.131 (1.065 - 1.202) (≥240 mg/dL)
Body Mass Index	1.032 (1.025 - 1.038)	1.022 (1.015 - 1.029)
Systolic BP	1.022 (1.021 - 1.023) (mmHg)	1.016 (1.015 - 1.017) (mmHg)
Diabetes Mellitus	1.800 (1.710 - 1.895) (fasting glucose ≥126 mg/dL)	1.943 (1.813 - 2.083) (fasting glucose ≥126 mg/dL)
Smoker	REF (Never) 1.319 (1.261 - 1.380) (Current) 0.976 (0.926 - 1.029) (Former)	REF (Never) 1.368 (1.268 - 1.476) (Current) 1.112 (1.005 - 1.231) (Former)
Alcohol Intake	1.070 (1.002 - 1.144) (0g/day) 0.972 (0.915 - 1.033) (1-24g/day) REF (25-49g/day) 1.116 (1.017 - 1.224) (50-99g/day) 1.179 (1.030 - 1.349) (100+g/day)	REF (0g/day) 1.016 (0.954 - 1.083)25-49g/day)
Physical Activity	1.072 (1.034 - 1.111) ("Do you exercise regularly?" Yes/No)	1.074 (1.014 - 1.139) ("Do you exercise regularly?" Yes/No)

Table 5l. Model Pparameters – Miyasaka Post-Arterial Fibrillation[9]

Model	Miyasaka Post-AF (Men)	Miyasaka Post-AF (Women)
Outcome	CHD	CHD
Age	1.32 (1.18 - 1.46) (Age/10)	1.29 (1.13 - 1.47) (Age/10)
Systolic BP	1.04 (0.96 - 1.13) (BP/10 mmHg)	1.07 (0.99 - 1.14) (BP/10 mmHg)
Hypertension	1.47 (1.02 - 2.12) (Dx, Med use, or ≥HTN Grade 1)	2.23 (1.33 - 3.73) (Dx, Med use, or ≥HTN Grade 1)
Diabetes Mellitus	1.50 (1.04 - 2.17) (Dx, Med use)	2.04 (1.47 - 2.82) (Dx, Med use)
Chronic Renal Disease (Diagnosed)	1.34 (0.91 - 1.96)	1.79 (1.17 - 2.72)
Peripheral Artery Disease (Diagnosed)	1.39 (0.85 - 2.28)	1.67 (1.12 - 2.50)
Valvular Heart Disease (>than mild stenosis/regurg by Echo OR prior valve repair/replacement)	1.39 (0.98 - 1.97)	1.44 (1.06 - 1.95)
Obstructive Sleep Apnea (Diagnosed)	1.97 (0.99 - 3.89)	2.43 (0.59 - 9.97)

Appendix H. Summary Table 5

Table 5m. Model Parameters – National Health and Nutrition Examination Survey Followup[8]

Model	NHANES I F/U Lab	NHANES I F/U Lab	NHANES I F/U Non-Lab	NHANES I F/U Non-Lab
Outcome	**Men**	**Women**	**Men**	**Women**
Age	31.311 (22.003 - 44.558) (Natural Log Age yrs)	40.528 (26.024 - 63.115) (Natural Log Age yrs)	35.163 (24.613 - 50.235) (Natural Log Age yrs)	49.6 (32.353 - 76.041) (Natural Log Age yrs)
Total Cholesterol	2.153 (1.504 - 3.082) (Natural Log Total mg/dL)	1.78 (1.191 - 2.661) (Natural Log Total mg/dL)		
Body Mass Index			2.068 (1.287 - 3.324)	2.332 (1.582 - 3.438)
Systolic BP	5.506 (3.393 - 8.936) (Natural Log BP mmHg)	6.309 (3.79 - 10.502) (Natural Log BP mmHg)	5.088 (3.111 - 8.322) (Natural Log BP mmHg)	4.687 (2.777 - 7.911) (Natural Log BP mmHg)
Hypertension	1.278 (1.041 - 1.571) (Med use)	1.465 (1.221 - 1.758) (Med use)	1.246 (1.014 - 1.53) (Med use)	1.443 (1.205 - 1.728) (Med use)
Diabetes Mellitus	1.989 (1.497 - 2.643) (Self report)	2.036 (1.574 - 2.632) (Self report)	1.898 (1.428 - 2.522) (Self report)	1.913 (1.483 - 2.468) (Self report)
Smoker	1.728 (1.5 - 1.989) (Current)	1.734 (1.474 - 2.041) (Current)	1.764 (1.529 - 2.036) (Current)	1.77 (1.504 - 2.082) (Current)

Table 5n. Model Parameters – National Health and Nutrition Examination Survey Men/Women[1,3]

Model	NHANES I (Men)	NHANES I (Women)	NHANES II (Men)	NHANES II (Women)
Age	1.081 (1.067 - 1.095) (yrs)	1.117 (1.097 - 1.137) (yrs)	1.124 (1.098 - 1.152) (yrs)	1.094 (1.06 - 1.13) (yrs)
Total Cholesterol	1.003 (1.002 - 1.003) (mg/dL)	1.002 (1 - 1.005) (mg/dL)	1.001 (0.998 - 1.005) (mg/dL)	1.002 (0.998 - 1.006) (mg/dL)
Systolic BP	1.014 (1.008 - 1.019) (mmHg)	1.017 (1.012 - 1.022) (mmHg)	1.016 (1.009 - 1.023) (mmHg)	1.023 (1.015 - 1.03) (mmHg)
Smoker	1.64 (1.311 - 2.051) (Current)	2.241 (1.713 - 2.932) (Current)	2.437 (1.791 - 3.316) (Current)	2.505 (1.648 - 3.807) (Current)

Table 5o. Model Parameters – Second Northwick Park Heart Study[31]

Model	NPHS-II
Age	1.19 (0.90 - 1.56) (yrs)
Total Cholesterol	1.26 (1.04 - 1.52) (mmol/L)
Triglycerides (mmol/L)	1.23 (1.02 - 1.48)
Systolic BP	1.23 (1.02 - 1.48) (mmHg)
Diabetes Mellitus	3.10 (1.41 - 6.80) (Undefined)
Smoker (Never)	1.61 (1.10 - 2.35) (Current)
Family History	1.67 (1.15 - 2.44) (CVD)
Fibrinogen (g/L)	1.29 (1.07 - 1.55)
Lipoprotein a (mg/dL)	1.60 (1.05 - 2.42)

Appendix H. Summary Table 5

Table 5p. Model Parameters – Prospective Cardiovascular Münster[26-28,61]

Model	PROCAM
Outcome	**Stroke**
Age	1.12 (1.08 - 1.15) (yrs)
Female	0.54 (0.31 - 0.93)
Systolic BP	1.02 (1.01 - 1.03) (mmHg)
Diabetes Mellitus	2.07 (1.03 - 3.33) (Undefined)
Smoker	2.34 (1.52 - 3.60) (Current)

Table 5q. Model Parameters – QRISK[34,40,62]

Model	QRISK (Men)	QRISK (Women)
Age	50.634 (47.792 - 53.646) [Log (Age/10)]	87.75 (81.34 - 94.66) [Log (Age/10)]
Total Cholesterol	1.001 (0.999 - 1.003) (TotChol/HDL mg/dL)	1.001 (0.999 - 1.002) (TotChol/HDL mg/dL)
Body Mass Index	1.022 (1.019 - 1.025)	1.015 (1.013 - 1.018)
Systolic BP	1.004 (1.004 - 1.005) (mmHg)	1.005 (1.004 - 1.005) (mmHg)
Hypertension	1.847 (1.788 - 1.908) (Med use) 0.993 (0.992 - 0.995) [Interaction {SBP*HTN Med Use)]	1.734 (1.674 - 1.796) (Med use) 0.996 (0.995 - 0.997) [Interaction (SBP*HTN Med Use)]
Smoker	1.417 (1.385 - 1.449) (Current)	1.530 (1.487 - 1.574) (Current)
Family History	1.300 (1.257 - 1.344) (CVD)	1.229 (1.187 - 1.273) (CVD)
Townsend Score	1.017 (1.014 - 1.020)	1.035 (1.031 - 1.038)

Table 5r. Model Parameters – Registre Gironí del Cor[38]

Model	REGICOR (Men)	REGICOR (Women)
Age	1.044 (1.020 - 1.069) (yrs)	1.338 (0.866 - 2.067) (yrs) 0.998 (0.994 - 1.002) (>2 yrs)
Total Cholesterol	1.000 (0.996 - 1.008) (mg/dL)	0.999 (0.991 - 1.007) (mg/dL)
HDL	0.980 (0.963 - 0.998) (mg/dL)	0.953 (0.931 - 0.976) (mg/dL)
Optimal BP (SBP < 120 & DBP < 80)	0.555 (0.199 - 1.544)	0.986 (0.248 - 3.919)
Normal BP (SBP 120-129, DBP 80-84)	(REF)	(REF)
High Normal BP (SBP 130-139, DBP 85-89)	0.863 (0.428 - 1.741)	0.958 (0.363 - 2.527)
Hypertension Grade 1 (SBP 140-159, DBP 90-99)	1.404 (0.748 - 2.633)	0.955 (0.400 - 2.280)
Hypertension Grades 2-4 (SBP >=160, DBP >=100)	1.134 (0.510 - 2.524)	1.176 (0.442 - 3.127)
Diabetes Mellitus	1.017 (0.612 - 1.690) (Dx)	2.221 (1.234 - 3.999) (Dx)
Smoker	1.758 (1.153 - 2.679) (Current)	3.983 (1.681 - 9.435) (Current)

Appendix H. Summary Table 5

Table 5s. Model Parameters – Strong Heart Study[4,16]

Model	SHS (Men)	SHS (Women)
Age	REF (45-54) 1.70 (1.33 - 2.17) (55-64) 2.58 (1.92 - 3.46) (65-74)	REF (45-54) 1.40 (1.09 - 1.80) (55-64) 2.03 (1.53 - 2.70) (65-74)
LDL	REF (<100 mg/dL) 1.03 (0.76 - 1.39) (100-129 mg/dL) 1.67 (1.23 - 2.26) (130-159 mg/dL) 2.44 (1.72 - 3.47) (≥160 mg/dL)	REF (<100 mg/dL) 1.53 (1.15 - 2.04) (100-129 mg/dL) 1.61 (1.17 - 2.22) (130-159 md/dL) 2.17 (1.51 - 3.12) (≥160 mg/dL)
HDL	1.31 (1.04 - 1.64) (<40 mg/dL) REF (40-59 mg/dL) 0.84 (0.53 - 1.33) (≥60 mg/dL)	1.10 (0.86 - 1.40) (<40 mg/dL) REF (40-59 mg/dL) 0.96 (0.69 - 1.33) (≥60 mg/dL)
Optimal BP (SBP < 120 & DBP < 80)	REF (no Med use)	REF (no Med use)
Pre-Hypertension (SBP 120 - 139, DBP 80-89) And No HTN Med Use	1.78 (1.26 - 2.51)	1.15 (0.83 - 1.59)
Hypertension Grades 1-4 (SBP >=140, DBP>=90) Or HTN Med Use	2.01 (1.43 - 2.83)	1.69 (1.25 - 2.28)
Diabetes Mellitus	1.66 (1.30 - 2.12) (fasting glucose ≥126 or Med use)	2.26 (1.73 - 2.96) (fasting glucose ≥126 or Med use)
Normal albuminuria (<30 albumin/creatinine urine ratio)	(REF)	(REF)
Microalbuminuria (ratio of urine albumin/creatinine was >30 and <300)	1.39 (1.04 - 1.85)	1.33 (1.00 - 1.77)
Macroalbuminuria (ratio of urine albumin/creatinine was >300)	2.11 (1.51 - 2.95)	2.69 (2.02 - 3.59)
Smoker	1.38 (1.10 - 1.72) (Current)	1.44 (1.14 - 1.83) (Current)

Table 5t. Model Parameters – Uppsala Longitudinal Study of Adult Men[22, 23]

Model	ULSAM
Systolic BP	1.27 (1.08-1.47) (mmHg)
Smoker (Never)	1.23 (1.03 - 1.48) (Current)
Family History	1.34 (1.09-1.62) (MI)
Apo B/Apo A1 Ratio	*1.46 (1.24 - 1.71)*
Intact proinsulin (pmol/L)	1.46 (1.20 - 1.76)

Table 5u. Model Parameters – USA-People's Republic of China[48]

Model	USA-PRC (men)	USA-PRC (women)
Age	1.07 (1.04 - 1.10) (yrs)	1.09 (1.05 - 1.13) (yrs)
Total Cholesterol	1 (<140 mg/dL) 0.99 (0.59 - 1.69) (140-200 mg/dL) 1.36 (0.79 - 2.34) (200+ mg/dL)	1 (<140 mg/dL) 0.92 (0.44 - 1.93) (140-200 mg/dL) 1.30 (0.62 - 2.73) (200+ mg/dL)
Body Mass Index	1 (<24) 1.33 (1.00 - 1.78) (≥24)	1 (<24) 1.97 (1.34 - 2.88) (≥24)
Systolic BP	0.58 (0.36 - 0.92) (<120 mmHg) REF (120-129 mmHg) 1.49 (0.93 - 2.41) (130-139 mmHg) 2.24 (1.43 - 3.51) (140-159 mmHg) 5.50 (3.43 - 8.80) (160-179 mmHg) 12.59 (7.45 - 21.28) (≥180 mmHg)	0.44 (0.24 - 0.82) (<120 mmHg) REF (120-129 mmHg) 1.26 (0.68 - 2.32) (130-139 mmHg) 2.22 (1.28 - 3.84) (140-159 mmHg) 3.93 (2.23 - 6.91) (160-179 mmHg) 6.35 (3.42 - 11.80) (≥180 mmHg)
Diabetes Mellitus	1.07 (0.58 - 1.98) (fasting glucose ≥126 or Med use)	2.61 (1.57 - 4.33) (fasting glucose ≥126 or Med use)
Smoker (Never)	2.03 (1.42 - 2.90) (Current)	1.60 (1.11 - 2.32) (Current)

Appendix H. Summary Table 5

Table 5v. Model Parameters – Women's Health Study[19,20]

Model	WHS
Age	1.076 (1.064 - 1.089) (yrs)
Total Cholesterol	4.801 (2.834 - 8.135) (Natural Log Total mg/dL)
HDL	0.288 (0.192 - 0.43) (Natural Log HDL mg/dL)
Systolic BP	1.032 (1.02 - 1.044) (SBP-125) 0.999 (0.999 - 1) [(SBP-125)^2]
Hypertension	1.302 (1.023 - 1.657) (Med use)
Smoker (Never)	2.624 (2.086 - 3.301) (Current)
Natural Log of hsCRP (mg/L)	1.216 (1.102 - 1.341)

Appendix I. Summary Table 6

Table 6a. Data Sources Summary (External Validation) – Americas

Study Yr Pub	Enroll Start	Enroll End	Study 1st Author	Country	Cohort	Cohort Abbrev	Enrollment Base	Enrollment Final	Follow Up (yrs)
2007	1/1/1993	12/31/1998	Denes P[63]	United States	Women's Health Initiative study	WHI	14749		5.6 (mean)
2007			Weiner DE[64]	United States	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	934		
2005	7/1/1996	3/31/1999	Arad Y[65]	United States	St Francis Heart Study	SFHS	4903	4613	4.3 (other)
2004	1/1/1979	12/31/1988	Stern MP[66]	United States	San Antonio Heart Study	SAHS	5158	2570	7.5 (other)
2002	1/1/1961		Orford JL[67]	United States	Normative Aging Study - male veterans	NAS	1393		10 (other)
2000	1/1/1972	12/31/1976	Grover SA[68]	Canada	Lipid Research Clinics Prevalence Study cohort	LRCPS	2218		12.2 (mean)
2002	7/1/1979	6/30/1980	Kothari V[54]	United Status	Wisconsin Epidemiologic Study of Diabetic Retinopathy	WESDR	4549		8.3 (mean)
2009	1/1/1992	3/31/2004	Paynter N[55]	United States	Women's Genome Health Study	WGHS	22129		10.2 (median)
2007	12/1/1995		Ridker P[20]	United States	Physicians Health Study II	PHS-II	10724		10.8 (median)

Table 6b. Data Sources Summary (External Validation) – Europe

Study Yr Pub	Enroll Start	Enroll End	Study 1st Author	Country	Cohort	Cohort Abbrev	Enrollment Base	Enrollment Final	Follow Up (yrs)
2004			Lindman AS[71]	France	Consecutive renal transplant patients		344		6 [1.17] (mean)
2005	1/1/1972	12/31/1976	Scheltens T[77]	Scotland	Renfrew and Paisley Study			12304	10 (other)
2007	1/1/1974	12/31/1988	Silventoinen K[78]	Norway	Norwegian Counties Study (ages 40-59)	NCS		49144	
2005	1/1/1978	7/31/1980	Simons LA[56]	UK	British Regional Heart Study, men ages 40-59	BRHS	5128	5077	21.3 (mean)
2003	1/1/1978	12/31/1980	Simons LA[56]	UK	British Regional Heart Study; men aged 40-59 years at study entry, randomly selected from registers of one general practice in each town	BRHS		6643	12 (other)
2007	1/1/1979		Vliegenthart R[79]	Germany	in men at work in public authorities and large companies in the region of Munster, Germany		4818		
2003	1/1/1979	12/31/1985	Empana JP[80]	Germany	PROCAM cohort, drawn from 52 companies and local government authorities	PROCAM	8682		
2003	1/1/1984	12/31/1990	Empana JP[80]	Germany	MONICA Augsburg cohort, 1984/1985 and 1989/1990 surveys	MONICA-Augsburg	5786		7.8 (median)
2004	1/1/1984	12/31/1995	Milne R[81]	Germany	Men randomly selected from the general population in 1984-5, 1989-90, and 1994-5		3435		6.6 (mean)
2005	1/1/1985	12/31/1991	Wang Z[82]	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP		44649	10 (other)
2007	1/1/1985	12/31/1994	Donnan PT[39]	Norway	Cardiovascular Program in Norway (Ages 60-69)	CP-Norway	8085		10
2008	1/1/1987	12/31/1992	Bhopal R[83]	Netherlands	Participants randomly selected from 3 cities in the Netherlands, aged 20-59 and free from CVD, Monitoring Project on Cardiovascular Disease Risk Factors	MP-CVDRF		39719	10 (other)
2005	1/1/1987	12/31/1997	Koller MT[84]	Finland	Individuals aged 25-65 years identified from Finnish population register and participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		17725		9.9 (median)
2003	1/1/1988		Hippisley-Cox JC[34]	Australia	Dubbo Study cohort of elderly Australians (Ages 60-79)	DUBBO		2102	

Appendix I. Summary Table 6

Study Yr Pub	Enroll Start	Enroll End	Study 1st Author	Country	Cohort	Cohort Abbrev	Enrollment Base	Enrollment Final	Follow Up (yrs)
2003	1/1/1988		Hippisley-Cox JC[62]	Australia	Dubbo Study cohort of elderly Australians (Ages 60-79) without Diabetes	DUBBO (No DM)		1800	
2005	1/1/1990	12/31/1993	McEwan P[85]	Netherlands	Rotterdam Coronary Calcification Study	RCC		1795	3.3 [0.8] (mean)
2003	1/1/1991	12/31/1993	Guzder RN[86]	France	PRIME cohort study	PRIME	7359		5 (other)
2003	1/1/1991	12/31/1993	Becker A[87]	Northern Ireland	PRIME cohort study (Belfast Cohort)	PRIME	2399		5 (other)
2003	1/1/1992	12/31/1993	Elkeles RS[88]	New Zealand	Individuals recruited from the workforce ofa nationwide multi-industry corporation (Fletcher Challenge Ltd 72%) and the general electoral rolls of the Auckland metropolitan region (28%)			6354	5 (other)
2005	1/1/1992	12/31/1995	Lindman AS[71]	Australia	Aboriginal community		687		
2006	1/1/1993	12/31/1998	Scheltens T[77]	UK	Individuals with diabetes receiving care in Salford	DARTS	6544	3472	
2005	4/1/1993	10/31/1994	Silventoinen K[78]	UK	Newcastle Heart Project: Europeans	NHP Europe	725		9.6 (median)
2007	12/31/1993	1/1/2006	Simons LA[56]	Netherlands	Rotterdam Study		6795		12.9 (median)
2008	1/1/1995		Simons LA[56]	UK	QRESEARCH	QRESEARCH		607733	12 (other)
2008	1/1/1995	3/31/2006	Vliegenthart R[79]	UK	THIN Cohort; data from 288 practices in the UK using the INPS Vision system (~20% of UK practices); including 24 practices (54709 patients) from Scotland and 14 practices (36904) from Northern Ireland	THIN		1072800	11 (other)
2004	1/1/1996	12/31/1996	Empana JP[80]	UK	Cardiff Diabetes Database (type 1 and type 2)			938	4 (other)
2005	5/1/1996	6/30/1998	Empana JP[80]	UK	Poole Diabetes Study	PDS	428		4.2 [0.62] (median)
2008	1/1/1998	4/3/1999	Milne R[81]	Germany	Munich	MunichDM	716		8.1 [1.1] (mean)
2008	11/1/2000	11/30/2003	Wang Z[82]	UK	Individuals with type 2 diabetes aged 50-75 years, recruited from outpatient clinics in Central and West London	PREDICT	589		4 (median)

Table 6c. Data Sources Summary (External Validation) – Asia

Study Yr Pub	Enroll Start	Enroll End	Study 1st Author	Country	Cohort	Cohort Abbrev	Enrollment Base	Enrollment Final	Follow Up (yrs)
2001	1/1/1991	12/31/1993	Suka M[89]	Japan	Males aged 30-59 completing annual health examinations between 1991-1993	JapanWork	5611		
2002	1/1/1991	12/31/1993	Suka M[90]	Japan	Employee health management center in a Japanese Company	JapanWork	5611		
2005	5/1/1995	3/31/1997	Bhopal R[83]	Pakistan	Newcastle Heart Project - Pakistani	NHP - Pakistan	264		7.1 (median)
2005	5/1/1995	3/31/1997	Bhopal R[83]	India	Newcastle Heart Project - Indian	NHP - India	230		7.1 (median)
2005	5/1/1995	3/31/1997	Bhopal R[83]	South Asia	Newcastle Heart Project - South Asians	NHP - South Asia	576		7.1 (median)

Appendix J. Summary Table 7

Table 7a. Data Sources Details (External Validations) – Americas All

Study 1 Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Race	Female %	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %	HTN Med Use %	HTN Med Use Or Measured %
Weiner DE[64]	2007	ARIC, CHS	All	64.7	W: 84.4 B: 15.6	61.8	17		14			31.2		
Orford JL[67]	2002	NAS	All	58.2	W: 98	0		LDL: 166.6 HDL: 47.4 Tot: 245.6	2.9	127.6 [Mean]	77.3 [Mean]			
Grover SA[68]	2000	LRCPS	All	53.1		33	32.7	LDL: 144.3 Tot: 218.4	4.6	128.4 [Mean]	81.5 [Mean]			
Stern MP[66]	2004	SAHS	All		W: 32 H: 68	58			12.6					
Kothari V[54]	2002	WESDR	All	52	W: 82.5 O: 17.5	41.3	30.3		100					
Paynter N[55]	2009	WGHS	All	52.4	W: 100	100	11.5		2.6	125 [Median]			12.2	
Denes P[63]	2007	WHI	All	62.9	W: 84.3 B: 6.4 H: 5.4	100	10.5		3.9	127.3 [Mean]	75.8 [Mean]			57.5
Arad Y[91]	2005	SFHS	All	59	W: 88	35	10	LDL: 143 HDL: 52 Tot: 224	6			34		

Table 7b. Data Sources Details (External Validations) – Americas Men

Study 1 Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Race	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %
Weiner DE[64]	2007	ARIC, CHS	Men	65.8	W: 86.6 B: 13.4	15.1		14.6			35.5
Grover SA[68]	2000	LRCPS	Men	50.8		35.4	LDL: 144.3 Tot: 214.5	4.7	127 [Mean] (17.8 SD)	82.2 [Mean] (10.6 SD)	
Kothari V[54]	2002	WESDR	Men	51.5							
Ridker P[20]	2008	PHS-II	Men	63		3.2			128 [Median] (120-135)		

Table 7c. Data Sources Details (External Validations) – Americas Women

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Race	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %
Weiner DE[64]	2007	ARIC, CHS	Women	64	W: 83 B:17	18.2		13.7			28.4
Grover SA[68]	2000	LRCPS	Women	57.8		27.2	LDL: 148.2 Tot: 226.2	4.2	131.3 [Mean] (20.4 SD)	80 [Mean] (10.3 SD)	
Kothari V[54]	2002	WESDR	Women	52.6							

Appendix J. Summary Table 7

Table 7d. Data Sources Details (External Validations) – Europe All

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Race	Female %	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %	HTN Med Use %
Ducloux D[69]	2004	FrRenal	All	51		36.9	23.3		10.8	136 [Mean] (19 [SD])	81 [Mean] (10 [SD])		
Brindle PM[70]	2005	Renfrew-Paisley	All			54.3	50.7		1.2				
Lindman AS[71]	2007	NCS	All	47		50.9	40.7	Tot: 248.04	0	132.4 [Mean]	81 [Mean]		
Wannamethee SG[72]	2005	BRHS	All	50.3		0	42.1	HDL: 44.4 Tot: 241.3	0	145.7 [Mean] (20.7 [SD])	83 [Mean] (13.2 [SD])	78.5	
Brindle P[73]	2003	BRHS	All			0	41.9		1.1	143 [Median] (115-182 [95% CI])	81 [Median] (62-104 [95% CI])		
Buyken AE[74]	2007	MunsterWork	All			0	30.6	LDL: 152.1 Tot: 227.37		124.7 [Mean]	86.2 [Mean]		
Hense HW[61]	2003	PROCAM	All	46.5		36.3	30.6		2.8	131.5 [Mean]			
Hense HW[61]	2003	MONICA-Augsburg	All	49.5		50.6	26.4		3.6	131.8 [Mean]			
Koenig W[75]	2004	MONICA-Augsburg	All	56.4	W: 100	0	27.4	HDL: 51.6 Tot: 245.7	5.8	138.7 [Mean] (derived)	83.3 [Mean] (derived)		
Ulmer HB[76]	2005	VHM&PP	All	57.3		54.8							
Lindman AS[71]	2007	CP-Norway	All	65.7		53.7	28.5	Tot: 258.57		149.8 [Mean]	83.9 [Mean]		
Scheltens T[77]	2008	MP-CVDRF	All	40.8		53	39.5	Tot: 214.5		120.1 [Mean] (15.4 [SD])	76 [Mean] (10.3 [SD])	6.9	
Silventoinen K[78]	2005	FinCross	All	44.5		53.4		Tot: 222.3	1.5	135.8 [Mean]	82.3 [Mean]	64.3	
Simons LA[56]	2003	DUBBO	All	64.1		58	32		19	166 [Mean] (15 [SD])			
Vliegenthart R[79]	2005	RCC	All	71.1		57.5	16.4	Tot: 230.1	12.3			59.8	
Milne R[81]	2003	NZWork	All		W: 85 O: 15	27							
Wang Z[82]	2005	Aboriginal	All	34.4	O: 100	48.2	77.6	Tot: 183.3	12.5	121.1 [Mean]	74.7 [Mean]		
Donnan PT[39]	2006	DARTS	All	59.5	W: 99 O: 1	47.4	23.5		100	144 [Mean] (21 [SD])	82 [Mean] (11 [SD])		
Bhopal R[83]	2005	NHP - Europe	All		O: 100	50	30.1	Tot: 222.3	4	127.5 [Mean]			
Koller MT[84]	2007	Rotterdam	All	70.2		63.9	21.5					30.8	21.5
Hippisley-Cox JC[34]	2008	QRESEARCH	All			50.4	25.5	Tot: 226.2	0	133.7 [Mean]			10.1
Hippisley-Cox JC[62]	2008	THIN	All			50.6	24.7	Tot: 222.3	0	133.8 [Mean]			8.6
McEwan P[85]	2004	Cardiff DM	All	59.6		42.2	22	Tot: 226.2	100	144 [Mean] (21 [SD])			
Guzder RN[86]	2005	PDS	All	58.6		43.7		LDL: 140.4 Tot: 230.1	100	142 [Mean] (21.4 [SD])	81 [Mean] (12.1 [SD])		31.8
Becker A[87]	2008	MunichDM	All	55.2		39.9			100				
Elkeles RS[88]	2008	PREDICT	All	63.1	W: 71.1	36.7	15.1		100	131 [Median] (121-142 [IQ Range])	78 [Median] (72-84 [IQ Range])		

Appendix J. Summary Table 7

Table 7e. Data Sources Details (External Validations) – Europe Men

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %	HTN Med Use %
Brindle PM[70]	2005	Renfrew-Paisley	Men		55.3		1.4	145 [Median] (116-190 [95th percentile])			
Bhopal R[83]	2005	NHP-Europe	Men			Tot: 219.96	5	131 [Mean]			
Hense HW[61]	2003	MONICA-Augsburg	Men		33.7		4.2				
Scheltens T[77]	2008	MP-CVDRF	Men							8	
Wang Z[82]	2005	Aboriginal	Men	32.8	83.7	Tot: 191.1	9.3	125.5 [Mean] (17.1 [SD])	77.7 [Mean] (13.6 [SD])		
Silventoinen K[78]	2005	FinCross	Men	45		Tot: 224.64	2	139 [Mean]	85 [Mean]	75	
Hense HW[61]	2003	PROCAM	Men	46.5	33.8		2.9	131.6 [Mean] (0.25 [SD])			
Hippisley-Cox JC[34]	2008	QRESEARCH	Men	47	28.2	Tot: 222.3	0	135.3 [Mean] (19.6 [SD])			8
Lindman AS[71]	2007	NCS	Men	47	44.2	Tot: 248.43	0	135.3 [Mean]	83 [Mean]		
Hippisley-Cox JC[62]	2008	THIN	Men	48	26.6	Tot: 222.3	0	135.6 [Mean] (19.4 [SD])			6.6
Hense HW[61]	2003	MONICA-Augsburg	1984-85 Survey Men	49.4	35.4		3.5	134.9 [Mean] (0.44 [SD])			
Hense HW[61]	2003	MONICA-Augsburg	1989-90 Survey Men	49.6	31.9		5.1	135.1 [Mean] (0.48 [SD])			
Becker A[87]	2008	MunichDM	Men	55.5			100				
Koenig W[75]	2004	MONICA-Augsburg	Men without coronary event	56.2	26.4	HDL: 51.8 Tot: 244.4	5.4	138.5 [Mean]	83.3 [Mean]		
Koenig W[75]	2004	MONICA-Augsburg	Men without coronary event	56.2	26.4	HDL: 51.8 Tot: 246.48	5.4	138.5 [Mean]	83.3 [Mean]		
Ulmer HB[76]	2005	VHM&PP	Men	56.5							
Koenig W[75]	2004	MONICA-Augsburg	Men with coronary event	59.2	44.2	HDL: 48.4 Tot: 257.4	12	142.6 [Mean]	83.8 [Mean]		
McEwan P[85]	2004	Cardiff DM	Men	59.2	24	Tot: 218.4		142 [Mean] (19 [SD])			
Koenig W[75]	2004	MONICA-Augsburg	Men with coronary event	59.2	44.2	HDL: 48.4 Tot: 257.4	12	142.6 [Mean]	83.8 [Mean]		
Koenig W[75]	2004	MONICA-Augsburg	Men with coronary event	59.2	44.2	HDL: 48.4 Tot: 259.35	12	142.6 [Mean]	83.8 [Mean]		
Lindman AS[71]	2007	CP-Norway	Men	65.6	37.4	Tot: 242.58	0	150 [Mean] (20.2 [SD])	85 [Mean] (12.2 [SD])		
Koller MT[84]	2007	Rotterdam	Men	68.5	30.1					25.3	

Appendix J. Summary Table 7

Table 7f. Data Sources Details (External Validations) – Europe Women

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)	HTN Measured %	HTN Med Use %
Brindle PM[70]	2005	Renfrew-Paisley	Women		46.9		1.1	147 [Median] (114-196 95th percentile)			
Lindman AS[71]	2007	NCS	Women	46.9	37.3	Tot: 247.26	0	129.6 [Mean]	79 [Mean]		
Hense HW[61]	2003	PROCAM	Women	46.6	24.9		2.6	131.2 [Mean] (0.36 [SD])			
Hense HW[61]	2003	MONICA-Augsburg	Women		19.3		3	128. 6 [Mean]			
Ulmer HB[76]	2005	VHM&PP	Women	58							
Lindman AS[71]	2007	CP-Norway	Women	65.7	20.9	Tot: 272.22		149.6 [Mean] (21.8 [SD])	83 [Mean] (12.7 [SD])		
Scheltens T[77]	2008	MP-CVDRF	Women							6	
Silventoinen K[78]	2005	FinCross	Women	44		Tot: 218.4	1	133 [Mean]	80 [Mean]	55	
Wang Z[82]	2005	Aboriginal	Women	36.1	71	Tot: 175.5	16	116.4 [Mean] (18.7 [SD])	71.5 [Mean] (12.9 [SD])		
Bhopal R[83]	2005	NHP - Europe	Women			Tot: 224.25	3	124 [Mean]			
Koller MT[84]	2007	Rotterdam	Women	71.1	16.7					33.8	
Hippisley-Cox JC[34]	2008	QRESEARCH	Women	49	22.9	Tot: 226.2		132.2 [Mean] (21.6 [SD])			12.1
Hippisley-Cox JC[62]	2008	THIN	Women	49	22.9	Tot: 226.2	0	132.1 [Mean] (21.0 [SD])			10.5
McEwan P[85]	2004	Cardiff DM	Women	60.2	19	Tot: 234		146 [Mean] (23 [SD])			
Becker A[87]	2008	MunichDM	Women	54.8			100				

Table 7g. Data Sources Details (External Validations) – Asia All

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Age (yrs)	Race	Female %	Smoker (Current) %	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)	DBP (mmHg)
Suka M[89]	2001	JapanWork	All	44.7	O:100	0	59.8	Tot: 198.9	8.5	129 [Mean] (17.1 [SD])	80.3 [Mean] (10.6 [SD])
Bhopal R[83]	2005	NHP–Pakistan	All		O:100	51.1	17	Tot: 218.4	27	122 [Mean]	
Bhopal R[83]	2005	NHP–India	All		O:100	63	6.1	Tot: 216.84	16	125.9 [Mean]	
Bhopal R[83]	2005	NHP–South Asia	All		O:100	54.5	15.6	Tot: 216.84	20.5	122.5 [Mean]	

Table 7h. Data Sources Details (External Validations) – Asia Men

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Race	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)
Bhopal R[83]	2005	NHP–Pakistan	Men	O:100	Tot: 219.18	26	123 [Mean]
Bhopal R[83]	2005	NHP–India	Men	O:100	Tot: 219.57	16	124 [Mean]
Bhopal R[83]	2005	NHP–South Asia	Men	O:100	Tot: 217.23	21	122 [Mean]

Table 7i: Data Sources Details (External Validations) – Asia Women

Study 1st Author	Study Yr Pub	Cohort Abbrev	Group Name	Race	Mean Cholesterol Levels (mg/dL)	Diabetes %	SBP (mmHg)
Bhopal R[83]	2005	NHP–Pakistan	Women	O:100	Tot: 218.01	28	121 [Mean]
Bhopal R[83]	2005	NHP–India	Women	O:100	Tot: 215.28	16	127 [Mean]
Bhopal R[83]	2005	NHP–South Asia	Women	O:100	Tot: 216.45	20	123 [Mean]

Appendix K. Summary Table 8

Table 8a. CVD Model Details – Americas

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF	
								χ^2	P
Framingham Offspring Study[7]	FRS-O	All	CVD 12	Wilson AFT Model A No BMI CVD	CVD 12	0.775			
Framingham Offspring Study[7]	FRS-O	All	CVD 12	Wilson AFT Model A CVD	CVD 12	0.784			
Framingham Offspring Study[7]	FRS-O	All	CVD 12	Wilson AFT Model B CVD	CVD 12	0.801			
Framingham Offspring Study[7]	FRS-O	All	CVD 12	Wilson AFT Model B No BMI CVD	CVD 12	0.8			
National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study[8]	NHANES-I EFS	Men	CVD 7	Gaziano Lab-Based Model	CVD 7	0.784	0.766-0.801	6.7	0.57
National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study[8]	NHANES-I EFS	Women	CVD 7	Gaziano Lab-Based Model	CVD 7	0.829	0.813-0.845	6.62	0.579
National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study[8]	NHANES-I EFS	Men	CVD 7	Gaziano Non-Lab-Based Model	CVD 7	0.783	0.765-0.800	6.61	0.579
National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study[8]	NHANES-I EFS	Women	CVD 7	Gaziano Non-Lab-Based Model	CVD 7	0.831	0.816-0.847	3.45	0.903
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Men	CVD 2	D'Agostino CVD MALE	CVD 2	0.763	0.746-0.780	13.48	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Women	CVD 2	D'Agostino CVD FEMALE	CVD 2	0.793	0.772-0.814	7.79	0.56
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Men	Total CHD 1	D'Agostino CVD MALE	CVD 2	0.733	0.712-0.754	18.2	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Women	Total CHD 1	D'Agostino CVD FEMALE	CVD 2	0.787	0.762-0.812	14.79	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Men	Stroke 4	D'Agostino CVD MALE	CVD 2	0.826	0.789-0.863	26.11	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Women	Stroke 4	D'Agostino CVD FEMALE	CVD 2	0.769	0.715-0.822	5.26	0.811
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Men	CHF	D'Agostino CVD MALE	CVD 2	0.841	0.799-0.883	27.23	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Women	CHF	D'Agostino CVD FEMALE	CVD 2	0.847	0.803-0.891	9.32	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Men	PVD	D'Agostino CVD MALE	CVD 2	0.813	0.780-0.847	19.05	0
Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)[6]	FRS, FRS-O	Women	PVD	D'Agostino CVD FEMALE	CVD 2	0.829	0.786-0.872	11.33	0
Lipid Research Clinics Prevalence Study cohort[68]	LRCPS	All	CHD Mortality	FRS (1991)	CVD 2	0.83	0.02		
Lipid Research Clinics Prevalence Study cohort[68]	LRCPS	Men	CHD Mortality	FRS (1991)	CVD 2	0.83			
Lipid Research Clinics Prevalence Study cohort[68]	LRCPS	Women	CHD Mortality	FRS (1991)	CVD 2	0.82			
Atherosclerosis Risk in Communities Study[4]	ARIC	White Men	Hard CHD 1 (5 yr)	FRS (1991)	CVD 2	0.75		13.8	
Atherosclerosis Risk in Communities Study[4]	ARIC	White Women	Hard CHD 1 (5 yr)	FRS (1991)	CVD 2	0.83		6.2	
Atherosclerosis Risk in Communities Study[4]	ARIC	Black Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.67		5.3	

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF	
								χ^2	P
Atherosclerosis Risk in Communities Study[4]	ARIC	Black Women	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.79		5	
Honolulu Heart Program[4]	HHP	Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.72		66	
Puerto Rico Heart Health Program[4]	PRHHP	Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.69		142	
Strong Heart Study (area of Oklahoma and Aberdeen area of North and South Dakota)[4]	SHS	Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.69		10.6	
Strong Heart Study (area of Oklahoma and Aberdeen area of North and South Dakota)[4]	SHS	Women	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.75		22.7	
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	Ridker Model A	CVD 3	0.809			0.38
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	Ridker Model B	CVD 3	0.808			0.62
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	FRS (Wilson TC) Remodel	CVD 3	0.791			0.18
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	FRS (Wilson LDL) Remodel	CVD 3	0.791			0.16
Women's Health Study[19]	WHS	All	CVD 3	WHS Model with hsCRP	CVD 3	0.815			0.23
Women's Health Study[19]	WHS	All	CVD 3	WHS Model without hsCRP	CVD 3	0.813			0.039
Cardiovascular Health Study[4]	CHS	Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.63		13.2	
Cardiovascular Health Study[4]	CHS	Women	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.66		10.4	
Women's Genome Health Study[55]	WGHS	All	CVD 3	FRS (ATP) WGHS Remodel	CVD 3	0.803	0.019	6.24	0.62
Women's Health Study[55]	WHS	All	CVD 3	FRS (ATP) WHS Cook Remodel	CVD 3	0.814			0.25
Women's Genome Health Study[55]	WGHS	All	CVD 3	Reynolds Risk Score Remodel	CVD 3	0.807	0.019	7.75	0.46
Women's Genome Health Study[55]	WGHS	All	CVD 3	ATP-III (Remodel) + genotype	CVD 3	0.805	0.019	5.96	0.65
Women's Genome Health Study[55]	WGHS	All	CVD 3	Reynolds Risk Score (Remodel) + genotype	CVD 3	0.809	0.019	7.43	0.49
Physicians Health Study II[59]	PHS-II	All	CVD 15	Ridker Model A, PHS-II	CVD 15	0.699		11.3	
Physicians Health Study II[59]	PHS-II	All	CVD 15	Reynolds Risk Score + CRP + parental history	CVD 15	0.708		12.9	
Physicians Health Study II[59]	PHS-II	All	Hard CHD 2	Ridker Model A, PHS-II	CVD 15	0.689			
Physicians Health Study II[59]	PHS-II	All	Hard CHD 2	Reynolds Risk Score + CRP + parental history	CVD 15	0.7			

Appendix K. Summary Table 8

Table 8b. CHD Model Details – Americas

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF χ^2	HLGOF P	O/E Ratio
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model E CHD	Total CHD 1	0.813				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model D CHD	Total CHD 1	0.812				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model B CHD	Total CHD 1	0.808				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model A CHD	Total CHD 1	0.791				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model A No BMI CHD	Total CHD 1	0.784				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model C CHD	Total CHD 1	0.796				
Framingham Offspring Study[7]	FRS-O	All	Total CHD 1	Wilson AFT Model E No BMI CHD	Total CHD 1	0.814				
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (10yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.6		72.3	0	1.492
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Women	Hard CHD 1 (10yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.73		75.1	0	2.022
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Women	Hard CHD 1 (10yr)	FRS CKD Best Cox, females	Hard CHD 1	0.81		2.5		
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (10yr)	FRS CKD Best Cox, males	Hard CHD 1	0.68		4		
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (5yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.62		33.4	0	1.636
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Women	Hard CHD 1 (5yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.77		61.2	0	2.727
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Women	Hard CHD 1 (5yr)	FRS CKD Best Cox, females	Hard CHD 1	0.82		0.8		
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (5yr)	FRS CKD Best Cox, males	Hard CHD 1	0.72		4.2		
Atherosclerosis Risk in Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Women	Hard CHD 1 (5 yr)	FRS CKD recal	Hard CHD 1			8.7		
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC	Women	Hard CHD 1 (10 yr)	FRS CKD recal	Hard CHD 1			8.9		
Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (5 yr)	FRS CKD recal	Hard CHD 1			13.7		
Atherosclerosis Risk In Communities and Cardiovascular health Study trials with CKD[64]	ARIC, CHS	Men	Hard CHD 1 (10 yr)	FRS CKD recal	Hard CHD 1			32.3		
Women's Health Initiative study[63]	WHI	All	Hard CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.69				
Women's Health Initiative study[63]	WHI	Women	Hard CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.69				
Women's Health Initiative study[63]	WHI	All	CVD 15	FRS [Unknown Version] (1998)	Total CHD 1	0.68				
Women's Health Initiative study[63]	WHI	Women	CVD 15	FRS [Unknown Version] (1998)	Total CHD 1	0.68				
San Antonio Heart Study[66]	SAHS	All	CVD 15	FRS [Unknown Version] (1998)	Total CHD 1	0.816				
St Francis Heart Study[91]	SFHS	All	Hard CHD 2	FRS (ATP)	Hard CHD 1	0.68	0.62-0.74			
Atherosclerosis Risk in Communities Study[15]	ARIC	Men	Hard CHD 2	Metabolic Syndrome Model	Hard CHD 2	0.631				
Atherosclerosis Risk in Communities Study[15]	ARIC	Women	Hard CHD 2	Metabolic Syndrome Model	Hard CHD 2	0.729				
Atherosclerosis Risk in Communities Study[15]	ARIC	Men	Hard CHD 2	FRS (ATP)	Hard CHD 1	0.634				
Atherosclerosis Risk in Communities Study[15]	ARIC	Women	Hard CHD 2	FRS (ATP)	Hard CHD 1	0.731				
Strong Heart Study[16]	SHS	Men	Hard CHD 1	SHS Model	Hard CHD 1	0.71		7.18	0.51	
Strong Heart Study[16]	SHS	Women	Hard CHD 1	SHS Model	Hard CHD 1	0.73		7.25	0.45	
South Bay Heart Watch cohort[17]	SBHW	All	Hard CHD 1	FRS (ATP)	Hard CHD 1	0.63				

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
South Bay Heart Watch cohort[17]	SBHW	All	Hard CHD 1	FRS (2001 ATP) + CACS	Hard CHD 1	0.68				
Normative Aging Study - male veterans[67]	NAS	All	Total CHD 1	European Society of Cardiology (ESC)	Total CHD 1	0.58				
Normative Aging Study - male veterans[67]	NAS	All	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.63				0.928
Atherosclerosis Risk In Communities Study[14]	ARIC	Men	Hard CHD 2	FRS [TC] (Wilson)	Hard CHD 1	0.691	0.670-9.712			
Atherosclerosis Risk In Communities Study[14]	ARIC	Women	Hard CHD 2	FRS [TC] (Wilson)	Hard CHD 1	0.808	0.792-0.823			
Atherosclerosis Risk In Communities Study[14]	ARIC	Men	Hard CHD 2	Personal HEART	Hard CHD 2	0.649				
Atherosclerosis Risk In Communities Study[14]	ARIC	Men	Hard CHD 2	Personal HEART	Hard CHD 2	0.649	0.627-0.671			
Atherosclerosis Risk In Communities Study[14]	ARIC	Women	Hard CHD 2	Personal HEART	Hard CHD 2	0.788	0.772-0.804			
Atherosclerosis Risk In Communities Study[14]	ARIC	Women	Hard CHD 2	Personal HEART	Hard CHD 2	0.788				
South Bay Heart Watch[18]	SBHW	All	Hard CHD 1	FRS (1991)	Hard CHD 1	0.69	0.05			1.165
South Bay Heart Watch[18]	SBHW	All	Hard CHD 1	Detrano - Data Derived	Hard CHD 1	0.68	0.05			
South Bay Heart Watch[18]	SBHW	All	Hard CHD 1	Detrano - Data Derived + Ca	Hard CHD 1	0.71	0.04			
First National Health and Nutrition Examination Survey[3]	NHANES I	Men	CHD Mortality	FRS (Custom 4 Variable)	CHD Mortality	0.71				0.90
First National Health and Nutrition Examination Survey[3]	NHANES I	Women	CHD Mortality	FRS (Custom 4 Variable)	CHD Mortality	0.8				
First National Health and Nutrition Examination Survey[3]	NHANES I	Men	CHD Mortality	NHANES I (4 Variables)	CHD Mortality	0.71				
First National Health and Nutrition Examination Survey[3]	NHANES I	Women	CHD Mortality	NHANES I (4 Variables)	CHD Mortality	0.81				
Second National Health and Nutrition Examination Survey[3]	NHANES II	Men	CHD Mortality	FRS (Custom 4 Variable)	CHD Mortality	0.74				0.649
Second National Health and Nutrition Examination Survey[3]	NHANES II	Women	CHD Mortality	FRS (Custom 4 Variable)	CHD Mortality	0.76				
Second National Health and Nutrition Examination Survey[3]	NHANES II	Men	CHD Mortality	NHANES II (4 Variable)	CHD Mortality	0.75				
Second National Health and Nutrition Examination Survey[3]	NHANES II	Women	CHD Mortality	NHANES II (4 Variable)	CHD Mortality	0.77				
Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam)[4]	FRS, FRS-O	Men	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.79				
Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam) [4]	FRS, FRS-O	Women	Hard CHD 1 (5 yr)	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.83				
Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam) [4]	FRS, FRS-O	Men	Hard CHD 1 (5 yr)	FRS White Male Best Cox Model	Hard CHD 1	0.79		3.3		
Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam) [4]	FRS, FRS-O	Women	Hard CHD 1 (5 yr)	FRS White Female Best Cox Model	Hard CHD 1	0.83		3.7		
Atherosclerosis Risk in Communities Study[4]	ARIC	Black Men	Hard CHD 1 (5 yr)	ARIC Black Male Best Cox Model	Hard CHD 1	0.7		7.2		
Atherosclerosis Risk in Communities Study[4]	ARIC	White Men	Hard CHD 1 (5 yr)	ARIC White Male Best Cox Model	Hard CHD 1	0.76		5.4		
Atherosclerosis Risk in Communities Study[4]	ARIC	Black	Hard CHD 1	ARIC Black Female Best Cox Model	Hard CHD 1	0.85		3.4		

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
		Women	(5 yr)							
Atherosclerosis Risk in Communities Study[4]	ARIC	White Women	Hard CHD 1 (5 yr)	ARIC White Female Best Cox Model	Hard CHD 1	0.84		5.2		
Honolulu Heart Program[4]	HHP	Men	Hard CHD 1 (5 yr)	HHP Male Best Cox Model	Hard CHD 1	0.74		2.6		
Puerto Rico Heart Health Program[4]	PRHHP	Men	Hard CHD 1 (5 yr)	PR Male Best Cox Model	Hard CHD 1	0.72		7.2		
Strong Heart Study (area of Oklahoma and Aberdeen area of North and South Dakota)[4]	SHS	Men	Hard CHD 1 (5 yr)	SHS Native American Male Best Cox Model	Hard CHD 1	0.77		2.7		
Strong Heart Study (area of Oklahoma and Aberdeen area of North and South Dakota)[4]	SHS	Women	Hard CHD 1 (5 yr)	SHS Native American Female Best Cox Model	Hard CHD 1	0.86		3.5		
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	FRS [TC] (1998)	Total CHD 1	0.752			<0.001	
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	FRS (ATP)	Hard CHD 1	0.787			<0.001	
Women's Health Study (Validation Cohort)[20]	WHS (Val)	All	CVD 3	FRS [LDL] (1998)	Total CHD 1	0.751			<0.001	
Framingham Cohort (11th Exam) Or Framingham Offspring (1st Exam)[2]	FRS, FRS-O	Men	Total CHD 1	FRS [LDL] (1998)	Total CHD 1	0.74				
Framingham Cohort (11th Exam) Or Framingham Offspring (1st Exam)[2]	FRS, FRS-O	Women	Total CHD 1	FRS [LDL] (1998)	Total CHD 1	0.77				
South Bay Heart Watch[18]	SBHW	All	Hard CHD 2	FRS (1991)	Total CHD 1	0.67	0.04			
South Bay Heart Watch[18]	SBHW	All	Hard CHD 2	Detrano - Data Derived	Hard CHD 1	0.69	0.04			
South Bay Heart Watch[18]	SBHW	All	Hard CHD 2	Detrano - Data Derived + Ca	Hard CHD 1	0.72	0.04			
Cardiovascular Health Study[4]	CHS	Men	Hard CHD 1 (5 yr)	CHS White Male Best Cox Model	Hard CHD 1	0.69		6.8		
Cardiovascular Health Study[4]	CHS	Women	Hard CHD 1 (5 yr)	CHS White Female Best Cox Model	Hard CHD 1	0.68		6.8		
Atherosclerosis Risk in Communities Study[15]	ARIC	Men	Hard CHD 2 (6 yr)	FRS (ATP)	Hard CHD 1	0.646				
Atherosclerosis Risk in Communities Study[15]	ARIC	Women	Hard CHD 2 (6 yr)	FRS (ATP)	Hard CHD 1	0.667				
Atherosclerosis Risk in Communities Study[15]	ARIC	All	Hard CHD 2 (6 yr)	FRS (ATP)	Hard CHD 1	0.72				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic risk factors, liberal definition of diabetes	Hard CHD 2	0.672				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic risk factors, liberal definition of diabetes	Hard CHD 2	0.721				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic men	Hard CHD 2	ARIC, diabetes-specific basic risk factors, liberal definition of diabetes	Hard CHD 2	0.786				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic women	Hard CHD 2	ARIC, diabetes-specific basic risk factors, liberal definition of diabetes	Hard CHD 2	0.688				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic risk factors, restrictive definition of diabetes (only drug-treated diabetes)	Hard CHD 2	0.75				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic risk factors, restrictive definition of diabetes	Hard CHD 2	0.7				

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Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
				(only drug-treated diabetes)						
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, combined model, basic risk factors	Hard CHD 2	0.65				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, combined model, basic risk factors	Hard CHD 2	0.71				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic + multiple risk factors, liberal definition of diabetes	Hard CHD 2	0.74				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic + multiple risk factors, liberal definition of diabetes	Hard CHD 2	0.771				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic men	Hard CHD 2	ARIC, diabetes-specific basic + multiple risk factors, liberal definition of diabetes	Hard CHD 2	0.711				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic women	Hard CHD 2	ARIC, diabetes-specific basic + multiple risk factors, liberal definition of diabetes	Hard CHD 2	0.796				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic markers	Hard CHD 2	0.68				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic markers	Hard CHD 2	0.711				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic men	Hard CHD 2	ARIC, diabetes-specific basic markers	Hard CHD 2	0.679				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic women	Hard CHD 2	ARIC, diabetes-specific basic markers	Hard CHD 2	0.777				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic+multiple markers	Hard CHD 2	0.702				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic+multiple markers	Hard CHD 2	0.723				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic men	Hard CHD 2	ARIC, diabetes-specific basic+multiple markers	Hard CHD 2	0.702				
Atherosclerosis Risk in Communities[13]	ARIC	Non-diabetic women	Hard CHD 2	ARIC, diabetes-specific basic+multiple markers	Hard CHD 2	0.781				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic men	Hard CHD 2	ARIC, diabetes-specific basic risk factors, restrictive definition of diabetes (only physician-diagnosed or -treated diabetes)	Hard CHD 2	0.72				
Atherosclerosis Risk in Communities[13]	ARIC	Diabetic women	Hard CHD 2	ARIC, diabetes-specific basic risk factors, restrictive definition of diabetes (only physician-diagnosed or -treated diabetes)	Hard CHD 2	0.7				
NHANES I and II (pooled)[1]	NHANES I	White	CHD death	NHANES I and II, pooled	CHD	0.77				

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
	and II (pooled)	men			Mortality					
NHANES I and II (pooled)[1]	NHANES I and II (pooled)	Black men	CHD death	NHANES I and II, pooled	CHD Mortality	0.76				
NHANES I and II (pooled)[1]	NHANES I and II (pooled)	White women	CHD death	NHANES I and II, pooled	CHD Mortality	0.84				
NHANES I and II (pooled)[1]	NHANES I and II (pooled)	Black women	CHD death	NHANES I and II, pooled	CHD Mortality	0.82				
Johns Hopkins Sibling Study[10]	JHSS	Women	Total CHD 1	FRS [TC] (1998)	Total CHD 1			8		1.128
Johns Hopkins Sibling Study[10]	JHSS	Men	Total CHD 1	FRS Wilson-D'Agostino Recal	Total CHD 1			9		
Johns Hopkins Sibling Study[10]	JHSS	Men	Total CHD 1	FRS [TC] (1998)	Total CHD 1			7.5		1.671
Johns Hopkins Sibling Study[10]	JHSS	Women	Total CHD 1	FRS Wilson-D'Agostino Recal	Total CHD 1			8		
Chicago young adults[5]	CHA	Men	Hard CHD 1 (10 yr)	FRS [TC] (1998)	Total CHD 1					0.046
Chicago young adults[5]	CHA	Men	Hard CHD 1 (10 yr)	FRS (ATP)	Hard CHD 1					0.072
Chicago young adults[5]	CHA	Men	Hard CHD 1 (30 yr)	CHA	CHD Mortality					0.95
Adult residents of Olmsted County, Minnesota[9]	Mayo	Men	Total CHD 1	Miyasaka CHD Post-AF	Total CHD 1					0.783
Adult residents of Olmsted County, Minnesota[9]	Mayo	Women	Total CHD 1	Miyasaka CHD Post-AF	Total CHD 1					0.857

Table 8c. Stroke Model Details – Americas

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	O/E Ratio
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model A No BMI CeVD	Stroke 2	0.772	
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model A CeVD	Stroke 2	0.792	
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model B CeVD	Stroke 2	0.798	
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model C CeVD	Stroke 2	0.8	
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model D CeVD	Stroke 2	0.804	
Framingham Offspring Study[7]	FRS-O	All	Stroke 2	Wilson AFT Model D No BMI CeVD	Stroke 2	0.798	
Atherosclerosis Risk in Communities Study[12]	ARIC	Men	Stroke 3	Chambless Basic Men	Stroke 3	0.756	
Atherosclerosis Risk in Communities Study[12]	ARIC	Women	Stroke 3	Chambless Basic Women	Stroke 3	0.792	
Atherosclerosis Risk in Communities Study[12]	ARIC	Men	Stroke 3	Chambless BM + Age + Race	Stroke 3	0.789	
Atherosclerosis Risk in Communities Study[12]	ARIC	Men	Stroke 3	Chambless BM + NTRF + Age + Race	Stroke 3	0.803	
Atherosclerosis Risk in Communities Study[12]	ARIC	Women	Stroke 3	Chambless BW + Age + Race	Stroke 3	0.813	
Atherosclerosis Risk in Communities Study[12]	ARIC	Women	Stroke 3	Chambless BW + NTRF + Age + Race	Stroke 3	0.837	
Wisconsin Epidemiologic Study of Diabetic Retinopathy[54]	WESDR	All	Stroke Mortality	UKPDS 60	Stroke 1		1.135
Wisconsin Epidemiologic Study of Diabetic Retinopathy[54]	WESDR	All	Stroke Mortality	FRS (1991)	CVD 2		1.788

Appendix K. Summary Table 8

Table 8d. CVD Model Details – Europe

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Consecutive patients referred by primary care provider for preventive cardiological exam[41]	LudwigU	All	Hard CHD 1	SCORE (Unknown Version)	CVD Mortality	0.66	0.62-0.68			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Men	CVD 1	QRISK	CVD 4	0.788	0.786-0.791			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Women	CVD 1	QRISK	CVD 4	0.814	0.811-0.817			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Men	CVD 1	QRISK2	CVD 1	0.792	0.789-0.794			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Women	CVD 1	QRISK2	CVD 1	0.817	0.814-0.820			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Men	CVD 1	FRS (1991), NICE-Modified	CVD	0.779	0.776-0.782			
Members of the QRESEARCH database[34]	QRESEARCH	Validation-Women	CVD 1	FRS (1991), NICE-Modified	CVD	0.8	0.797-0.803			
Scottish Hearth Health Extended Cohort[30]	SHHEC	Men	CVD 11 (10 yr)	ASSIGN	CVD 11	0.727				0.789
Scottish Hearth Health Extended Cohort[30]	SHHEC	Women	CVD 11 (10 yr)	ASSIGN	CVD 11	0.765				0.672
Scottish Hearth Health Extended Cohort[30]	SHHEC	Men	CVD 11 (10 yr)	FRS (1991)	CVD 2	0.716				0.71
Scottish Hearth Health Extended Cohort[30]	SHHEC	Women	CVD 11 (10 yr)	FRS (1991)	CVD 2	0.741				0.651
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	CVD 18	JBSRC	CVD	0.8	0.75-0.85			
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	CVD 18	CRM	CVD	0.76	0.72-0.79			2.301
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	Total CHD 2	JBSRC	CVD	0.77	0.74-0.80			
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	Total CHD 2	CRM	CVD	0.73	0.70-0.77			1.74
Uppsala Longitudinal Study of Adult Men (Baseline Age 70 Cohort)[23]	ULSAM (70)	All	CVD Mortality	FRS (Wilson 1998) + ECG	CVD Mortality	0.67				
Poole Diabetes Study[86]	PDS	All	Total CHD 3	FRS (1991)	Total CHD 1	0.657	0.581-0.732	19.8	0	1.471
Poole Diabetes Study[86]	PDS	All-excluding LVH	Total CHD 3	FRS (1991)	Total CHD 1	0.665	0.591-0.740	22.6	0	
Poole Diabetes Study[86]	PDS	Men	Total CHD 3	FRS (1991)	Total CHD 1	0.726	0.643-0.810			
Poole Diabetes Study[86]	PDS	Women	Total CHD 3	FRS (1991)	Total CHD 1	0.697	0.635-0.760			
Poole Diabetes Study[86]	PDS	Pretreated blood pressure	Total CHD 3	FRS (1991)	Total CHD 1	0.666	0.538-0.795			
Poole Diabetes Study[86]	PDS	Untreated blood pressure	Total CHD 3	FRS (1991)	Total CHD 1	0.663	0.568-0.758			
Poole Diabetes Study[86]	PDS	All	CVD 13	FRS (1991)	CVD 2	0.673	0.612-0.734	32.8	0	1.517
Poole Diabetes Study[86]	PDS	All-excluding LVH	CVD 13	FRS (1991)	CVD 2	0.678	0.618-0.739	39.5	0	
Poole Diabetes Study[86]	PDS	Men	CVD 13	FRS (1991)	CVD 2	0.669	0.590-0.747			
Poole Diabetes Study[86]	PDS	Women	CVD 13	FRS (1991)	CVD 2	0.678	0.580-0.776			
Poole Diabetes Study[86]	PDS	Pretreated blood pressure	CVD 13	FRS (1991)	CVD 2	0.634	0.530-0.739			
Poole Diabetes Study[86]	PDS	Untreated blood pressure	CVD 13	FRS (1991)	CVD 2	0.69	0.613-0.767			
Cardiff Diabetes Database (type 1 and type	Cardiff DM	Men	CVD 2	FRS (1991)	CVD 2	0.64				0.815

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
2)[85]										
Cardiff Diabetes Database (type 1 and type 2)[85]	Cardiff DM	Women	CVD 2	FRS (1991)	CVD 2	0.66				0.86
Cardiff Diabetes Database (type 1 and type 2)[85]	Cardiff DM	Men	CVD 2	FRS (1991) Cardiff Diabetes Remodel	CVD 2	0.65				
Cardiff Diabetes Database (type 1 and type 2)[85]	Cardiff DM	Women	CVD 2	FRS (1991) Cardiff Diabetes Remodel	CVD 2	0.68				
Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort undergoing general health exams in Vorarlberg province[76]	VHM&PP	All	CVD Mortality	SCORE (Low Risk TC)	CVD Mortality	0.8	0.79-0.82			0.731
Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort undergoing general health exams in Vorarlberg province[76]	VHM&PP	Men	CVD Mortality	SCORE (Low Risk TC)	CVD Mortality	0.76	0.74-0.79			0.836
Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort undergoing general health exams in Vorarlberg province[76]	VHM&PP	Women	CVD Mortality	SCORE (Low Risk TC)	CVD Mortality	0.78	0.74-0.82			0.523
Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort undergoing general health exams in Vorarlberg province[76]	VHM&PP	Men	CHD Mortality	SCORE (Low Risk TC)	CVD Mortality	0.75	0.72-0.78			0.79
Vorarlberg Health Monitoring and Promotion Program (VHM&PP) cohort undergoing general health exams in Vorarlberg province[76]	VHM&PP	Women	CHD Mortality	SCORE (Low Risk TC)	CVD Mortality	0.84	0.80-0.88			0.463
Individuals recruited from workforce of a nationwide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general electoral rolls of Auckland metro region (28%)[81]	NZWork	Men	CVD 2 (5 yrs)	New Zealand risk charts	CVD	0.73	0.72-0.74			
Individuals recruited from workforce of a nationwide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general electoral rolls of Auckland metro region (28%)[81]	NZWork	Women	CVD 2 (5 yrs)	New Zealand risk charts	CVD	0.78	0.75-0.81			
Individuals recruited from workforce of a nationwide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general electoral rolls of Auckland metro region (28%)[81]	NZWork	Men	CVD 2 (5 yrs)	FRS (1991)	CVD 2	0.74	0.73-0.75			1.173
Individuals recruited from workforce of a nationwide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general electoral rolls of Auckland metro region (28%)[81]	NZWork	Women	CVD 2 (5 yrs)	FRS (1991)	CVD 2	0.77	0.74-0.80			1.089
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Hard CHD 1 + Stroke 1 + DM2 (20 yrs)	FRS (1991)	Total CHD 1	0.67	0.65-0.69			
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Hard CHD 1 (10 yrs)	FRS (1991)	Total CHD 1	0.73	0.71-0.75			
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Hard CHD 1 (20 yrs)	FRS (1991)	Total CHD 1	0.68	0.66-0.70			2.5

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Stroke 1 (10 yrs)	FRS (1991)	Total CHD 1	0.71	0.65-0.77			
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Stroke 1 (20 yrs)	FRS (1991)	Total CHD 1	0.66	0.62-0.70			
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Diabetes, Type 2 (10 yrs)	FRS (1991)	Total CHD 1	0.61	0.55-0.67			
British Regional Heart Study, men aged 40-59 years[72]	BRHS	Men	Diabetes, Type 2 (20 yrs)	FRS (1991)	Total CHD 1	0.6	0.56-0.64			
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Men	CVD 4 (10 yr)	ASSIGN	CVD 11	0.764				0.734
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Women	CVD 4 (10 yr)	ASSIGN	CVD 11	0.784				0.727
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Men	CVD 4 (10 yr)	FRS (1991)	CVD 2	0.76				0.681
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Women	CVD 4 (10 yr)	FRS (1991)	CVD 2	0.774				0.83
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Men	CVD 4 (10 yr)	QRISK	CVD 4	0.767				1.002
QRESEARCH database, constructed from 160 UK general practices; validation cohort[40]	QRESEARCH (Val)	Women	CVD 4 (10 yr)	QRISK	CVD 4	0.788				0.98
British Women's Heart and Health Cohort[44]	BWHH	All	Total CHD 1	FRS (1991)	CVD 2	0.63	0.59-0.67			0.97
British Women's Heart and Health Cohort[44]	BWHH	All	CVD 11	FRS (1991)	CVD 2	0.64	0.61-0.68			0.65
INSIGHT trial cohort of middle-aged patients with hypertension[37]	INSIGHT	All	CVD 14	INSIGHT CVD	CVD 14	0.661				1.25
INSIGHT trial cohort of middle-aged patients with hypertension[37]	INSIGHT	All	CVD 14	FRS (1991)	CVD 2					0.385
Cardiovascular Program in Norway (Ages 60-69)[71]	CP-Norway	Men	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.65				0.448
Cardiovascular Program in Norway (Ages 60-69)[71]	CP-Norway	Women	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.68				0.372
Norwegian Counties Study (ages 40-59)[71]	NCS	Men (40-49 years)	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.67				0.53
Norwegian Counties Study (ages 40-59)[71]	NCS	Men (50-59 years)	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.68				0.53
Norwegian Counties Study (ages 40-59)[71]	NCS	Women (40-49 years)	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.66				0.60
Norwegian Counties Study (ages 40-59)[71]	NCS	Women (50-59 years)	CVD Mortality	SCORE (High Risk TC)	CVD Mortality	0.72				0.45
Renfrew and Paisley Study[70]	Renfrew-Paisley	All	CVD Mortality	FRS (1991)	CVD 2	0.733	0.715-0.750			1.714
Renfrew and Paisley Study[70]	Renfrew-Paisley	Manual class (social classes IIIM, IV, V)	CVD Mortality	FRS (1991)	CVD 2	0.72	0.699-0.741			

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Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Renfrew and Paisley Study[70]	Renfrew-Paisley	Non-manual class (social classes I, II, IIIN)	CVD Mortality	FRS (1991)	CVD 2	0.744	0.710-0.777			
QRESEARCH[62]	QRESEARCH	Men	CVD 10 (10 yr)	FRS (1991)	CVD 2	0.762	0.759-0.765			
QRESEARCH[62]	QRESEARCH	Women	CVD 10 (10 yr)	FRS (1991)	CVD 2	0.776	0.772-0.780			
QRESEARCH[62]	QRESEARCH	Men	CVD 10 (10 yr)	QRISK	CVD 4	0.77	0.767-0.773			
QRESEARCH[62]	QRESEARCH	Women	CVD 10 (10 yr)	QRISK	CVD 4	0.788	0.784-0.792			
THIN Cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland & 14 practices (36904) from Northern Ireland[62]	THIN	Men	CVD 10 (10 yr)	FRS (1991)	CVD 2	0.737	0.734-0.739			0.758
THIN Cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland & 14 practices (36904) from Northern Ireland[62]	THIN	Women	CVD 10 (10 yr)	FRS (1991)	CVD 2	0.76	0.756-0.763			0.909
THIN Cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland & 14 practices (36904) from Northern Ireland[62]	THIN	Men	CVD 10 (10 yr)	QRISK	CVD 4	0.762	0.759-0.765			1.149
THIN Cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland & 14 practices (36904) from Northern Ireland[62]	THIN	Women	CVD 10 (10 yr)	QRISK	CVD 4	0.789	0.786-0.792			1.111
PROCAM cohort; drawn from 52 companies and local government authorities[61]	PROCAM	Men	Hard CHD 1	FRS (1991)	CVD 2	0.73	0.70-0.75			0.564
PROCAM cohort; drawn from 52 companies and local government authorities[61]	PROCAM	Women	Hard CHD 1	FRS (1991)	CVD 2	0.88	0.80-0.96			0.347
MONICA Augsburg cohort; 1984/1985 and 1989/1990 surveys[61]	MONICA-Augsburg	Men	Hard CHD 1	FRS (1991)	CVD 2	0.78	0.73-0.84			0.501
MONICA Augsburg cohort; 1984/1985 and 1989/1990 surveys[61]	MONICA-Augsburg	Women aged 55-64 years	Hard CHD 1	FRS (1991)	CVD 2	0.88	0.80-0.96			
Swedish National Diabetes Register[43]	SNDR	Participants grouped by predicted risk	CVD 5	Swedish NDR	CVD 5	0.7		4.29	0.83	
Swedish National Diabetes Register[43]	SNDR	Subgroup B	CVD 5	Swedish NDR	CVD 5	0.69				
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	All	CVD Mortality (10 yr)	FRS (1991)	CVD 2	0.86	0.84-0.88			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	All high risk participants	CVD Mortality (10 yr)	FRS (1991)	CVD 2	0.8	0.77-0.82			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Participants with SBP >140 mmHg	CVD Mortality (10 yr)	FRS (1991)	CVD 2	0.79	0.75-0.83			

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Participants with TC >6.5 mmol/L	CVD Mortality (10 yr)	FRS (1991)	CVD 2	0.81	0.77-0.85			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Smokers (men >50 yrs, women >55 yrs)	CVD Mortality (10 yr)	FRS (1991)	CVD 2	0.69	0.65-0.74			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	All	CVD Mortality (10 yr)	SCORE (Unknown Version)	CVD Mortality	0.85	0.83-0.87			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	All high risk participants	CVD Mortality (10 yr)	SCORE (Unknown Version)	CVD Mortality	0.75	0.72-0.78			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Participants with SBP > 140 mm Hg	CVD Mortality (10 yr)	SCORE (Unknown Version)	CVD Mortality	0.76	0.72-0.81			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Participants with TC >6.5 mmol/L	CVD Mortality (10 yr)	SCORE (Unknown Version)	CVD Mortality	0.78	0.73-0.82			
Monitoring Project on Cardiovascular Disease Risk Factors; cohort randomly selected from 3 cities in Netherlands (aged 20-59 & no CVD)[77]	MP-CVDRF	Smokers (men >50 yrs, women >55 yrs)	CVD Mortality (10 yr)	SCORE (Unknown Version)	CVD Mortality	0.62	0.55-0.68			
Leiden 85-plus Study[42]	L85	All	CVD Mortality	FRS (1991)	CVD 2	0.53	0.42-0.63			
Dubbo Study; cohort of elderly Australians (ages 60-79) without DM[56]	DUBBO-NoDM	Men	CVD 4 (10 yrs)	FRS (ATP)	Hard CHD 1					0.914
Dubbo Study; cohort of elderly Australians (ages 60-79) without DM[56]	DUBBO-NoDM	Women	CVD 4 (10 yrs)	FRS (ATP)	Hard CHD 1					0.925
Dubbo Study; cohort of elderly Australians (ages 60-79) with DM[56]	DUBBO-All	All	CVD 4 (5 yrs)	Dubbo model	CVD 4				107	
Dubbo Study; cohort of elderly Australians (ages 60-79) with DM[56]	DUBBO-All	All	CVD 4 (10 yrs)	Dubbo model	CVD 4				167	

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Table 8e. CHD Model Details – Europe

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Men	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.71	0.69-0.73			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Women	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.71	0.68-0.74			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Men	Total CHD 1	FRS (1998) EPIC Remodel	Total CHD 1	0.72	0.70-0.75			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Women	Total CHD 1	FRS (1998) EPIC Remodel	Total CHD 1	0.8	0.78-0.83			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Men	Total CHD 1	FRS (1998) + EPIC + HbA1c	Total CHD 1	0.73	0.70-0.75			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Women	Total CHD 1	FRS (1998) + EPIC + HbA1c	Total CHD 1	0.8	0.78-0.83			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Men	Total CHD 1	FRS (1998) + EPIC w/o DM + HbA1c	Total CHD 1	0.73	0.70-0.74			
European Prospective Investigation of Cancer [EPIC]–Norfolk [35]	EPIC-Norfolk	Women	Total CHD 1	FRS (1998) + EPIC w/o DM + HbA1c	Total CHD 1	0.8	0.77-0.82			
Consecutive patients referred by primary care provider for preventive cardiological exam[41]	LudwigU	All	Hard CHD 1	PROCAM CHD (Cox model)	Hard CHD 1	0.65	0.62-0.68			
Consecutive patients referred by primary care provider for preventive cardiological exam[41]	LudwigU	All	Hard CHD 1	FRS (ATP)	Hard CHD 1	0.63	0.59-0.65			
Rotterdam Study[84]	Rotterdam	Men	Hard CHD 1	FRS (ATP)	Hard CHD 1	0.63	0.52-0.74			0.723
Rotterdam Study[84]	Rotterdam	Women	Hard CHD 1	FRS (ATP)	Hard CHD 1	0.73	0.65-0.83			1.021
Study of Atherosclerotic Risk Factors[25]	STULONG	All	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.638	58.4-69.1			1.282
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Men	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.68		110.1	0	0.451
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Women	Total CHD 1	FRS [TC] (1998)	Total CHD 1	0.73		64.3	0	0.44
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Men	Total CHD 1	FRS (1998 Wilson) REGICOR Remodel	Total CHD 1	0.69		5.1	0	1.256
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Women	Total CHD 1	FRS (1998 Wilson) REGICOR Remodel	Total CHD 1	0.81		2.7	0	1.03
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Diabetics	Total CHD 1	FRS (1998 Wilson) REGICOR Remodel	Total CHD 1			1.4	0	
Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidents Cohort[38]	VERIFICA	Diabetics	Total CHD 1	FRS (1998 Wilson)	Total CHD 1			54.2	0	
West of Scotland Coronary Prevention Study[32]	WOSCOPS	All	Hard CHD 1	QT Dispersion	Hard CHD 1	0.52				
Lyon, France[21]	Lyon	All	CVD 6	FRS [Unknown Version] (1998)	Total CHD 1	0.72				1.36
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	CVD 18	PROCAM CHD (Cox model)	Hard CHD 1	0.67	0.62-0.73			2.79
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	CVD 18	UKPDS 56	Hard CHD 1	0.74	0.70-0.78			1.201
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	Total CHD 2	PROCAM CHD (Cox model)	Hard CHD 1	0.65	0.59-0.71			2.05

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Diabetes clinic at University College London Hospitals NHS Trust[33]	NHS Trust	All	Total CHD 2	UKPDS 56	Hard CHD 1	0.76	0.72-0.80			1.6
Uppsala Longitudinal Study of Adult Men (Baseline Age 70 Cohort)[23]	ULSAM (70)	All	CVD Mortality	FRS [Unknown Version] (1998)	Total CHD 1	0.58				
Uppsala Longitudinal Study of Adult Men[22]	ULSAM	Men (Prediction Data)	MI	PROCAM CHD (Cox model)	Hard CHD 1	0.63				
Uppsala Longitudinal Study of Adult Men[22]	ULSAM	Men (Prediction Data)	MI	FRS (ATP)	Hard CHD 1	0.61				
Uppsala Longitudinal Study of Adult Men[22]	ULSAM	All	Hard CHD 1 (10 yrs)	FRS (ATP)	Hard CHD 1					0.213
Uppsala Longitudinal Study of Adult Men[22]	ULSAM	All	Hard CHD 1 (10 yrs)	PROCAM CHD (Cox model)	Hard CHD 1					0.271
Poole Diabetes Study[86]	PDS	All	Total CHD 3	UKPDS 56	Hard CHD 1	0.67	0.598-0.742	17.1	0	
Poole Diabetes Study[86]	PDS	Men	Total CHD 3	UKPDS 56	Hard CHD 1	0.673	0.585-0.761			
Poole Diabetes Study[86]	PDS	Women	Total CHD 3	UKPDS 56	Hard CHD 1	0.618	0.491-0.746			
Poole Diabetes Study[86]	PDS	Pretreated blood pressure	Total CHD 3	UKPDS 56	Hard CHD 1	0.696	0.575-0.817			
Poole Diabetes Study[86]	PDS	Untreated blood pressure	Total CHD 3	UKPDS 56	Hard CHD 1	0.648	0.559-0.736			
CUORE[29]	CUORE	Men	Hard CHD 2	CUORE	Hard CHD 2	0.742	0.684-0.796	15.5		
CUORE[29]	CUORE	Men	Hard CHD 2	FRS (Wilson 1998 TC) CUORE D'Ag Remodel	Hard CHD 2	0.723	0.670-0.779	27.1		0.765
CUORE[29]	CUORE	Men	Hard CHD 2	PROCAM (Cox) CUORE D'Ag Remodel	Hard CHD 2	0.735	0.678-9.790	220.3		0.87
CUORE[29]	CUORE	Men	Hard CHD 2	FRS [TC] (1998)	Total CHD 1	0.723	0.670-0.779			0.328
CUORE[29]	CUORE	Men	Hard CHD 2	FRS (Wilson 1998 TC) CUORE Chamb Remodel	Hard CHD 2	0.723	0.670-0.779			1.01
CUORE[29]	CUORE	Men	Hard CHD 2	PROCAM (Cox) CUORE Chamb Remodel	Hard CHD 2	0.735	0.678-9.790			1.01
Subjects with type 2 diabetes registered with a Tayside GP[39]	DARTS	All	Hard CHD 1	DARTS	Hard CHD 1	0.71	0.63-0.79			
Rotterdam Coronary Calcification Study[79]	RCC	All	CVD 3	FRS [Unknown Version] (1998)	Total CHD 1	0.73				
Rotterdam Coronary Calcification Study[79]	RCC	age > 70 years	CVD 3	FRS [Unknown Version] (1998)	Total CHD 1	0.682				
Men randomly selected from general population in 1984-5, 1989-90, and 1994-5[75]	MONICA-Augsburg	All	Hard CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.735				
PROCAM; cohort of employees of 52 companies and local government authorities with f/u every 2 years[27]	PROCAM	All	Hard CHD 1	PROCAM CHD (Cox model)	Hard CHD 1	0.829		6.5	0.3	
PROCAM; cohort of employees of 52 companies and local government authorities with f/u every 2 years[27]	PROCAM	All	Hard CHD 1	FRS (ATP)	Hard CHD 1	0.778		43.8	0.001	

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF χ^2	HLGOF P	O/E Ratio
PROCAM; cohort of employees of 52 companies and local government authorities with f/u every 2 years[27]	PROCAM	All	Hard CHD 1	PROCAM CHD (Point Score)	Hard CHD 1	0.824				
Individuals with diabetes receiving care in Salford[39]	Salford	All	Hard CHD 1	DARTS	Hard CHD 1	0.69	0.58-0.78			
Second Northwick Park Heart Stud[31]	NPHS-II	All	Hard CHD 2	PROCAM CHD (Cox model)	Hard CHD 1	0.63	0.59-0.67			0.46
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 1 (basic)	Hard CHD 2	0.64	0.58-0.70			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 2 (basic + DM + fam hx)	Hard CHD 2	0.66	0.60-0.71			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 3 (basic + DM)	Hard CHD 2	0.63	0.58-0.69			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 4 (basic + fam hx)	Hard CHD 2	0.64	0.59-0.69			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 5 (basic + fibrinogen)	Hard CHD 2	0.66	0.60-0.71			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 6 (basic + Lp(a))	Hard CHD 2	0.67	0.61-0.72			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	NPHS-II score 7 (basic + ApoAI + ApoB)	Hard CHD 2	0.66	0.60-0.72			
Second Northwick Park Heart Study[31]	NPHS-II	All	Hard CHD 2	FRS (ATP)	Hard CHD 1	0.62	0.58-0.66			0.47
PRIME cohort study (Belfast Cohort)[80]	PRIME-Belfast	All	Total CHD 1 (5 yr)	FRS (ATP)	Hard CHD 1	0.66				0.746
PRIME cohort study (Belfast Cohort)[80]	PRIME-Belfast	All	Hard CHD 1 (5 yr)	PROCAM CHD (Cox model)	Hard CHD 1	0.61				0.562
PRIME cohort study[80]	PRIME-France	All	Total CHD 1 (5 yr)	FRS (ATP)	Hard CHD 1	0.68				0.673
PRIME cohort study[80]	PRIME-France	All	Hard CHD 1 (5 yr)	PROCAM CHD (Cox model)	Hard CHD 1	0.64				0.229
Cohort of men and women employed in NW Germany[28]	PROCAM	All	Hard CHD 1	PROCAM (BMI-modified)	Hard CHD 1	0.82				0.881
Cohort of men and women employed in NW Germany[28]	PROCAM	All	Hard CHD 1	PROCAM CHD (Cox model)	Hard CHD 1	0.821				
Individuals with type 2 diabetes diagnosed by standard criteria and on standard diabetic therapy (diet, tablets, insulin) and aged 50-75 years, recruited from outpatient clinics in Central and West London[88]	PREDICT	All	CVD 19	FRS (1991)	CVD 2	0.63	0.55-0.71			
Individuals with type 2 diabetes diagnosed by standard criteria and on standard diabetic therapy (diet, tablets, insulin) and aged 50-75 years, recruited from outpatient clinics in Central and West London[88]	PREDICT	All	CVD 19	UKPDS 56	Hard CHD 1	0.67	0.60-0.75			
Individuals with type 2 diabetes diagnosed by standard criteria and on standard diabetic therapy (diet, tablets, insulin) and aged 50-75 years, recruited from outpatient clinics in Central and West London[88]	PREDICT	All	Total CHD 2	UKPDS 56	Hard CHD 1	0.63	0.56-0.71			
Participants in Supplementation en Vitamines et Mineraux Antioxydants randomized primary prevention trial, followed annually since 1994/1995[36]	SU.VI.MAX	All	Total CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.74				0.497
Participants in Supplementation en Vitamines et Mineraux Antioxydants randomized primary prevention trial, followed annually since 1994/1995[36]	SU.VI.MAX	All	Total CHD 1	SU.VI.MAX	Total CHD 1	0.75				

Appendix K. Summary Table 8

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Munich[87]	MunichDM	All	MI	UKPDS 56	Hard CHD 1	0.66	0.62-0.68			
Munich[87]	MunichDM	All	MI	FRS [Unknown Version] (1998)	Total CHD 1	0.63	0.59-0.66			
PROCAM cohort; employees of 52 companies and local government authorities in Germany, aged 20-78 years[26]	PROCAM	All	Hard CHD 1 (10 Year)	PROCAM CHD (Cox model)	Hard CHD 1	0.824				
PROCAM cohort; employees of 52 companies and local government authorities in Germany, aged 20-78 years[26]	PROCAM	All	Hard CHD 1 (10 Year)	PROCAM CHD (Weibull model)	Hard CHD 1	0.824				
Men at work in public authorities and large companies in the region of Munster, Germany[74]	MunsterWork	Men	Hard CHD 1	PROCAM CHD (Cox model)	Hard CHD 1					0.781
Aboriginal community[82]	Aboriginal	Men	Total CHD 1	FRS (1991)	Total CHD 1					2
Aboriginal community[82]	Aboriginal	Women	Total CHD 1	FRS (1991)	Total CHD 1					3.918
INSIGHT trial cohort of middle-aged patients with hypertension[37]	INSIGHT	All	Total CHD 1	FRS (1991)	Total CHD 1					0.435
British Regional Heart Study; men aged 40-59 years randomly selected from registers of one general practice in each town[73]	BRHS	Men	CHD Mortality	FRS (1991) BRHS Recal	CHD Mortality			3.4		
British Regional Heart Study; men aged 40-59 years randomly selected from registers of one general practice in each town[73]	BRHS	Men	Total CHD 1	FRS (1991) BRHS Recal	Total CHD 1			24.6		
British Regional Heart Study; men aged 40-59 years randomly selected from registers of one general practice in each town[73]	BRHS	Men	CHD Mortality	FRS (1991) CHD Mortality	CHD Morality			30.2		0.683
British Regional Heart Study; men aged 40-59 years randomly selected from registers of one general practice in each town[73]	BRHS	Men	Total CHD 1	FRS (1991)	Total CHD 1			155.3		0.637
Consecutive renal transplant patients[69]	FrRenal	All	Total CHD 1	FRS [Unknown Version] (1998)	Total CHD 1					1.688

Appendix K. Summary Table 8

Table 8f. Stroke Model Details – Europe

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	O/E Ratio
INSIGHT trial cohort of middle-aged patients with hypertension[37]	INSIGHT	All	Stroke 4	INSIGHT Stroke	Stroke 4	1
INSIGHT trial cohort of middle-aged patients with hypertension[37]	INSIGHT	All	Stroke 4	FRS (1991) Stroke	Stroke 4	1
Apparently healthy Norwegian men aged 40-60 years recruited from 5 governmental agencies[24]	NorGov	All	CHD Mortality	Erikssen - CRF-X Model	CHD Mortality	0.999
Apparently healthy Norwegian men aged 40-60 years recruited from 5 governmental agencies[24]	NorGov	All	CHD Mortality	Erikssen – CRF Model	CHD Mortality	1
Apparently healthy Norwegian men aged 40-60 years recruited from 5 governmental agencies[24]	NorGov	All	CHD Mortality	Erikssen – X Model	CHD Mortality	1
Newcastle Heart Project: Europeans[83]	NHP-Europe	All	Stroke Mortality	FRS (1991) Stroke	Stroke 4	3.913
Newcastle Heart Project: Europeans[83]	NHP-Europe	All	CHD Mortality	SCORE [Unknown Version]	CHD Mortality	3.235

Table 8g. CVD Model Details – Asia

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort[45]	APCSC China	Men	CVD 8	Asian Pacific	CVD 8	0.76	0.73-0.79	16.7	0.033	
Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort[45]	APCSC China	Women	CVD 8	Asian Pacific	CVD 8	0.8	0.75-0.84	12.2	0.15	
Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort[45]	APCSC China	Men	CVD 8	FRS (2007 Barzi)	CVD 8	0.75	0.72-0.78	557.5	0.0001	0.266
Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort[45]	APCSC China	Women	CVD 8	FRS (2007 Barzi)	CVD 8	0.79	0.74-0.83	608	0.0001	0.495
MUCA II[48]	MUCA-II	Men	CVD 17	FRS (1998 Hard CHD1) MUCA-II Remodel	CVD 17	0.796	0.762-0.829			
MUCA II[48]	MUCA-II	Women	CVD 17	FRS (1998 Hard CHD1) MUCA-II Remodel	CVD 17	0.791	0.755-0.828			
MUCA II[48]	MUCA-II	Men	CVD 17	USA-PRC (Simplified)	CVD 17	0.792	0.758-0.825			
MUCA II[48]	MUCA-II	Women	CVD 17	USA-PRC (Simplified)	CVD 17	0.783	0.746-0.821			
MUCA II[48]	MUCA-II	Men	CVD 17	USA-PRC (Point Scoring)	CVD 17	0.791	0.757-0.825			
MUCA II[48]	MUCA-II	Women	CVD 17	USA-PRC (Point Scoring)	CVD 17	0.779	0.741-0.817			

Appendix K. Summary Table 8

Table 8h. CHD Model Details – Asia

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Hong Kong Diabetes Registry[49]	HKD Registry	All	Hard CHD 1	UKPDS 56	Hard CHD 1	0.61	0.581-0.639			
Hong Kong Diabetes Registry[49]	HKD Registry	All	Total CHD 1	Hong Kong Total CHD Score	Total CHD 1	0.737				
Hong Kong Diabetes Registry[49]	HKD Registry	All	Total CHD 1	Hong Kong Total CHD Score	Total CHD 1	0.704	0.675-0.733			
Employee health management center in a Japanese company[90]	Japan Work	Men	Total CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.62				0.579
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Women	Hard CHD 1	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.742	0.686-0.798	147.6		
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Men	Hard CHD 1	FRS Hard CHD [TC] (1998)	Hard CHD 1	0.705	0.665-0.746	645.9	0.0001	
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Women	Hard CHD 1	CMCS Cox Model	Hard CHD 1	0.759	0.699-0.818	14.2	0.08	
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Women	Hard CHD 1	CMCS Cox Model	Hard CHD 1	0.759	0.699-0.818	14.2	0.0001	
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Men	Hard CHD 1	CMCS Cox Model	Hard CHD 1	0.736	0.696-0.776	12.6	0.13	
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Women	Hard CHD 1	FRS (1998 TC Hard CHD) MUCA Remodel	Hard CHD 1	0.759	0.699-0.818	16.9	0.03	
Chinese Multi-Provincial Cohort Study; persons aged 35-64 years from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)[47]	MUCA	Men	Hard CHD 1	FRS (1998 TC Hard CHD) MUCA Remodel	Hard CHD 1	0.736	0.696-0.776	31.5	0.0001	
Males aged 30-59 completing annual health exams between 1991-3[89]	JapanWork	All	Total CHD 1	FRS [Unknown Version] (1998)	Total CHD 1	0.71				0.382
Newcastle Heart Project–South Asians[83]	NHP-South Asia	All	CHD Mortality	SCORE (Unknown Version)	CVD Mortality					4.419

Table 8i. Stroke Model Details – Asia

Cohort	Cohort Abbrev	Group Name	Cohort Outcome	Model Name	Model Outcome	AUC	AUC Var	HLGOF		O/E Ratio
								χ^2	P	
Hong Kong Diabetes Registry[50]	HKD Registry	All	Stroke 1	Hong Kong Diabetes Risk Score	Stroke 1	0.79	0.716-0.782			
Hong Kong Diabetes Registry[50]	HKD Registry	All	Stroke 1	UKPDS 60	Stroke 1	0.588	0.549-0.626			0.514
Hong Kong Diabetes Registry[50]	HKD Registry	All	Stroke 5	Hong Kong Diabetes Risk Score	Stroke 1	0.77				
Koreans insured by National Health Insurance Corporation (NHIC)[46]	NHIC	Men	Stroke 6 (10 yr)	Korean Stroke Risk Prediction (KSRP)	Stroke 6	0.817	0.799-0.834	7.71	0.56	
Koreans insured by National Health Insurance Corporation (NHIC)[46]	NHIC	Women	Stroke 6 (10 yr)	Korean Stroke Risk Prediction (KSRP)	Stroke 6	0.81	0.788-0.832	14.26	0.16	
Hong Kong Diabetes Registry[50]	HKD Registry	All	Stroke 3	Hong Kong Diabetes Risk Score	Stroke 1	0.785				
Newcastle Heart Project–South Asians[83]	NHP-South Asia	All	Stroke Mortality	FRS (1991) Stroke	Stroke 4					1.875

Appendix L. Summary Table 9

Table 9a. Outcome Incidence Rates – All

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Wilson PWF[7]	2008	US	Framingham Offspring Study	FRS-O	All	51.6	2.8	Stroke 2	4780	111	2.3
Wilson PWF[7]	2008	US	Framingham Offspring Study	FRS-O	All	51.6	2.8	Total CHD 1	4780	492	10.3
Wilson PWF[7]	2008	US	Framingham Offspring Study	FRS-O	All	51.6	2.8	CVD 12	4780	684	14.3
Hippisley-Cox J[34]	2008	UK	Members of QRESEARCH database	QRESEARCH	All	75.4	2.9	CVD 1	2285815	96709	4.2
Simmons RK[35]	2008	UK	European Prospective Investigation of Cancer [EPIC]–Norfolk	EPIC-Norfolk	All	56.2	2.8	Total CHD 1	10295	680	6.6
Gaizano TA[8]	2008	US	National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study	NHANES-I EFS	All	54.1	3.8	CVD 7	6186	578	9.3
Yang X[49]	2008	China	Hong Kong Diabetes Registry	HKD Registry	All	54.6	100	Hard CHD 1	7067	157	2.2
Yang X[49]	2008	China	Hong Kong Diabetes Registry	HKD Registry	All	54.6	100	Total CHD 1	7067	351	5
D'Agostino RB[92]	2008	US	Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)	FRS, FRS-O	All	53.3	5	CVD 2	8491	1174	13.8
Becker A[41]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological exam		All	41	17	Hard CHD 2	1726	380	22
Becker A[41]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological exam		All	41	17	Hard CHD 1	1726	180	10.4
Assmann G[26]	2007	Germany	PROCAM cohort; employees of 52 companies and local government authorities in Germany, aged 20-78 yrs	PROCAM	All	29.4	6.2	Hard CHD 1 (10 Year)	7295	345	4.7
Vaidya D[10]	2007	US	John Hopkins Sibling Study	JHSS	All	48.5	6.3	Total CHD 1	784	108	13.8
Hippisley-Cox JC[62]	2008	UK	THIN cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland and 14 practices (36904) from Northern Ireland	THIN	All	50.6	0	CVD 10 (10 yr)	1072800	87858	8.2
Hippisley-Cox JC[62]	2008	UK	QRESEARCH	QRESEARCH	All	50.4	0	CVD 10 (10 yr)	607733	47557	7.8
Hippisley-Cox JC[62]	2008	UK	QRESEARCH	QRESEARCH	All	50.4	0	CVD 10	607733	30087	5
Hippisley-Cox JC[62]	2008	UK	THIN cohort; data from 288 UK practices using INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland and 14 practices (36904) from Northern Ireland	THIN	All	50.6	0	CVD 10	1072800	44152	4.1
Lindman AS[71]	2007	Norway	Cardiovascular Program in Norway (ages 60-69)	CP-Norway	All	53.7	0	CVD Mortality	8085	427	5.3
Lindman AS[71]	2007	Norway	Norwegian Counties Study (ages 40-59)	NCS	All	50.9	0	CVD Mortality	49144	517	1.1
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	All	61.8	14	Hard CHD 1 (10yr)	934	130	13.9
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	All	61.8	14	Hard CHD 1 (5yr)	934	65	7

Appendix L. Summary Table 9

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Hippisley-Cox JC[40]	2007	UK	QRESEARCH database, constructed from 160 UK general practices; validation cohort	QRESEARCH (Validation)	All	50.3	0	CVD 4 (10 yr)	614553	48738	7.9
Jee SH[46]	2008	Korea	Koreans insured by National Health Insurance Corporation (NHIC)		All	36.5	4.5	Stroke 6 (10 yr)	1205268	42995	3.6
Koller MT[84]	2007	Netherlands	Rotterdam Study		All	63.9		Hard CHD 1	6795	799	11.8
Berry JD[5]	2007	US	Chicago young adults	CHA	All	0	0	Hard CHD 1 (10 yr)	10375	24	0.2
Berry JD[5]	2007	US	Chicago young adults	CHA	All	0	0	Hard CHD 1 (30 yr)	10375	271	2.6
Strom Moller C[23]	2007	Sweden	Uppsala Longitudinal Study of Adult Men (baseline age 70 cohort)	ULSAM	All	0		CVD Mortality	1221	139	11.4
Mainous AG[14]	2007	US	Atherosclerosis Risk In Communities Study	ARIC	All	56.5	6.9	Hard CHD 2	14343	1108	7.7
Buyken AE[74]	2007	Germany	Men at work in public authorities and large companies in the region of Munster, Germany		All	0		Hard CHD 1	4818	325	6.7
Miyasaka Y[9]	2007	US	Adult residents of Olmsted County, MN		All	52.4	12.8	Total CHD 1	2768	463	16.7
Denes P[63]	2007	US	Women's Health Initiative study	WHI	All	100	3.9	Hard CHD 1	14749	246	1.7
Denes P[63]	2007	US	Women's Health Initiative study	WHI	All	100	3.9	CVD 15	14749	595	4
Ridker PM[20]	2007	US	Women's Health Study (validation cohort)	WHS	All	100	2.9	CVD 3	8158	262	3.2
Barzi F[45]	2007	China	Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort	APCSC China	All	41.4		CVD 8	25682	542	2.1
Reissigova J[25]	2007	Czech Republic	Study of Atherosclerotic Risk Factors	STULONG	All	0	0	Total CHD 1	646	106	16.4
Yang X[50]	2007	China	Hong Kong Diabetes Registry	HKD Registry	All	54.5	100	Stroke 3	3541	150	4.2
Yang X[50]	2007	China	Hong Kong Diabetes Registry	HKD Registry	All	54.5	100	Stroke 5	3541	32	0.9
Yang X[50]	2007	China	Hong Kong Diabetes Registry	HKD Registry	All	54.5	100	Stroke 1	3541	182	5.1
Marrugat J[38]	2007	Spain	Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidencts Cohort	VERIFICA	All	57.3	16.4	Total CHD 1	5732	180	3.1
Woodward M[30]	2007	Scotland	Scottish Hearth Health Extended Cohort	SHHEC	All	50.8	1.4	CVD 11 (10 yr)	13297	1165	8.8
Macfarlane PW[32]	2007	Scotland	West of Scotland Coronary Prevention Study	WOSCOPS	All	0	1.2		6595		
Cook NR[19]	2006	US	Women's Health Study	WHS	All	100	0	CVD 3	15048	498	3.3
Lee ET[16]	2006	US	Strong Heart Study	SHS	All	60.6	44	Hard CHD 1	4372	724	16.6
Donnan PT[39]	2006	UK	Patients with diabetes receiving care in Salford, UK	DARTS	All	47.4	100		3472		
Donnan PT[39]	2006	UK	Subjects with type 2 diabetes registered with a Tayside GP	DARTS	All	47.4	100	Hard CHD 1	4569	243	5.3
May MD[44]	2006	UK	British Women's Heart and Health Cohort	BWHH	All	100	4.4	CVD 11	3582	240	6.7
May MD[44]	2006	UK	British Women's Heart and Health Cohort	BWHH	All	100	4.4	Total CHD 3	3582	198	5.5
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	All	0	0	Hard CHD 1 (20 yrs)	5077	763	15
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	All	0	0	Diabetes, Type 2 (20	5077	299	5.9

Appendix L. Summary Table 9

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
								yrs)			
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	All	0	0	Stroke 1 (20 yrs)	5077	291	5.7
Brindle PM[70]	2005	Scotland	Renfrew and Paisley Study		All	54.3	1.2	CVD Mortality	12304	696	5.7
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register and particip-ating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, & 1997		All	53.4	1.5	Stroke 1	17725	324	1.8
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register and particip-ating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, & 1997		All	53.4	1.5	All-Cause Mortality	17725	765	4.3
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register and particip-ating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, & 1997		All	53.4	1.5	Total CHD 1	17725	699	3.9
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	All	54.8		CHD Mortality	44649	300	0.7
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	All	54.8		CVD Mortality	44649	487	1.1
Vliegenthart R[79]	2005	Netherlands	Rotterdam Coronary Calcification Study	RCC	All	57.5	12.3	CVD 3	1795	88	4.9
Arad Y[91]	2005	US	St Francis Heart Study	SFHS	All	35	6	CVD 16	4613	119	2.6
Cooper JA[31]	2005	UK	Second Northwick Park Heart Study	NPHS-II	All	0	2.1	Hard CHD 2	2732	219	8
Bernard S[21]	2005	France	Lyon, France		All	35.4	100	CVD 6	229	34	14.8
Guzder RN[86]	2005	UK	Poole Diabetes Study	PDS	All	43.7	100	Total CHD 3	428	60	14
Guzder RN[86]	2005	UK	Poole Diabetes Study	PDS	All	43.7	100	CVD 13	428	98	22.9
Guzder RN[86]	2005	UK	Poole Diabetes Study	PDS	All	43.7	100	Total CHD 3	428	60	14
Guzder RN[86]	2005	UK	Poole Diabetes Study	PDS	All	43.7	100	CVD 13	428	98	22.9
Bhopal R[83]	2005	India	Newcastle Heart Project - Indian	NHP - India	All	63	16		230		
Bhopal R[83]	2005	UK	Newcastle Heart Project - Europeans	NHP Europe	All	50	4	Stroke Mortality	725	9	1.2
Bhopal R[83]	2005	South Asia	Newcastle Heart Project - South Asians	NHP-South Asia	All	54.5	20.5	Stroke Mortality	576	3	0.5
Bhopal R[83]	2005	South Asia	Newcastle Heart Project - South Asians	NHP-South Asia	All	54.5	20.5	CHD mortality	576	19	3.3
Bhopal R[83]	2005	Pakistan	Newcastle Heart Project - Pakistani	NHP-Pakistan	All	51.1	27		264		
Bhopal R[83]	2005	UK	Newcastle Heart Project - Europeans	NHP Europe	All	50	4	CHD Mortality	725	22	3
McNeill AM[15]	2005	US	Atherosclerosis Risk in Communities Study	ARIC	All	100	0	Hard CHD 2	12089	879	7.3
McNeill AM[15]	2005	US	Atherosclerosis Risk in Communities Study	ARIC	All	100	0	Stroke 3	12089	216	1.8
Ferrario M[29]	2005	Italy	CUORE	CUORE	All	0	5	Hard CHD 2	6865	312	4.5
Wang Z[82]	2005	Australia	Aboriginal community		All	48.2	12.5	Total CHD 1	687	68	9.9

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Stephens JW[33]	2004	UK	Diabetes clinic at University College London Hospitals NHS Trust		All	36	100	Total CHD 2	798	269	33.7
Stephens JW[33]	2004	UK	Diabetes clinic at University College London Hospitals NHS Trust		All	36	100	CVD 18	798	358	44.9
Stern Michael P[66]	2004	US	San Antonio Heart Study	SAHS	All	58	12.6	CVD 15	2570	156	6.1
Dunder K[22]	2004	Sweden	Uppsala Longitudinal Study of Adult Men	ULSAM	All	0	1.5	MI	1108	251	22.7
Dunder K[22]	2004	Sweden	Uppsala Longitudinal Study of Adult Men	ULSAM	All	0	1.5	Hard CHD 1 (10 yrs)	1108	33	3
Chambless LE[12]	2004	US	Atherosclerosis Risk in Communities Study	ARIC	All	55.3		Stroke 3	13161	376	2.9
Ducloux D[69]	2004	France	Consecutive renal transplant patients		All	36.9	10.8	Total CHD 1	344	27	7.8
Liu J[47]	2004	China	Chinese Multi-Provincial Cohort Study; individuals aged 35-64 yrs from 16 centers in 11 provinces (1992-1993) and Beijing (1996-1999)	MUCA	All	46.7	5.5	Hard CHD 1	30121	191	0.6
Erikssen G[24]	2004	Norway	Apparently healthy Norwegian men aged 40-60 yrs recruited from 5 govt agencies		All	0	0	CHD Mortality	2014	300	14.9
McEwan P[85]	2004	UK	Cardiff Diabetes Database (type 1 and type 2)		All	42.2	100	CVD 2	938	172	18.3
Koenig W[75]	2004	Germany	Men randomly selected from general population in 1984-5, 1989-90 and 1994-5		All	0	5.8	Hard CHD 1	3435	191	5.6
Greenland P[17]	2004	US	South Bay Heart Watch cohort	SBHW	All	10.2	0	Hard CHD 1	1029	84	8.2
Brindle P[73]	2003	UK	British Regional Heart Study; men aged 40-59 yrs randomly selected from registers of one general practice in each town	BRHS	All	0	1.1	Total CHD 1	6643	677	10.2
Brindle P[73]	2003	UK	British Regional Heart Study; men aged 40-59 yrs randomly selected from registers of one general practice in each town	BRHS	All	0	1.1	CHD mortality	6643	186	2.8
Milne R[81]	2003	New Zealand	People from workforce of nationwide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general electoral rolls of Auckland metro region (28%)		All	27		CVD 2 (5 yrs)	6354	411	6.5
Empana JP[80]	2003	Northern Ireland	PRIME cohort study (Belfast cohort)	PRIME	All	0		Hard CHD 1 (5 yr)	2399	61	2.5
Empana JP[80]	2003	Northern Ireland	PRIME cohort study (Belfast cohort)	PRIME	All	0		Total CHD 1 (5 yr)	2399	120	5
Empana JP[80]	2003	France	PRIME cohort study	PRIME-France	All	0		Hard CHD 1 (5 yr)	7359	106	1.4
Empana JP[80]	2003	France	PRIME cohort study	PRIME-France	All	0		Total CHD 1 (5 yr)	7359	197	2.7
Folsom A[13]	2161	US	Atherosclerosis Risk in Communities	ARIC	All	56.8		Hard CHD 2	14054	1064	7.6
Hense HW[61]	2003	Germany	PROCAM cohort; drawn from 52 companies and local govt authorities	PROCAM	All	36.3	2.8	Hard CHD 1	8682	338	3.9
Hense HW[61]	2003	Germany	MONICA Augsburg cohort; 1984/1985 and 1989/1990 surveys	MONICA-Augsburg	All	50.6	3.6	Hard CHD 1	5786	178	3.1
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	All	58	19	CVD 4 (10 yrs)	2102	459	21.8

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	All	58	19	CVD 4 (5 yrs)	2102	211	10
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) without DM	DUBBO-NoDM	All	58	0	CVD 4 (10 yrs)	1800	192	10.7
Bastuji-Garin S[37]	2002	W. Europe and Israel	INSIGHT trial cohort of middle-aged patients with hypertension	INSIGHT	All	55.3	19	Stroke 4	4147	96	2.3
Bastuji-Garin S[37]	2002	W. Europe and Israel	INSIGHT trial cohort of middle-aged patients with hypertension	INSIGHT	All	55.3	19	CVD 14	4147	231	5.6
Bastuji-Garin S[37]	2002	W. Europe and Israel	INSIGHT trial cohort of middle-aged patients with hypertension	INSIGHT	All	55.3	19	Total CHD 1	4147	124	3
Suka M[90]	2002	Japan	Employee health management center in a Japanese company		All	0		Total CHD 1	5611	384	6.8
Kothari V[54]	2002	United Status	Wisconsin Epidemiologic Study of Diabetic Retinopathy	WESDR	All	41.3	100	Stroke Mortality	4549	59	1.3
Orford JL[67]	2002	US	Normative Aging Study - male veterans	NAS	All	0	2.9	Total CHD 1	1393	206	14.8
Assmann G[27]	2002	Germany	PROCAM cohort; employees of 52 companies and local govt authorities with f/u every 2 years	PROCAM	All	0	6.7	Hard CHD 1	5159	325	6.3
Suka M[89]	2001	Japan	Males aged 30-59 completing annual health examinations between 1991-1993		All	0	8.5	Total CHD 1	5611	80	1.4
D'Agostino RB[4]	2001	US	Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam)	FRS, FRS-O	All	53.6	4.5	Hard CHD 1 (5 yr)	5251	130	2.5
D'Agostino RB[4]	2001	US	Atherosclerosis Risk in Communities Study	ARIC	All	56.7	8.6	Hard CHD 1 (5 yr)	14178	279	2
D'Agostino RB[4]	2001	US	Honolulu Heart Program	HHP	All	0	14	Hard CHD 1 (5 yr)	2755	77	2.8
D'Agostino RB[4]	2001	Puerto Rico	Puerto Rico Heart Health Program	PRHHP	All	0	7	Hard CHD 1 (5 yr)	8713	107	1.2
D'Agostino RB[4]	2001	US	Strong Heart Study (area of OK and Aberdeen area of ND and SD)	SHS	All	59.6	47.3	Hard CHD 1 (5 yr)	3782	69	1.8
D'Agostino RB[4]	2001	US	Cardiovascular Health Study	CHS	All	62.6	11.9	Hard CHD 1 (5 yr)	2557	115	4.5
Grover SA[68]	2000	Canada	Lipid Research Clinics Prevalence Study cohort	LRCPS	All	33	4.6	CHD Mortality	2218	62	2.8
Detrano RC[18]	1999	US	South Bay Heart Watch	SBHW	All	11	18	Hard CHD 2	1194	64	5.4
Detrano RC[18]	1999	US	South Bay Heart Watch	SBHW	All	11	18	Hard CHD 1	1194	46	3.9
Liao Y[3]	1999	US	First National Heatlh and Nutrition Examination Survey	NHANES I	All	58.4		CHD Mortality	6611	588	8.9
Liao Y[3]	1999	US	Framingham Heart Study (4th Exam)	FRS	All	55.7		CHD Mortality	4169	406	9.7
Liao Y[3]	1999	US	Second National Heatlh and Nutrition Examination Survey	NHANES II	All	53.5		CHD Mortality	5705	275	4.8
Paynter N[55]	2009	US	Women's Genome Health Study	WGHS	All	100	2.6	CVD 3	22129	715	3.2
de Ruijter W[42]	2009	Netherlands	Leiden 85-plus Study	L85	All	70.7	14.2	CVD Mortality	302	35	11.6
Ridker P[59]	2008	US	Physicians Health Study II	PHS-II	All	0	0	Hard CHD 2	10724	1072	10
Ridker P[59]	2008	US	Physicians Health Study II	PHS-II	All	0	0	CVD 15	10724	1294	12.1
Becker A[87]	2008	Germany	Munich	M-DM	All	39.9	100	Hard CHD 1	716	76	10.6
Becker A[87]	2008	Germany	Munich	M-DM	All	39.9	100	MI	716	40	5.6

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Becker A[87]	2008	Germany	Munich	M-DM	All	39.9	100	Hard CHD 2	716	163	22.8
Mainous A[11]	2008	US	Atherosclerosis Risk in Communities Study	ARIC	All	58	0	Hard CHD 2 (6 yr)	9307	430	4.6
Scheltens T[77]	2008	Netherlands	Monitoring Project on Cardiovascular Disease Risk Factors; persons randomly selected from 3 cities in Netherlands, aged 20-59 and no CVD	MP-CVDRF	All	53		CVD Mortality (10 yr)	39719	256	0.6
Cederholm J[43]	2008	Sweden	Swedish National Diabetes Register		All	43.1	100	CVD 5	11646	1482	12.7
Elkeles RS[88]	2008	UK	Patients with type 2 diabetes diagnosed by standard criteria and on standard diabetic therapy (diet, tablets, insulin) and aged 50-75 yrs, recruited from outpatient clinics in Central and West London	PREDICT	All	36.7	100		589		
Assmann G[28]	2008	Germany	Cohort of men and women employed in northwest Germany	PROCAM cohort	All	0		Hard CHD 1	7134	404	5.7
Vergnaud AC[36]	2008	France	Participants in Supplementation en Vitamines et Mineraux Antioxydants randomized primary prevention trial, followed annually since 1994/1995	SU.VI.MAX	All	0	2.4	Total CHD 1	3440	128	3.7
Wilson PWF[2]	1998	US	Framingham Coorth (11th Exam) Or Framingham Offspring (1st Exam)	FRS, FRS-O	All	53.4	4.5	Total CHD 1	5345	610	11.4
Liao Y[1]	1999	US	NHANES I and II (pooled)	NHANES I and II (pooled)	All	57.5		CHD death	18542	1451	7.8

Table 9b. Outcome Incidence Rates – Men

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Wilson PWF[2]	2008	US	Framingham Offspring Study	FRS-O	Men				2313		
Vergnaud AC[36]	2008	France	Participants in Supplementation en Vitamines et Mineraux Antioxydants randomized primary prevention trial, followed annually since 1994/1995	SU.VI.MAX	Men			Total CHD 1	3440	128	3.7
Vaidya D[10]	2007	US	John Hopkins Sibling Study	JHSS	Men			Total CHD 1	404	81	20
Becker A[41]	2008	Germany	Munich	M-DM	Men		100		430		
Gaizano TA[8]	2008	US	National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study	NHANES-I EFS	Men		3.56		2837		
Hippisley-Cox J[34]	2008	UK	Members of the QRESEARCH database	QRESEARCH	Men			CVD 1	1136761	55667	4.9
Simmons RK[35]	2008	UK	European Prospective Investigation of Cancer [EPIC]–Norfolk	EPIC-Norfolk	Men			Total CHD 1	4513	430	9.5
Mainous A[11]	2008	US	Atherosclerosis Risk in Communities Study	ARIC	Men		0	Hard CHD 2 (6 yr)	3901	299	7.7
D'Agostino RB[6]	2008	US	Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)	FRS, FRS-O	Men			CVD 2	3969	718	18.1
Becker A[87]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological examination		Men			Hard CHD 1	1018	110	10.8

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Becker A[87]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological examination		Men			Hard CHD 2	1018	237	23.3
Hippisley-Cox JC[62]	2008	UK	THIN cohort; data from 288 UK practices using e INPS Vision system (~20%); including 24 practices (54709 patients) from Scotland and 14 practices (36904) from Northern Ireland	THIN	Men		0	CVD 10 (10 yr)	529813	52292	9.9
Lindman AS[71]	2007	Norway	Norwegian Counties Study (ages 40-59)	NCS	Men		0	CVD Mortality	24359	423	1.7
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	Men		14.6	Hard CHD 1 (10yr)	357	74	20.7
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	Men		14.6	Hard CHD 1 (5yr)	357	35	9.8
Hippisley-Cox JC[40]	2007	UK	QRESEARCH database, constructed from 160 UK general practices; validation cohort	QRESEARCH (Validation)	Men		0	CVD 4 (10 yr)	305140	28317	9.3
Jee SH[46]	2008	Korea	Koreans insured by National Health Insurance Corporation (NHIC)		Men		4.8	Stroke 6 (10 yr)	767885	27007	3.5
Koller MT[84]	2007	Netherlands	Rotterdam Study		Men			Hard CHD 1	2452	351	14.3
Berry JD[5]	2007	US	Chicago young adults	CHA	Men			Hard CHD 1 (10 yr)	10375	24	0.2
Berry JD[5]	2007	US	Chicago young adults	CHA	Men			Hard CHD 1 (30 yr)	10375	271	2.6
Strom Moller C[23]	2007	Sweden	Uppsala Longitudinal Study of Adult Men (baseline age 70 cohort)	ULSAM	Men			CVD Mortality	1221	139	11.4
Mainous AG[14]	2007	US	Atherosclerosis Risk In Communities Study	ARIC	Men				6239		
Buyken AE[74]	2007	Germany	Men at work in public authorities and large companies in the region of Munster, Germany		Men			Hard CHD 1	4818	325	6.7
Miyasaka Y[9]	2007	US	Adult residents of Olmsted County, MN		Men			Total CHD 1	1318	227	17.2
Barzi F[45]	2007	China	Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort	APCSC China	Men			CVD 8	15046	418	2.8
Reissigova J[25]	2007	Czech Republic	Study of Atherosclerotic Risk Factors	STULONG	Men			Total CHD 1	646	106	16.4
Marrugat J[38]	2007	Spain	Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidencts Cohort	VERIFICA	Men		18.8	Total CHD 1	2447	112	4.6
Woodward M[30]	2007	Scotland	Scottish Hearth Health Extended Cohort	SHHEC	Men		1.5	CVD 11 (10 yr)	6540	743	11.4
Macfarlane PW[32]	2007	Scotland	West of Scotland Coronary Prevention Study	WOSCOPS	Men				6595		
Lee ET[16]	2006	US	Strong Heart Study	SHS	Men		39.7	Hard CHD 1	1722	349	20.3
Donnan PT[39]	2006	UK	Patients with type 2 diabetes registered with a Tayside GP	DARTS	Men				2403		

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	Men			Hard CHD 1 (20 yrs)	5077	763	15
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	Men			Stroke 1 (20 yrs)	5077	291	5.7
Wannamethee SG[72]	2005	UK	British Regional Heart Study; men aged 40-59 yrs	BRHS	Men			Diabetes type 2 (20 yrs)	5077	299	5.9
Brindle PM[70]	2005	Scotland	Renfrew and Paisley Study		Men		1.4		5626		
Silventoinen K[78]	2005	Finland	Persons aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Men		2	Stroke 1	8268	177	2.1
Silventoinen K[78]	2005	Finland	Persons aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Men		2	Total CHD 1	8268	480	5.8
Silventoinen K[78]	2005	Finland	Persons aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Men		2	All-Cause Mortality	8268	499	6
Cooper JA[31]	2005	UK	Second Northwick Park Heart Study	NPHS-II	Men			Hard CHD 2	2732	219	8
Bhopal R[83]	2005	UK	Newcastle Heart Project: Europeans	NHP Europe	Men		5		362		
McNeill AM[15]	2005	US	Atherosclerosis Risk in Communities Study	ARIC	Men				5208		
Ferrario M[29]	2005	Italy	CUORE	CUORE	Men			Hard CHD 2	6865	312	4.5
Wang Z[82]	2005	Australia	Aboriginal community		Men		9.3	Total CHD 1	356	30	8.4
Stephens JW[33]	2004	UK	Diabetes clinic at University College London Hospitals NHS Trust		Men		100		504		
Chambless LE[12]	2004	US	Atherosclerosis Risk in Communities Study	ARIC	Men			Stroke 3	5887	155	2.6
Liu J[47]	2004	China	Chinese Multi-Provincial Cohort Study; individuals aged 35-64 yrs from 16 centers in 11 provinces (1992-1993) and Beijing (1996-1999)	MUCA	Men		6.9	Hard CHD 1	16065	137	0.9
Erikssen G[24]	2004	Norway	Apparently healthy Norwegian men aged 40-60 yrs recruited from 5 govt agencies		Men			CHD Mortality	2014	300	14.9
McEwan P[85]	2004	UK	Cardiff Diabetes Database (type 1 and type 2)		Men			CVD 2	542	105	19.4
Koenig W[75]	2004	Germany	Men randomly selected from general population in 1984-5, 1989-90, and 1994-5		Men			Hard CHD 1	3435	191	5.6
Brindle P[73]	2003	UK	British Regional Heart Study; men aged 40-59 yrs randomly selected from registers of one general practice in each town	BRHS	Men			Total CHD 1	6643	677	10.2
Brindle P[73]	2003	UK	British Regional Heart Study; men aged 40-59 yrs randomly selected from registers of one general practice in each town	BRHS	Men			CHD mortality	6643	186	2.8

Appendix L. Summary Table 9

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Milne R[81]	2003	New Zealand	People recruited from workforce of nation-wide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) & general electoral rolls of Auckland metro region (28%)		Men			CVD 2 (5 yrs)	4638	325	7
Empana JP[80]	2003	Northern Ireland	PRIME cohort study (Belfast cohort)	PRIME	Men			Total CHD 1 (5 yr)	2399	120	5
Empana JP[80]	2003	Northern Ireland	PRIME cohort study (Belfast cohort)	PRIME	Men			Hard CHD 1 (5 yr)	2399	61	2.5
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	Men			CVD 4 (10 yrs)	878	222	25.3
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	Men			CVD 4 (5 yrs)	878	106	12.1
Suka M[90]	2002	Japan	Employee health management center in a Japanese company		Men			Total CHD 1	5611	384	6.8
Orford JL[67]	2002	US	Normative Aging Study - male veterans	NAS	Men			Total CHD 1	1393	206	14.8
Assmann G[27]	2002	Germany	PROCAM; cohort of employees of 52 companies and local govt authorities with f/u every 2 yrs	PROCAM	Men			Hard CHD 1	5159	325	6.3
Suka M[89]	2001	Japan	Males aged 30-59 completing annual health examinations between 1991-1993		Men			Total CHD 1	5611	80	1.4
D'Agostino RB[4]	2001	US	Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam)	FRS, FRS-O	Men		5	Hard CHD 1 (5 yr)	2439	91	3.7
Grover SA[68]	2000	Canada	Lipid Research Clinics Prevalence Study cohort	LRCPS	Men		4.7		1484		
Liao Y[3]	1999	US	Framingham Heart Study (4th Exam)	FRS	Men			CHD Mortality	1846	253	13.7
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	Men			CHD Mortality	20168	244	1.2
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	Men			CVD Mortality	20168	371	1.8
Liao Y[1]	1999	US	First National Heatlh and Nutrition Examination Survey	NHANES I	Men			CHD Mortality	2753	331	12
Liao Y[1]	1999	US	First National Heatlh and Nutrition Examination Survey	NHANES I	Men			CHD Mortality (15 yr)	2753	286	10.4
Liao Y[3]	1999	US	Second National Heatlh and Nutrition Examination Survey	NHANES II	Men			CHD Mortality	2655	176	6.6
Lindman AS[71]	2007	Norway	Cardiovascular Program in Norway (ages 60-69)	CP-Norway	Men		0	CVD Mortality	3740	295	7.9
Hippisley-Cox JC[34]	2008	UK	QRESEARCH	QRESEARCH	Men		0	CVD 10 (10 yr)	301622	27629	9.2
Hense HW[61]	2003	Germany	PROCAM cohort; drawn from 52 companies and local govnt authorities	PROCAM	Men		2.9	Hard CHD 1	5527	307	5.6
Hense HW[61]	2003	Germany	MONICA Augsburg cohort, 1984/1985 and 1989/1990 surveys	MONICA-Augsburg	Men		4.2	Hard CHD 1	2861	146	5.1

Appendix L. Summary Table 9

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Bhopal R[83]	2005	South Asia	Newcastle Heart Project - South Asians	NHP-South Asia	Men		21		262		
Bhopal R[83]	2005	India	Newcastle Heart Project - Indian	NHP-India	Men		16		85		
Bhopal R[83]	2005	Pakistan	Newcastle Heart Project - Pakistani	NHP-Pakistan	Men		26		129		
D'Agostino RB[4]	2001	US	Atherosclerosis Risk in Communities Study	ARIC	Men			Hard CHD 1 (5 yr)	6133	195	3.2
D'Agostino RB[4]	2001	US	Honolulu Heart Program	HHP	Men			Hard CHD 1 (5 yr)	2755	77	2.8
D'Agostino RB[4]	2001	Puerto Rico	Puerto Rico Heart Health Program	PRHHP	Men			Hard CHD 1 (5 yr)	8713	107	1.2
D'Agostino RB[4]	2001	US	Strong Heart Study (OK and Aberdeen area of ND and SD)	SHS	Men		42	Hard CHD 1 (5 yr)	1527	46	3
D'Agostino RB[4]	2001	US	Cardiovascular Health Study	CHS	Men		15	Hard CHD 1 (5 yr)	956	71	7.4
Empana JP[80]	2003	France	PRIME cohort study	PRIME-France	Men			Hard CHD 1 (5 yr)	7359	106	1.4
Empana JP[80]	2003	France	PRIME cohort study	PRIME-France	Men			Total CHD 1 (5 yr)	7359	197	2.7
Kothari V[54]	2002	United Status	Wisconsin Epidemiologic Study of Diabetic Retinopathy	WESDR	Men						
Wilson PWF[2]	1998	US	Framingham Coorth (11th Exam) Or Framingham Offspring (1st Exam)	FRS, FRS-O	Men		5.2	Total CHD 1	2489	383	15.4
Cederholm J[43]	2008	Sweden	Swedish National Diabetes Register		Men		100		6628		
Scheltens T[77]	2008	Netherlands	Monitoring Project on Cardiovascular Disease Risk Factors; persons randomly selected from 3 cities in Netherlands, aged 20-59 and no CVD	MP-CVDRF	Men			CVD Mortality (10 yr)	18217	189	1
Assmann G[28]	2008	Germany	Cohort of men and women employed in northwest Germany	PROCAM cohort	Men			Hard CHD 1	7134	404	5.7
Ridker P[20]	2008	US	Physicians Health Study II	PHS-II	Men		0	CVD 15	10724	1294	12.1
Ridker P[20]	2008	US	Physicians Health Study II	PHS-II	Men		0	Hard CHD 2	10724	1072	10
Folsom A[13]	2003	US	Atherosclerosis Risk in Communities	ARIC	Men			Hard CHD 2	6071	719	11.8
Liao Y[1]	1999	US	NHANES I and II (pooled)	NHANES I and II (pooled)	Men			CHD death	7877	778	9.9
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) without DM	DUBBO-NoDM	Men			CVD 4 (10 yrs)	755	105	13.9

Table 9c. Outcome Incidence Rates – Women

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Wilson PWF[7]	2008	US	Framingham Offspring Study	FRS-O	Women				2467		
Vaidya D[10]	2007	US	John Hopkins Sibling Study	JHSS	Women			Total CHD 1	380	27	7.1
Becker A[41]	2008	Germany	Munich	M-DM	Women		100		286		
Gaizano TA[8]	2008	US	National Health and Nutrition Examination Survey I Epidemiologic Follow-Up Study	NHANES-I EFS	Women		4.09		3349		
Paynter N[55]	2009	US	Women's Genome Health Study	WGHS	Women			CVD 3	22129	715	3.2

Appendix L. Summary Table 9

Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Hippisley-Cox J[34]	2008	UK	Members of the QRESEARCH database	QRESEARCH	Women			CVD 1	1149054	41042	3.6
Simmons RK[35]	2008	UK	European Prospective Investigation of Cancer [EPIC]–Norfolk	EPIC-Norfolk	Women			Total CHD 1	5782	250	4.3
Mainous A[11]	2008	US	Atherosclerosis Risk in Communities Study	ARIC	Women		0	Hard CHD 2 (6 yr)	5406	131	2.4
D'Agostino RB[6]	2008	US	Framingham Cohort (11th) (68-71) & Offspring 1st (71-75) & Offspring (3rd 84-87)	FRS, FRS-O	Women			CVD 2	4522	456	10.1
Becker A[87]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological examination		Women			Hard CHD 2	708	144	20.3
Becker A[87]	2008	Germany	Consecutive patients referred by primary care provider for preventive cardiological examination		Women			Hard CHD 1	708	70	9.9
Hippisley-Cox JC[62]	2008	UK	THIN cohort; data from 288 UK practices using INPS Vision system (~20%); includ-ing 24 practices (54709 patients) from Scotland and 14 practices (36904) from Northern Ireland	THIN	Women		0	CVD 10 (10 yr)	542987	35566	6.6
Lindman AS[71]	2007	Norway	Norwegian Counties Study (ages 40-59)	NCS	Women		0	CVD Mortality	24785	94	0.4
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	Women		13.7	Hard CHD 1 (10yr)	577	56	9.7
Weiner DE[64]	2007	US	Atherosclerosis Risk In Communities and Cardiovascular Health Study trials with CKD	ARIC, CHS	Women		13.7	Hard CHD 1 (5yr)	577	30	5.2
Hippisley-Cox JC[40]	2007	UK	QRESEARCH database, constructed from 160 UK general practices; validation cohort	QRESEARCH (Validation)	Women		0	CVD 4 (10 yr)	309413	20421	6.6
Jee SH[46]	2008	Korea	Koreans insured by National Health Insurance Corporation (NHIC)		Women		4.1	Stroke 6 (10 yr)	437383	15988	3.7
Koller MT[84]	2007	Netherlands	Rotterdam Study		Women			Hard CHD 1	4343	448	10.3
Mainous AG[14]	2007	US	Atherosclerosis Risk In Communities Study	ARIC	Women				8104		
Miyasaka Y[9]	2007	US	Adult residents of Olmsted County, MN		Women			Total CHD 1	1450	236	16.3
Denes P[63]	2007	US	Women's Health Initiative study	WHI	Women			CVD 15	14749	595	4
Denes P[63]	2007	US	Women's Health Initiative study	WHI	Women			Hard CHD 1	14749	246	1.7
Ridker PM[93]	2007	US	Women's Health Study (Validation Cohort)	WHS	Women			CVD 3	8158	262	3.2
Barzi F[45]	2007	China	Asia Pacific Cohort Studies Collaboration - Total Chinese Cohort	APCSC China	Women			CVD 8	10636	124	1.2
Marrugat J[38]	2007	Spain	Validity of the Adapted Framingham Individual Risk Equation for Coronary Incidencts Cohort	VERIFICA	Women		14.6	Total CHD 1	3285	68	2.1
Woodward M[30]	2007	Scotland	Scottish Hearth Health Extended Cohort	SHHEC	Women		1.4	CVD 11 (10 yr)	6757	422	6.2

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Woodward M[30]	2007	Scotland	Scottish Hearth Health Extended Cohort	SHHEC	Women		1.3	CVD 11 (10 yr)	6757	422	6.2
Cook NR[19]	2006	US	Women's Health Study	WHS	Women			CVD 3	15048	498	3.3
Lee ET[16]	2006	US	Strong Heart Study	SHS	Women		46.7	Hard CHD 1	2650	375	14.2
Donnan PT[39]	2006	UK	Patients with type 2 diabetes registered with a Tayside GP	DARTS	Women				2166		
May MD[44]	2006	UK	British Women's Heart and Health Cohort	BWHH	Women			CVD 11	3582	240	6.7
May MD[44]	2006	UK	British Women's Heart and Health Cohort	BWHH	Women			Total CHD 3	3582	198	5.5
Brindle PM[70]	2005	Scotland	Renfrew and Paisley Study		Women		1.1		6678		
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Women		1	Total CHD 1	9457	219	2.3
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Women		1	Stroke 1	9457	147	1.6
Silventoinen K[78]	2005	Finland	Individuals aged 25-65 yrs identified from Finnish population register & participating in 3 cross-sectional risk factor surveys in Finland in 1987, 1992, and 1997		Women		1	All-Cause Mortality	9457	266	2.8
Bhopal R[83]	2005	UK	Newcastle Heart Project: Europeans	NHP Europe	Women		3		363		
McNeill AM[15]	2005	US	Atherosclerosis Risk in Communities Study	ARIC	Women				6881		
Wang Z[82]	2005	Australia	Aboriginal community		Women		16	Total CHD 1	331	38	11.5
Stephens JW[33]	2004	UK	Diabetes clinic at University College London Hospitals NHS Trust		Women		100		294		
Chambless LE[12]	2004	US	Atherosclerosis Risk in Communities Study	ARIC	Women			Stroke 3	7274	221	3
Liu J[47]	2004	China	Chinese Multi-Provincial Cohort Study; individuals aged 35-64 from 16 centers in 11 provinces (1992-3) and Beijing (1996-9)	MUCA	Women		5	Hard CHD 1	14056	54	0.4
McEwan P[85]	2004	UK	Cardiff Diabetes Database (type 1 and 2)		Women			CVD 2	396	67	16.9
Milne R[81]	2003	New Zealand	People recruited from workforce of nation-wide multi-industry corporation (Fletcher Challenge, Ltd. [72%]) and general elector-al rolls of Auckland metro region (28%)		Women			CVD 2 (5 yrs)	1716	86	5
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	Women			CVD 4 (5 yrs)	1224	105	8.6
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) (with DM)	DUBBO-All	Women			CVD 4 (10 yrs)	1224	237	19.4
D'Agostino RB[4]	2001	US	Framingham Study (11th Exam) or Framingham Offspring Study (1st Exam)	FRS, FRS-O	Women		4	Hard CHD 1 (5 yr)	2812	39	1.4
Grover SA[68]	2000	Canada	Lipid Research Clinics Prevalence Study cohort	LRCPS	Women		4.2		734		
Liao Y[1]	1999	US	Framingham Heart Study (4th Exam)	FRS	Women			CHD Mortality	2323	153	6.6

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Study 1st Author	Study Yr Pub	Country	Cohort	Cohort Abbrev	Group Name	Female %	Diabetes %	Outcome Name	Enrollment	Outcomes	Event %
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	Women			CVD Mortality	24481	116	0.5
Ulmer HB[76]	2005	Austria	Vorarlberg Health Monitoring and Promotion Program (VHM&PP); cohort of individuals undergoing general health examinations in Vorarlberg province	VHM&PP	Women			CHD Mortality	24481	56	0.2
Liao Y[3]	1999	US	First National Heatlh and Nutrition Examination Survey	NHANES I	Women			CHD Mortality	3858	257	6.7
Liao Y[3]	1999	US	Second National Heatlh and Nutrition Examination Survey	NHANES II	Women			CHD Mortality	3050	99	3.2
Lindman AS[71]	2007	Norway	Cardiovascular Program in Norway (ages 60-69)	CP-Norway	Women		0	CVD Mortality	4345	132	3
Hippisley-Cox JC[34]	2008	UK	QRESEARCH	QRESEARCH	Women		0	CVD 10 (10 yr)	306111	19928	6.5
Hense HW[61]	2003	Germany	PROCAM cohort; drawn from 52 companies and local govt authorities	PROCAM	Women		2.6	Hard CHD 1	3155	31	1
Hense HW[61]	2003	Germany	MONICA Augsburg cohort; 1984/1985 and 1989/1990 surveys	MONICA-Augsburg	Women		3	Hard CHD 1	2925	32	1.1
Bhopal R[83]	2005	South Asia	Newcastle Heart Project - South Asians	NHP-South Asia	Women		20		314		
Bhopal R[83]	2005	India	Newcastle Heart Project - Indian	NHP - India	Women		16		145		
Bhopal R[83]	2005	Pakistan	Newcastle Heart Project - Pakistani	NHP-Pakistan	Women		28		135		
D'Agostino RB[4]	2001	US	Atherosclerosis Risk in Communities Study	ARIC	Women			Hard CHD 1 (5 yr)	8045	84	1
D'Agostino RB[4]	2001	US	Strong Heart Study (OK and Aberdeen area of ND and SD)	SHS	Women		51	Hard CHD 1 (5 yr)	2255	23	1
D'Agostino RB[4]	2001	US	Cardiovascular Health Study	CHS	Women		10	Hard CHD 1 (5 yr)	1601	44	2.7
Kothari V[54]	2002	United Status	Wisconsin Epidemiologic Study of Diabetic Retinopathy	WESDR	Women						
Wilson PWF[2]	1998	US	Framingham Coorth (11th Exam) Or Framingham Offspring (1st Exam)	FRS, FRS-O	Women		4	Total CHD 1	2856	227	7.9
Cederholm J[43]	2008	Sweden	Swedish National Diabetes Register		Women		100		5018		
Scheltens T[77]	2008	Netherlands	Monitoring Project on Cardiovascular Disease Risk Factors; persons randomly selected from 3 cities in Netherlands, aged 20-59 and no CVD	MP-CVDRF	Women			CVD Mortality (10 yr)	21502	67	0.3
Folsom A[13]	2161	US	Atherosclerosis Risk in Communities	ARIC	Women			Hard CHD 2	7983	345	4.3
Liao Y[1]	1999	US	NHANES I and II (pooled)	NHANES I and II (pooled)	Women			CHD death	10665	673	6.3
Simons LA[56]	2003	Australia	Dubbo Study cohort of elderly Australians (ages 60-79) without DM	DUBBO-NoDM	Women			CVD 4 (10 yrs)	1045	87	8.3

Appendix M. Summary Table 10

Table 10a. Quality Grading – Study Breakdown

Year	Author	Does the article state both the inclusion/exclusion criteria and any additional exclusions that were made after cohort inception?	Was the study population well described?	Was the loss to followup over the course of the study less than 20%?	If more than 20% were lost, did the authors acknowledge the potential effects on the model?	Did missing data cause more than 20% of the population to be excluded from the model?	If more than 20% of the data was excluded due to missing data, was a missing data technique applied?	For validation studies, did the authors report both discrimination and calibration?	For model development, did the authors assess internal validation?
Americas									
1999	Detrano RC[18]	+	++	-	NA	-	NA	++	+
1999a	Liao Y[3]	+	++	-	NA	-	NA	++	--
1999b	Liao Y[1]	++	++	+	NA	--	NA	NA	--
2000	Grover SA[68]	+	++	-	NA	-	NA	+	NA
2001	D'Agostino RB[4]	+	++	-	NA	-	NA	++	--
2002	Kothari V[54]	++	+	++	NA	--	NA	NA	-
2002	Orford JL[67]	+	+	--	NA	NA	NA	+	NA
2003	Folsom A[13]	++	+	-	-	+	NA	++	--
2004	Chambless LE[12]	++	++	--	NA	--	NA	+	+
2004	Greenland P[17]	+	+	+	NA	--	NA	+	--
2004	Stern MP[66]	++	-	-	NA	--	NA	+	NA
2005	Arad Y[91]	++	+	+	NA	-	-	+	--
2005	McNeill AM[15]	++	++	+	NA	--	NA	+	NA
2006	Cook NR[19]	+	++	-	-	-	-	++	+
2006	Lee ET[16]	+	++	+	NA	-	-	NA	+
2007	Berry JD[5]	++	+	+	NA	--	NA	-	NA
2007	Denes P[63]	+	++	-	NA	--	NA	+	--
2007	Mainous AG[14]	-	++	-	-	-	-	+	+
2007	Miyasaka Y[9]	++	++	-	-	+	NA	--	--
2007	Ridker PM[20]	++	++	-	-	-	NA	++	+
2007	Vaidya D[10]	+	++	-	NA	-	NA	-	NA
2007	Weiner DE[64]	++	++	+	NA	--	NA	++	NA
2008	D'Agostino RB[6]	+	++	-	NA	-	NA	++	+
2008	Gaizano TA[8]	++	++	-	+	--	NA	++	+
2008	Mainous AG[11]	-	+	-	-	-	-	+	--
2008	Wilson P[7]	++	++	+	NA	--	NA	+	--
2009	Paynter N[55]	++	++	-	-	--	NA	++	--
Asia									
2001	Suka M[89]	++	++	+	NA	+	NA	++	NA
2002	Suka M[90]	+	-	-	--	-	--	+	NA
2004	Liu J[47]	+	+	+	NA	+	-	++	--
2007	Barzi F[45]	+	+	-	NA	-	NA	++	--
2007	Yang X[50]	++	++	-	NA	-	NA	++	+
2008	Jee SH[46]	++	++	+	NA	--	NA	++	+
2008	Yang X[49]	+	++	-	NA	-	NA	++	+
Europe									
2002	Assmann G[27]	+	+	+	NA	-	-	++	--

Appendix M. Summary Table 10

Year	Author	Does the article state both the inclusion/exclusion criteria and any additional exclusions that were made after cohort inception?	Was the study population well described?	Was the loss to followup over the course of the study less than 20%?	If more than 20% were lost, did the authors acknowledge the potential effects on the model?	Did missing data cause more than 20% of the population to be excluded from the model?	If more than 20% of the data was excluded due to missing data, was a missing data technique applied?	For validation studies, did the authors report both discrimination and calibration?	For model development, did the authors assess internal validation?
2002	Bastuji-Garin S[37]	+	+	-	-	-	-	+	NA
2003	Brindle PM[73]	+	+	+	NA	--	NA	++	NA
2003	Empana JP[80]	-	+	-	-	-	-	++	NA
2003	Hense HW[61]	+	+	-	-	-	-	+	NA
2003	Milne R[81]	+	-	-	-	--	NA	+	NA
2003	Simons LA[56]	-	+	--	--	-	-	--	NA
2004	Ducloux D[69]	+	++	+	NA	--	NA	--	--
2004	Dunder K[22]	++	++	+	NA	+	--	++	+
2004	Erikssen G[24]	+	+	+	NA	-	-	NA	+
2004	Koenig W[75]	++	++	+	NA	--	NA	+	--
2004	McEwan P[85]	+	+	--	--	-	+	+	NA
2004	Stephens JW[33]	++	++	--	+	--	NA	++	NA
2005	Bernard S[21]	+	++	-	-	-	-	+	--
2005	Bhopal R[83]	-	+	-	-	NA	NA	--	--
2005	Brindle PM[70]	+	++	-	-	--	NA	+	NA
2005	Cooper JA[31]	+	++	-	-	-	-	++	NA
2005	Ferrario M[29]	+	-	-	-	-	-	++	+
2005	Guzder RN[86]	++	++	+	NA	--	NA	++	NA
2005	Silventoinen K[78]	-	++	-	-	-	-	+	NA
2005	Ulmer HB[76]	+	+	-	-	-	-	+	NA
2005	Vliegenthart R[79]	++	++	+	NA	--	NA	+	--
2005	Wang Z[82]	++	++	+	NA	+	--	-	NA
2005	Wannamethee SG[72]	++	++	+	NA	--	NA	+	--
2006	Donnan PT[39]	+	++	-	-	+	--	NA	+
2006	May MD[44]	+	+	-	-	-	+	++	--
2007	Assmann G[26]	+	++	-	NA	-	NA	+	+
2007	Buyken AE[74]	+	-	-	NA	-	NA	--	NA
2007	Hippisley-Cox JC[40]	+	++	--	--	-	-	++	+
2007	Koller MT[84]	+	+	+	NA	--	NA	++	NA
2007	Lindman AS[71]	++	+	-	-	--	NA	+	NA
2007	Macfarlane PW[32]	+	++	-	-	-	-	NA	--
2007	Marrugat J[38]	++	+	+	NA	--	NA	++	NA
2007	Reissigova J[25]	++	+	+	NA	-	NA	++	NA
2007	Strom Moller C[23]	++	++	--	--	-	-	+	--
2007	Woodward M[30]	-	++	--	NA	--	+	+	--
2008	Assmann G[28]	+	++	-	-	--	NA	+	NA
2008	Becker A[41]	++	++	+	NA	--	NA	+	--
2008	Becker A[87]	+	++	+	NA	-	-	+	NA
2008	Cederholm J[43]	-	+	-	-	--	NA	NA	--

Appendix M. Summary Table 10

Year	Author	Does the article state both the inclusion/exclusion criteria and any additional exclusions that were made after cohort inception?	Was the study population well described?	Was the loss to followup over the course of the study less than 20%?	If more than 20% were lost, did the authors acknowledge the potential effects on the model?	Did missing data cause more than 20% of the population to be excluded from the model?	If more than 20% of the data was excluded due to missing data, was a missing data technique applied?	For validation studies, did the authors report both discrimination and calibration?	For model development, did the authors assess internal validation?
2008	de Ruijter W[42]	++	++	-	NA	--	NA	+	+
2008	Elkeles R[88]	+	++	--	NA	-	-	+	NA
2008	Hippisley-Cox JC[62]	++	++	+	NA	-	+	++	--
2008	Hippisley-Cox JC[34]	++	++	-	-	-	+	++	NA
2008	Scheltens T[77]	+	++	-	-	--	NA	++	NA
2008	Simmons RK[35]	++	++	-	NA	--	NA	+	--
2008	Vergnaud A[36]	++	++	+	NA	-	-	++	NA

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Appendix O. List of Excluded Studies

Reasons for Exclusion:
X-1. Not relevant to topic
X-1a. Post-PCI
X-1b. Post-CABG
X-1c. Diagnostic
X-1d. Prognostic
X-1e. Etiologic
X-1f. Not a risk tool
X-1g. Other
X-2. Does not attempt internal or external validation (evaluation of risk model)
X-3. Not published in English
X-4. Not original research
X-5. Not an eligible study type
X-6. Does not report relevant outcomes
X-7. Study size of <200
X-8. Study population symptomatic for CVD
X-9. Study population aged <18 years

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28. Ejection fraction assessment and survival: an analysis of the Sudden Cardiac Death in Heart Failure Trial (SCD-HeFT). Am Heart J. [Comparative Study Multicenter Study Randomized Controlled Trial Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2008 Dec;156(6):1196-200. Epub 2008 Nov 6. X-1,X-2,X-6,X-8
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30. First report on 30-day and operative mortality in risk model of isolated coronary artery bypass grafting in Japan. Ann Thorac Surg. 2008 Dec;86(6):1866-72. X-1,X-8
31. Frequency, predictors, and neurologic outcomes of vaso-occlusive strokes associated with cardiac surgery in children. Pediatrics. [Research Support, Non-U.S. Gov't]. 2008 Dec;122(6):1292-8. X-1,X-2,X-8
32. Genetic testing for atherosclerosis risk: inevitability or pipe dream? Can J Cardiol. [Research Support, Non-U.S. Gov't Review]. 2008 Nov;24(11):851-4. X-2,X-4,X-5,X-6,X-7
33. Impact of clopidogrel in patients with acute coronary syndromes requiring coronary artery bypass surgery: a multicenter analysis. J Am Coll Cardiol. [Comparative Study Multicenter Study Research Support, Non-U.S. Gov't]. 2008 Nov 8;52(21):1693-701. X-1,X-2,X-8
34. Impact of surgical ventricular restoration on diastolic function: implications of shape and residual ventricular size. Ann Thorac Surg. 2008 Dec;86(6):1849-54. X-1,X-2,X-6,X-7,X-8
35. Inflammation and hemostasis biomarkers for predicting stroke in postmenopausal women: the Women's Health Initiative Observational Study. J Stroke Cerebrovasc Dis. [Research Support, N.I.H., Extramural Research Support, U.S. Gov't, Non-P.H.S.]. 2008 Nov-Dec;17(6):344-55. X-5,X-8
36. Lack of observed association between high plasma osteoprotegerin concentrations and ischemic stroke risk in a healthy population. Clin Chem. 2008 Dec;54(12):1969-74. Epub 2008 Oct 30. X-1,X-2,X-5,X-8
37. Lower pretreatment cerebral blood volume affects hemorrhagic risks after intra-arterial revascularization in acute stroke. Neurosurgery. [Multicenter Study]. 2008 Nov;63(5):874-8; discussion 878-9. X-1,X-2,X-6,X-8
38. Nurse-led risk assessment/management clinics reduce predicted cardiac morbidity and mortality in claudicants. J Vasc Nurs. 2008 Dec;26(4):118-22. X-1,X-2,X-6,X-7
39. Paclitaxel-eluting versus bare-metal stents in acute ST elevation myocardial infarction (STEMI). Crit Pathw Cardiol. [Comparative Study]. 2008 Dec;7(4):232-8. X-1,X-2,X-7,X-8
40. Predicting future risk of depressive episode in adolescents: the Chicago Adolescent Depression Risk Assessment (CADRA). Ann Fam Med. [Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2008 Nov-Dec;6(6):503-11. X-1,X-6

41. Predicting postoperative renal failure requiring dialysis, and an analysis of long-term outcome in patients undergoing valve surgery. J Heart Valve Dis. [Validation Studies]. 2008 Nov;17(6):657-65. X-1,X-6,X-8
42. Predictive value of myocardial perfusion single-photon emission computed tomography and the impact of renal function on cardiac death. Circulation. 2008 Dec 9;118(24):2540-9. Epub 2008 Dec 1. X-1,X-2,X-8
43. Predictors for contrast media-induced nephropathy and long-term survival: prospectively assessed data from the randomized controlled Dialysis-Versus-Diuresis (DVD) trial. Can J Cardiol. [Randomized Controlled Trial Research Support, Non-U.S. Gov't]. 2008 Nov;24(11):845-50. X-1,X-2
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46. A proposed functional clinical classification predicts in-hospital and long-term survival in the setting of acute right ventricular infarction. Arch Cardiol Mex. [Validation Studies]. 2008 Oct-Dec;78(4):369-78. X-1,X-8
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48. Results and predictors of early and late outcome of coronary artery bypass graft surgery in patients with ejection fraction less than 20%. Arch Cardiovasc Dis. 2008 Sep;101(9):547-56. Epub 2008 Nov 20. X-1,X-2,X-8
49. Revisiting rose: comparing the benefits and costs of population-wide and targeted interventions. Milbank Q. [Comparative Study Research Support, N.I.H., Extramural]. 2008 Dec;86(4):581-600. X-1,X-2,X-4,X-5,X-6,X-7,X-8
50. Risk predictors of retroperitoneal hemorrhage following percutaneous coronary intervention. Am J Cardiol. 2008 Dec 1;102(11):1473-6. Epub 2008 Sep 11. X-1X-2,X-6,X-8
51. A risk score to predict intracranial hemorrhage after recombinant tissue plasminogen activator for acute ischemic stroke. J Stroke Cerebrovasc Dis. [Multicenter Study Research Support, Non-U.S. Gov't]. 2008 Nov-Dec;17(6):331-3. X-1,X-8
52. Role of myocardial perfusion imaging in patients with end-stage renal disease undergoing coronary angiography. Am J Cardiol. 2008 Dec 1;102(11):1451-6. Epub 2008 Sep 11. X-1,X-2,X-6,X-7,X-8
53. Short sleep duration as an independent predictor of cardiovascular events in Japanese patients with hypertension. Arch Intern Med. [Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2008 Nov 10;168(20):2225-31. X-1,X-2
54. Significance of the treadmill scores and high-risk criteria for exercise testing in non-high-risk patients with unstable angina and an intermediate Duke treadmill score. Acta Cardiol. [Comparative Study]. 2008 Oct;63(5):557-64. X-1,X-7,X-8

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55. A simple algorithm to predict incident kidney disease. Arch Intern Med. [Research Support, N.I.H., Extramural
Research Support, Non-U.S. Gov't Validation Studies]. 2008 Dec 8;168(22):2466-73. X-1,X-6
56. Simultaneous aortic and mitral valve replacement in octogenarians: a viable option? Ann Thorac Surg. 2008 Dec;86(6):1804-8. X-1,X-2,X-8
57. TCF7L2 variant genotypes and type 2 diabetes risk in Brazil: significant association, but not a significant tool for risk stratification in the general population. BMC Med Genet. 2008 Dec 4;9:106. X-1,X-6
58. Total arterial revascularization in triple-vessel disease with off-pump and aortic no-touch technique. Ann Thorac Surg. 2008 Dec;86(6):1861-5. X-1,X-2,X-8
59. Updated Strategies and Therapies for Reducing Ischemic and Vascular Events (STRIVE) ST-segment elevation myocardial infarction critical pathway toolkit. Crit Pathw Cardiol. [Research Support, Non-U.S. Gov't Review]. 2008 Dec;7(4):223-31. X-1,X-2,X-4,X-5,X-6,X-7,X-8
60. Usefulness of self-reported periodontal disease to identify individuals with elevated inflammatory markers at risk of cardiovascular disease. Am J Cardiol. [Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2008 Dec ;102(11):1509-13. Epub 2008 Sep 15. X-1,X-2,X-5,X-6
61. Ambulatory blood pressure monitoring and all-cause mortality in elderly people with diabetes mellitus. Hypertension. [Research Support, U.S. Gov't, P.H.S.]. 2009 Feb;53(2):120-7. Epub 2009 Jan 5. X-1,X-2
62. Assessment of the multiple-biomarker approach for diagnosis of myocardial infarction in patients presenting with symptoms suggestive of acute coronary syndrome. Clin Chem. [Research Support, Non-U.S. Gov't]. 2009 Jan;55(1):93-100. Epub 2008 Nov 21. X-1,X-8
63. Cognitive consequences of multiple lacunes and leukoaraiosis as vascular cognitive impairment in community-dwelling elderly individuals. J Stroke Cerebrovasc Dis. 2009 Jan;18(1):32-7. X-1,X-2,X-6
64. Comparison of computer tomography and magnetic resonance imaging scans on the third day of life in term newborns with neonatal encephalopathy. Pediatrics. [Comparative Study Research Support, Non-U.S. Gov't Validation Studies]. 2009 Jan;123(1):319-26. X-1,X-8
65. Early and late outcomes of cardiac surgery in octogenarians. Ann Thorac Surg. 2009 Jan;87(1):71-8. X-1,X-8
66. Effectiveness of atrial fibrillation as an independent predictor of death and coronary events in patients having coronary angiography. Am J Cardiol. [Comparative Study]. 2009 Jan 1;103(1):36-40. Epub 2008 Oct 23. X-1,X-8
67. The Essen stroke risk score predicts recurrent cardiovascular events: a validation within the REduction of Atherothrombosis for Continued Health (REACH) registry. Stroke. [Research Support, Non-U.S. Gov't Validation Studies]. 2009 Feb;40(2):350-4. Epub 2008 Nov 20. X-8
68. The influence of body mass index obesity status on vascular surgery 30-day morbidity and mortality. J Vasc Surg. Comparative Study Multicenter Study Research Support, U.S. Gov't, P.H.S.]. 2009 Jan discussion 147;2009 Jan;49(1):140-7. X-1
69. Is cardiac surgery safe in extremely obese patients (body mass index 50 or greater)? Ann Thorac Surg. [Comparative Study]. 2009 Feb;87(2):540-6. X-1,X-7,X-8
70. Is high-sensitivity C-reactive protein associated with subclinical peripheral atherosclerosis? Angiology. 2009 Feb-Mar;60(1):8-11. X-1

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71. Joint effects of sodium and potassium intake on subsequent cardiovascular disease: the Trials of Hypertension Prevention follow-up study. Arch Intern Med. [Comparative Study Research Support, N.I.H., Extramural]. 2009 Jan 12;169(1):32-40. X-1
72. Late results of conventional versus all-arterial revascularization based on internal thoracic and radial artery grafting. Ann Thorac Surg. [Comparative Study]. 2009 Jan;87(1):19-26.e2. X-1, X-8
73. Lipoprotein-associated phospholipase A2 and high-sensitivity C-reactive protein improve the stratification of ischemic stroke risk in the Atherosclerosis Risk in Communities (ARIC) study. Stroke. [Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2009 Feb;40(2):376-81. Epub 2008 Dec 18. X-1
74. Long-term benefit-risk balance of drug-eluting vs. bare-metal stents in daily practice: does stent diameter matter? Three-year follow-up of BASKET. Eur Heart J. [Comparative Study Randomized Controlled Trial Research Support, Non-U.S. Gov't]. 2009 Jan;30(1):16-24. Epub 2008 Nov 25. X-1,X-2,X-8
75. Prediction of survival after coronary revascularization: modeling short-term, mid-term, and long-term survival. Ann Thorac Surg. [Comparative Study Research Support, Non-U.S. Gov't]. 2009 Feb;87(2):463-72. X-1,X-2,X-8
76. Prior inferior myocardial infarction has worse early outcomes in patients undergoing coronary artery bypass grafting than prior anterior myocardial infarction. Ann Thorac Surg. [Comparative Study]. 2009 Feb;87(2):475-80. X-1,X-2,X-6,X-8
77. Prospective study on occupational stress and risk of stroke. Arch Intern Med. [Multicenter Study Research Support, Non-U.S. Gov't]. 2009 Jan 12;169(1):56-61. X-1,X-2
78. Risk stratification after coronary artery bypass surgery by a point-of-care test of platelet function. Ann Thorac Surg. [Comparative Study]. 2009 Feb;87(2):496-502. X-1,X-2,X-8
79. Risk-adjusted 30-day outcomes of carotid stenting and endarterectomy: results from the SVS Vascular Registry. J Vasc Surg. [Comparative Study Multicenter Study]. 2009 Jan;49(1):71-9. Epub 2008 Nov 22. X-1,X-2,X-8
80. Subjective memory symptoms in surgical and nonsurgical coronary artery patients: 6-year follow-up. Ann Thorac Surg. [Comparative Study Research Support, N.I.H., Extramural Research Support, Non-U.S. Gov't]. 2009 Jan;87(1):27-34. X-1,X-2,X-6,X-8
81. The Toronto score for in-hospital mortality after percutaneous coronary interventions. Am Heart J. 2009 Jan;157(1):156-63. X-1,X-2,X-8
82. Value of cardiac troponin I cutoff concentrations below the 99th percentile for clinical decision-making. Clin Chem. [Evaluation Studies Research Support, Non-U.S. Gov't]. 2009 Jan;55(1):85-92. Epub 2008 Nov 6. X-1,X-8
83. Aadahl M, Kjaer M, Kristensen JH, et al. Self-reported physical activity compared with maximal oxygen uptake in adults. Eur J Cardiovasc Prev Rehabil. 2007 Jun;14(3):422-8. X-1,X-5,X-6
84. Aarabi M and Jackson PR. Predicting coronary risk in UK South Asians: an adjustment method for Framingham-based tools. Eur J Cardiovasc Prev Rehabil. 2005 Feb;12(1):46-51. X-1,X-2,X-5
85. Abaci A, Sen N, Yazici H, et al. Renal dysfunction is the most important predictor of the extent and severity of coronary artery disease in patients with diabetes mellitus. Coron Artery Dis. 2007 Sep;18(6):463-9. X-1,X-6,X-8

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86. Abbate A, Biondi-Zoccai GG, Brugaletta S, et al. C-reactive protein and other inflammatory biomarkers as predictors of outcome following acute coronary syndromes. Semin Vasc Med. 2003 Nov;3(4):375-84. X-1,X-2,X-4,X-5,X-6
87. Abbott AL, Levi CR, Stork JL, et al. Timing of clinically significant microembolism after carotid endarterectomy. Cerebrovasc Dis. 2007;23(5-6):362-7. X-1,X-2,X-7,X-8
88. Abbott RD, Ando F, Masaki KH, et al. Dietary magnesium intake and the future risk of coronary heart disease (the Honolulu Heart Program). Am J Cardiol. 2003 Sep 15;92(6):665-9. X-1F,X-2
89. Abdu TA, Neary R, Elhadd TA, et al. Coronary risk in growth hormone deficient hypopituitary adults: increased predicted risk is due largely to lipid profile abnormalities. Clin Endocrinol (Oxf). 2001 Aug;55(2):209-16. X-1,X-6,X-7
90. Abe Y, Kondo M, Kubota T, et al. Noninvasive assessment of coronary microvascular dysfunction using Tc-99m tetrofosmin SPECT in patients with acute myocardial infarction. J Nucl Cardiol. 2004 Sep-Oct;11(5):562-9. X-1,X-2,X-5,X-6,X-7,X-8
91. Abidov A, Hachamovitch R and Berman DS. Modern nuclear cardiac imaging in diagnosis and clinical management of patients with left ventricular dysfunction. Minerva Cardioangiol. 2004 Dec;52(6):505-19. X-1,X-2,X-4,X-5,X-6,X-7,X-8
92. Abidov A, Hachamovitch R, Hayes SW, et al. Prognostic impact of hemodynamic response to adenosine in patients older than age 55 years undergoing vasodilator stress myocardial perfusion study. Circulation. 2003 Jun 17;107(23):2894-9. X-1,X-5,X-6
93. Abou Diwan CH, Oghlakian GO, Antonios SI, et al. The role of high sensitivity C-reactive protein in coronary artery disease risk prediction: a review. J Med Liban. 2004 Jan-Mar;52(1):39-47. X-1,X-2,X-4,X-5
94. Acampa W, Spinelli L, Petretta M, et al. Prognostic value of myocardial ischemia in patients with uncomplicated acute myocardial infarction: direct comparison of stress echocardiography and myocardial perfusion imaging. J Nucl Med. 2005 Mar;46(3):417-23. X-1,X-5,X-7,X-8
95. Acevedo M, Foody JM, Pearce GL, et al. Fibrinogen: associations with cardiovascular events in an outpatient clinic. Am Heart J. 2002 Feb;143(2):277-82. X-1F,X-2,X-5,X-8
96. Acevedo M, Pearce GL, Kottke-Marchant K, et al. Elevated fibrinogen and homocysteine levels enhance the risk of mortality in patients from a high-risk preventive cardiology clinic. Arterioscler Thromb Vasc Biol. 2002 Jun 1;22(6):1042-5. X-1F,X-2,X-5,X-6,X-8
97. Achar SA, Kundu S and Norcross WA. Diagnosis of acute coronary syndrome. Am Fam Physician. 2005 Jul 1;72(1):119-26. X-1C,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
98. Achenbach S. Current and future status on cardiac computed tomography imaging for diagnosis and risk stratification. J Nucl Cardiol. 2005 Nov-Dec;12(6):703-13. X-1,X-2,X-4,X-5,X-6,X-7,X-8
99. Achenbach S, Nomayo A, Couturier G, et al. Relation between coronary calcium and 10-year risk scores in primary prevention patients. Am J Cardiol. 2003 Dec 15;92(12):1471-5. X-5
100. Acil T, Turkoz R, Acil M, et al. Value of prolonged QRS duration as a predictor of low cardiac output syndrome in patients with impaired left ventricular systolic function who undergo isolated coronary artery bypass grafting. Am J Cardiol. 2006 Nov 15;98(10):1357-62. X-1,X-2,X-7,X-8
101. Ad N, Barnett SD and Speir AM. The performance of the EuroSCORE and the Society of Thoracic Surgeons mortality risk score: the gender factor. Interact Cardiovasc Thorac Surg. 2007 Apr;6(2):192-5. X-1,X-6,X-8

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102. Adabag AS, Grandits GA, Prineas RJ, et al. Relation of heart rate parameters during exercise test to sudden death and all-cause mortality in asymptomatic men. Am J Cardiol. 2008 May 15;101(10):1437-43. X-1F,X-2
103. Adabag AS, Rector T, Mithani S, et al. Prognostic significance of elevated cardiac troponin I after heart surgery. Ann Thorac Surg. 2007 May;83(5):1744-50. X-1,X-8
104. Addala S, Grines CL, Dixon SR, et al. Predicting mortality in patients with ST-elevation myocardial infarction treated with primary percutaneous coronary intervention (PAMI risk score). Am J Cardiol. 2004 Mar 1;93(5):629-32. X-1,X-2,X-4X-5,X-6
105. Addis IB, Ireland CC, Vittinghoff E, et al. Sexual activity and function in postmenopausal women with heart disease. Obstet Gynecol. 2005 Jul;106(1):121-7. X-1,X-6,X-8
106. Adesanya CO, Yousuf KA, Co C, et al. Is wider worse? QRS duration predicts cardiac mortality in patients with right bundle branch block. Ann Noninvasive Electrocardiol. 2008 Apr;13(2):165-70. X-1,X-2,X-8
107. Adibi P, Sadeghi M, Mahsa M, et al. Prediction of coronary atherosclerotic disease with liver transaminase level. Liver Int. 2007 Sep;27(7):895-900. X-2,X-6,X-8
108. Adiloglu AK, Can R, Kinay O, et al. Infection with Chlamydia pneumoniae but not Helicobacter pylori is related to elevated apolipoprotein B levels. Acta Cardiol. 2005 Dec;60(6):599-604. X-1,X-6,X-7,X-9
109. Adragao T, Pires A, Lucas C, et al. A simple vascular calcification score predicts cardiovascular risk in haemodialysis patients. Nephrol Dial Transplant. 2004 Jun;19(6):1480-8. X-1,X-7
110. Afrasyap L and Ozturk G. NO level and endothelial NO synthase gene polymorphism (Glu298Asp) in the patients with coronary artery disease from the Turkish population. Acta Biochim Biophys Sin (Shanghai). 2004 Oct;36(10):661-6. X-1,X-2,X-5,X-6,X-8
111. Afshinnia F, Ayazi P and Chadow HL. Glomerular filtration rate on admission independently predicts short-term in-hospital mortality after acute myocardial infarction. Am J Nephrol. 2006;26(4):408-14. X-1,X-5,X-6X-8
112. Afzal AR, Mandal K, Nyamweya S, et al. Association of Met439Thr substitution in heat shock protein 70 gene with postoperative atrial fibrillation and serum HSP70 protein levels. Cardiology. 2008;110(1):45-52. X-1,X-2,X-5,X-6,X-8
113. Agostini D, Verberne HJ, Burchert W, et al. I-123-mIBG myocardial imaging for assessment of risk for a major cardiac event in heart failure patients: insights from a retrospective European multicenter study. Eur J Nucl Med Mol Imaging. 2008 Mar;35(3):535-46. X-1,X-2,X-6,X-8
114. Agoston-Coldea L, Zdrenghea D, Pop D, et al. Apolipoproteins A-I and B-markers in coronary risk evaluation. Rom J Intern Med. 2007;45(3):251-8. X-1,X-2,X-5,X-6,X-7,X-8
115. Aguiar C, Ferreira J and Seabra-Gomes R. Prognostic value of continuous ST-segment monitoring in patients with non-ST-segment elevation acute coronary syndromes. Ann Noninvasive Electrocardiol. 2002 Jan;7(1):29-39. X-1,X-2,X-7,X-8
116. Aguilar D, Fisher MR, O'Connor CM, et al. Metabolic syndrome, C-reactive protein, and prognosis in patients with established coronary artery disease. Am Heart J. 2006 Aug;152(2):298-304. X-1,X-8
117. Ahern J, Jones MR, Bakshis E, et al. Revisiting rose: comparing the benefits and costs of population-wide and targeted interventions. Milbank Q. 2008 Dec;86(4):581-600. X-1,X-6,X-7,X-8

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118. Ahmad I, Zhan M and Miller M. High prevalence of C-reactive protein elevation with normal triglycerides (100-149 mg/dL): are triglyceride levels below 100 mg/dL more optimal in coronary heart disease risk assessment? Am J Med Sci. 2005 Apr;329(4):173-7. X-1,X-2,X-5,X-6,X-8
119. Ahmed A, Lefante CM and Alam N. Depression and nursing home admission among hospitalized older adults with coronary artery disease: a propensity score analysis. Am J Geriatr Cardiol. 2007 Mar-Apr;16(2):76-83. X-1,X-6,X-8
120. Ahmed W, Zafar S, Alam AY, et al. Plasma levels of B-type natriuretic Peptide in patients with unstable angina pectoris or acute myocardial infarction: prognostic significance and therapeutic implications. Angiology. 2007 Jun-Jul;58(3):269-74. X-1,X-2,X-5,X-7,X-8
121. Aijo M, Heikkinen E, Schroll M, et al. Physical activity and mortality of 75-year-old people in three Nordic localities: a five-year follow-up. Aging Clin Exp Res. 2002 Jun;14(3 Suppl):83-9. X-1
122. Aizer A, Stern EH, Gomes JA, et al. Usefulness of programmed ventricular stimulation in predicting future arrhythmic events in patients with cardiac sarcoidosis. Am J Cardiol. 2005 Jul 15;96(2):276-82. X-1,X-6,X-7
123. Ajiro J, Alchi B, Narita I, et al. Mortality predictors after 10 years of dialysis: a prospective study of Japanese hemodialysis patients. Clin J Am Soc Nephrol. 2007 Jul;2(4):653-60. X-1,X-6,X-8
124. Akgun S, Ozisik K, Kutsal A, et al. Does intermittent aortic cross clamping decrease the incidence of atrial fibrillation after coronary bypass surgery? Heart Surg Forum. 2007;10(4):E320-4. X-1,X-8
125. Akkerhuis KM, Alexander JH, Tardiff BE, et al. Minor myocardial damage and prognosis: are spontaneous and percutaneous coronary intervention-related events different? Circulation. 2002 Feb 5;105(5):554-6. X-1,X-8
126. Akosah KO, McHugh VL, Barnhart SI, et al. Pilot Results of the Early Detection by Ultrasound of Carotid Artery Intima-Media Thickness Evaluation (EDUCATE) study. Am J Hypertens. 2007 Nov;20(11):1183-8. X-1D,X-1F,X-2,X-8
127. Akosah KO, McHugh VL, Barnhart SI, et al. Carotid ultrasound for risk clarification in young to middle-aged adults undergoing elective coronary angiography. Am J Hypertens. 2006 Dec;19(12):1256-61. X-1,X-5,X-6
128. Akosah KO, McHugh VL, Mathiason MA, et al. Metabolic syndrome and coronary heart disease equivalent conditions in predicting cardiovascular events in young to middle-aged adults. J Cardiometab Syndr. 2006 Summer;1(3):173-7. X-2,X-5,X-6,X-8
129. Akram K and Voros S. Absolute coronary artery calcium scores are superior to MESA percentile rank in predicting obstructive coronary artery disease. Int J Cardiovasc Imaging. 2008 Oct;24(7):743-9. X-1,X-6,X-864%
130. Aktas MK, Ozduran V, Pothier CE, et al. Global risk scores and exercise testing for predicting all-cause mortality in a preventive medicine program. JAMA. 2004 Sep 22;292(12):1462-8. X-6
131. Albert CM, Ma J, Rifai N, et al. Prospective study of C-reactive protein, homocysteine, and plasma lipid levels as predictors of sudden cardiac death. Circulation. 2002 Jun 4;105(22):2595-9. X-1,X-5,X-8
132. Albert MA, Glynn RJ and Ridker PM. Plasma concentration of C-reactive protein and the calculated Framingham Coronary Heart Disease Risk Score. Circulation. 2003 Jul 15;108(2):161-5. X-1,X-5,X-6

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133. Albert MA and Ridker PM. C-reactive protein as a risk predictor: do race/ethnicity and gender make a difference? Circulation. 2006 Aug 1;114(5):e67-74. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
134. Albes JM, Gross M, Franke U, et al. Revascularization during acute myocardial infarction: risks and benefits revisited. Ann Thorac Surg. 2002 Jul;74(1):102-8. X-1,X-2,X-8
135. Al-Daghri NM. Hyperhomocysteinemia, coronary heart disease, and diabetes mellitus as predicted by various definitions for metabolic syndrome in a hypertensive Saudi population. Saudi Med J. 2007 Mar;28(3):339-46. X-1,X-2,X-5,X-6,X-8
136. Aldea GS, Goss JR, Boyle EM, Jr., et al. Use of off-pump and on-pump CABG strategies in current clinical practice: the Clinical Outcomes Assessment Program of the state of Washington. J Card Surg. 2003 May-Jun;18(3):206-15; discussion 216. X-1,X-6,X-8
137. Al-Delaimy WK, Manson JE, Solomon CG, et al. Smoking and risk of coronary heart disease among women with type 2 diabetes mellitus. Arch Intern Med. 2002 Feb 11;162(3):273-9. X-1F,X-2
138. Alderman MH. A new model of risk: implications of increasing pulse pressure and systolic blood pressure on cardiovascular disease. J Hypertens Suppl. 1999 Dec;17(5):S25-8. X-1F,X-2
139. Alehagen U, Lindstedt G, Levin LA, et al. The risk of cardiovascular death in elderly patients with possible heart failure. Results from a 6-year follow-up of a Swedish primary care population. Int J Cardiol. 2005 Apr 8;100(1):17-27. X-1,X-2,X-5,X-6,X-8
140. Aleksic M, Luebke T, Heckenkamp J, et al. Implementation of an artificial neuronal network to predict shunt necessity in carotid surgery. Ann Vasc Surg. 2008 Sep;22(5):635-42. X-1,X-6,X-8
141. Alexander KP, Galanos AN, Jollis JG, et al. Post-myocardial infarction risk stratification in elderly patients. Am Heart J. 2001 Jul;142(1):37-42. X-1,X-2,X-6,X-8
142. Alexander ME, Cecchin F, Huang KP, et al. Microvolt t-wave alternans with exercise in pediatrics and congenital heart disease: limitations and predictive value. Pacing Clin Electrophysiol. 2006 Jul;29(7):733-41. X-1,X-5,X-6
143. Alexandersen P, Tanko LB, Bagger YZ, et al. The long-term impact of 2-3 years of hormone replacement therapy on cardiovascular mortality and atherosclerosis in healthy women. Climacteric. 2006 Apr;9(2):108-18. X-1,X-2,X-4,X-5
144. Alexopoulos D, Toulgaridis T, Davlouros P, et al. Prognostic significance of coronary artery calcium in asymptomatic subjects with usual cardiovascular risk. Am Heart J. 2003 Mar;145(3):542-8. X-1,X-5,X-6
145. Algra A, Gates PC, Fox AJ, et al. Side of brain infarction and long-term risk of sudden death in patients with symptomatic carotid disease. Stroke. 2003 Dec;34(12):2871-5. X-1,X-5,X-6
146. al-Harbi K, Suresh CG, Zubaid M, et al. Establishing a gradient of risk in patients with acute coronary syndromes using troponin I measurements. Med Princ Pract. 2002 Jan-Mar;11(1):18-22. X-1,X-2,X-5,X-6,X-7,X-8
147. Ali MJ, Davison P, Pickett W, et al. ACC/AHA guidelines as predictors of postoperative cardiac outcomes. Can J Anaesth. 2000 Jan;47(1):10-9. X-1,X-6
148. Al-Khalili F, Janszky I, Andersson A, et al. Physical activity and exercise performance predict long-term prognosis in middle-aged women surviving acute coronary syndrome. J Intern Med. 2007 Feb;261(2):178-87. X-8

149. Al-Khatib SM, Hellkamp AS, Lee KL, et al. Implantable cardioverter defibrillator therapy in patients with prior coronary revascularization in the Sudden Cardiac Death in Heart Failure Trial (SCD-HeFT). J Cardiovasc Electrophysiol. 2008 Oct;19(10):1059-65. X-1,X-8
150. Al-Khatib SM, Sanders GD, Bigger JT, et al. Preventing tomorrow's sudden cardiac death today: part I: Current data on risk stratification for sudden cardiac death. Am Heart J. 2007 Jun;153(6):941-50. X-1,X-2,X-3,X-4,X-5,X-6,X-7,X-8
151. Allareddy V, Ward MM, Ely JW, et al. Impact of complications on outcomes following aortic and mitral valve replacements in the United States. J Cardiovasc Surg (Torino). 2007 Jun;48(3):349-57. X-1,X-6
152. Al-Lawati JA, Barakat NM, Al-Lawati AM, et al. Optimal cut-points for body mass index, waist circumference and waist-to-hip ratio using the Framingham coronary heart disease risk score in an Arab population of the Middle East. Diab Vasc Dis Res. 2008 Nov;5(4):304-9. X-5,X-6, Middle East
153. Allison MA, DiTomasso D, Criqui MH, et al. Renal artery calcium: relationship to systemic calcified atherosclerosis. Vasc Med. 2006 Nov;11(4):232-8. X-1,X-6,X-8
154. Al-Mallah M, Dajani K, Hudson M, et al. Long-term outcomes based on time-to-angioplasty in patients admitted with non-ST-segment elevation acute coronary syndromes. J Invasive Cardiol. 2005 May;17(5):251-5. X-1,X-8
155. Almeda FQ, Hendel RC, Nathan S, et al. Improved in-hospital outcomes in acute coronary syndromes (unstable angina/non-ST segment elevation myocardial infarction) despite similar TIMI risk scores. J Invasive Cardiol. 2003 Sep;15(9):502-6. X-1,X-8
156. Almeida R, Mariano L, Gavina C, et al. The value of NT-proBNP in early risk stratification of acute coronary syndromes. Rev Port Cardiol. 2006 Jan;25(1):71-5. X-1,X-7,X-8
157. Al-Nozha MM, Arafah MR, Al-Maatouq MA, et al. Hyperlipidemia in Saudi Arabia. Saudi Med J. 2008 Feb;29(2):282-7. X-1,X-2,X-5,X-6
158. Al-Nozha MM, Arafah MR, Al-Mazrou YY, et al. Coronary artery disease in Saudi Arabia. Saudi Med J. 2004 Sep;25(9):1165-71. X-1,X-6,X-8
159. Alonzo AA. Long-term health consequences of delayed childbirth: NHANES III. Womens Health Issues. 2002 Jan-Feb;12(1):37-45. X-1,X-2,X-5
160. Al-Ruzzeh S, Asimakopoulos G, Ambler G, et al. Validation of four different risk stratification systems in patients undergoing off-pump coronary artery bypass surgery: a UK multicentre analysis of 2223 patients. Heart. 2003 Apr;89(4):432-5. X-1,X-6,X-8
161. Al-Ruzzeh S, Athanasiou T, George S, et al. Is the use of cardiopulmonary bypass for multivessel coronary artery bypass surgery an independent predictor of operative mortality in patients with ischemic left ventricular dysfunction? Ann Thorac Surg. 2003 Aug;76(2):444-51; discussion 451-2. X-1,X-2,X-6,X-8
162. Alsaileek AA, Osranek M, Fatema K, et al. Predictive value of normal left atrial volume in stress echocardiography. J Am Coll Cardiol. 2006 Mar 7;47(5):1024-8. X-1,X-5,X-6,X-7,X-8
163. Alserius T, Anderson RE, Hammar N, et al. Elevated glycosylated haemoglobin (HbA1c) is a risk marker in coronary artery bypass surgery. Scand Cardiovasc J. 2008 Dec;42(6):392-8. X-1,X-7,X-8
164. Alter DA, Austin PC and Tu JV. Community factors, hospital characteristics and inter-regional outcome variations following acute myocardial infarction in Canada. Can J Cardiol. 2005 Mar;21(3):247-55. X-1,X-8

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165. Alter DA and Eny K. The relationship between the supply of fast-food chains and cardiovascular outcomes. Can J Public Health. 2005 May-Jun;96(3):173-7. X-1,X-5
166. Alter DA, Iron K, Austin PC, et al. Influence of education and income on atherogenic risk factor profiles among patients hospitalized with acute myocardial infarction. Can J Cardiol. 2004 Oct;20(12):1219-28. X-1,X-6,X-8
167. Alter DA, Venkatesh V and Chong A. Evaluating the performance of the Global Registry of Acute Coronary Events risk-adjustment index across socioeconomic strata among patients discharged from the hospital after acute myocardial infarction. Am Heart J. 2006 Feb;151(2):323-31. X-1,X-6,X-8
168. Altin T, Berkalp B, Ozdol C, et al. Angiographic restenosis in ephesos coronary stents: experience from a large medical center in Ankara, Turkey. Angiology. 2008 Feb-Mar;59(1):47-51. X-1,X-2,X-5,X-6,X-7,X-8
169. Altunkeser BB, Ozdemir K, Gok H, et al. Can P wave parameters obtained from 12-lead surface electrocardiogram be a predictor for atrial fibrillation in patients who have structural heart disease? Angiology. 2003 Jul-Aug;54(4):475-9. X-1,X-5,X-6,X-7
170. Alvarez Tamargo JA, Martin-Ambrosio ES, Tarin ER, et al. Significance of the treadmill scores and high-risk criteria for exercise testing in non-high-risk patients with unstable angina and an intermediate Duke treadmill score. Acta Cardiol. 2008 Oct;63(5):557-64. X-7,X-8
171. Alverzo JP. Predictors of disorientation among brain injury and stroke patients during rehabilitation. Rehabil Nurs. 2005 Nov-Dec;30(6):230-8. X-1,X-6,X-7,X-8
172. Amano T, Matsubara T, Uetani T, et al. Impact of metabolic syndrome on tissue characteristics of angiographically mild to moderate coronary lesions integrated backscatter intravascular ultrasound study. J Am Coll Cardiol. 2007 Mar 20;49(11):1149-56. X-1,X-2,X-5,X-6,X-7
173. Amanullah AM, Berman DS, Kang X, et al. Enhanced prognostic stratification of patients with left ventricular hypertrophy with the use of single-photon emission computed tomography. Am Heart J. 2000 Sep;140(3):456-62. X-1D,X-2,X-8
174. Amar D, Shi W, Hogue CW, Jr., et al. Clinical prediction rule for atrial fibrillation after coronary artery bypass grafting. J Am Coll Cardiol. 2004 Sep 15;44(6):1248-53. X-1,X-6,X-8
175. Amighi J, Sabeti S, Schlager O, et al. Low serum magnesium predicts neurological events in patients with advanced atherosclerosis. Stroke. 2004 Jan;35(1):22-7. X-1,X-7,X-8
176. Amin RS, Kimball TR, Bean JA, et al. Left ventricular hypertrophy and abnormal ventricular geometry in children and adolescents with obstructive sleep apnea. Am J Respir Crit Care Med. 2002 May 15;165(10):1395-9. X-1,X-6,X-7
177. Ammouri AA and Neuberger G. The Perception of Risk of Heart Disease Scale: development and psychometric analysis. J Nurs Meas. 2008;16(2):83-97. X-1,X-2,X-5,X-6
178. Amoroso G, Sarti M, Bellucci R, et al. Clinical and procedural predictors of nurse workload during and after invasive coronary procedures: the potential benefit of a systematic radial access. Eur J Cardiovasc Nurs. 2005 Sep;4(3):234-41. X-1,X-6
179. Anand DV, Lahiri A, Lim E, et al. The relationship between plasma osteoprotegerin levels and coronary artery calcification in uncomplicated type 2 diabetic subjects. J Am Coll Cardiol. 2006 May 2;47(9):1850-7. X-1,X-2,X-5,X-6,X-8, (UK)

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180. Ananthasubramaniam K, Chow BJ, Ruddy TD, et al. Does electrocardiographic Q wave burden predict the extent of scarring or hibernating myocardium as quantified by positron emission tomography? Can J Cardiol. 2005 Jan;21(1):51-6. X-1,X-6,X-7,X-8
181. Anavekar NS, Mirza A, Skali H, et al. Risk assessment in patients with depressed left ventricular function after myocardial infarction using the myocardial performance index--Survival and Ventricular Enlargement (SAVE) experience. J Am Soc Echocardiogr. 2006 Jan;19(1):28-33. X-8
182. Andersen K, Bregendahl M, Kaestel H, et al. Haematoma after coronary angiography and percutaneous coronary intervention via the femoral artery frequency and risk factors. Eur J Cardiovasc Nurs. 2005 Jun;4(2):123-7. X-1,X-6,X-8
183. Andersen LB, Sardinha LB, Froberg K, et al. Fitness, fatness and clustering of cardiovascular risk factors in children from Denmark, Estonia and Portugal: the European Youth Heart Study. Int J Pediatr Obes. 2008;3 Suppl 1:58-66. X-1,X-6,X-8
184. Anderson GL, Limacher M, Assaf AR, et al. Effects of conjugated equine estrogen in postmenopausal women with hysterectomy: the Women's Health Initiative randomized controlled trial. JAMA. 2004 Apr 14;291(14):1701-12. X-1,X-2
185. Anderson JL. Lipoprotein-associated phospholipase A2: an independent predictor of coronary artery disease events in primary and secondary prevention. Am J Cardiol. 2008 Jun 16;101(12A):23F-33F. X-2,X-4,X-5
186. Anderson JL, Carlquist JF, Roberts WL, et al. Asymmetric dimethylarginine, cortisol/cortisone ratio, and C-peptide: markers for diabetes and cardiovascular risk? Am Heart J. 2007 Jan;153(1):67-73. X-1,X-2
187. Anderson JL, Krause-Steinrauf H, Goldman S, et al. Failure of benefit and early hazard of bucindolol for Class IV heart failure. J Card Fail. 2003 Aug;9(4):266-77. X-6
188. Anderson KM, Odell PM, Wilson PW, et al. Cardiovascular disease risk profiles. Am Heart J. 1991 Jan;121(1 Pt 2):293-8. X-2
189. Anderson KM, Wilson PW, Odell PM, et al. An updated coronary risk profile. A statement for health professionals. Circulation. 1991 Jan;83(1):356-62. X-2
190. Andre-Petersson L, Hedblad B, Janzon L, et al. Social support and behavior in a stressful situation in relation to myocardial infarction and mortality: who is at risk? Results from prospective cohort study "Men born in 1914," Malmo, Sweden. Int J Behav Med. 2006;13(4):340-7. X-1,X-2
191. Andresdottir MB, Sigfusson N, Sigvaldason H, et al. Erythrocyte sedimentation rate, an independent predictor of coronary heart disease in men and women: The Reykjavik Study. Am J Epidemiol. 2003 Nov 1;158(9):844-51. X-1F,X-2
192. Andresdottir MB, Sigurdsson G, Sigvaldason H, et al. Fifteen percent of myocardial infarctions and coronary revascularizations explained by family history unrelated to conventional risk factors. The Reykjavik Cohort Study. Eur Heart J. 2002 Nov;23(21):1655-63. X-1F,X-2
193. Andresen D, Steinbeck G, Bruggemann T, et al. Risk stratification following myocardial infarction in the thrombolytic era: a two-step strategy using noninvasive and invasive methods. J Am Coll Cardiol. 1999 Jan;33(1):131-8. X-1,X-6,X-8
194. Andrikoula M and McDowell IF. The contribution of ApoB and ApoA1 measurements to cardiovascular risk assessment. Diabetes Obes Metab. 2008 Apr;10(4):271-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9

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195. Ansai T, Takata Y, Soh I, et al. Association of chewing ability with cardiovascular disease mortality in the 80-year-old Japanese population. Eur J Cardiovasc Prev Rehabil. 2008 Feb;15(1):104-6. X-1,X-2
196. Anselmi M, Pilati M, Golia G, et al. Ischemia induced by transesophageal atrial pacing stress echocardiography predicts long-term mortality. Cardiology. 2008;111(2):111-8. X-1,X-2,X-8
197. Antman EM, Cohen M, Bernink PJ, et al. The TIMI risk score for unstable angina/non-ST elevation MI: A method for prognostication and therapeutic decision making. JAMA. 2000 Aug 16;284(7):835-42. X-8
198. Antonicelli R, Olivieri F, Bonafe M, et al. The interleukin-6 -174 G>C promoter polymorphism is associated with a higher risk of death after an acute coronary syndrome in male elderly patients. Int J Cardiol. 2005 Sep 1;103(3):266-71. X-1,X-7,X-8
199. Antunes PE, Eugenio L, Ferrao de Oliveira J, et al. Mortality risk prediction in coronary surgery: a locally developed model outperforms external risk models. Interact Cardiovasc Thorac Surg. 2007 Aug;6(4):437-41. X-1,X-6,X-8
200. Anzai T, Yoshikawa T, Kaneko H, et al. Association between serum C-reactive protein elevation and left ventricular thrombus formation after first anterior myocardial infarction. Chest. 2004 Feb;125(2):384-9. X-1,X-2,X-6,X-7,X-8
201. Aono Y, Ohkubo T, Kikuya M, et al. Plasma fibrinogen, ambulatory blood pressure, and silent cerebrovascular lesions: the Ohasama study. Arterioscler Thromb Vasc Biol. 2007 Apr;27(4):963-8. X-1,X-5,X-6
202. Appel SJ, Giger JN and Davidhizar RE. Opportunity cost: the impact of contextual risk factors on the cardiovascular health of low-income rural southern African American women. J Cardiovasc Nurs. 2005 Sep-Oct;20(5):315-24. X-1,X-2,X-4,X-5,X-6,X-7,X-8
203. Appelros P and Terent A. Characteristics of the National Institute of Health Stroke Scale: results from a population-based stroke cohort at baseline and after one year. Cerebrovasc Dis. 2004;17(1):21-7. X-1,X-6
204. Apple FS, Smith SW, Pearce LA, et al. Assessment of the multiple-biomarker approach for diagnosis of myocardial infarction in patients presenting with symptoms suggestive of acute coronary syndrome. Clin Chem. 2009 Jan;55(1):93-100. X-1,X-8
205. Appoloni O, Dupont E, Vandercruys M, et al. Association between the TNF-2 allele and a better survival in cardiogenic shock. Chest. 2004 Jun;125(6):2232-7. X-1,X-6,X-7,X-8
206. Arad Y. Beyond traditional risk factor analysis for coronary artery disease: the case for coronary artery calcium assessment with electron beam computed tomography. Prev Cardiol. 2002 Spring;5(2):62-7. X-2,X-4,X-5,X-6,X-7,X-8
207. Arbogast PG, Kaltenbach L, Ding H, et al. Adjustment for multiple cardiovascular risk factors using a summary risk score. Epidemiology. 2008 Jan;19(1):30-7. X-1,X-2,X-5
208. Arboix A, Cendros V, Besa M, et al. Trends in risk factors, stroke subtypes and outcome. Nineteen-year data from the Sagrat Cor Hospital of Barcelona stroke registry. Cerebrovasc Dis. 2008;26(5):509-16. X-1,X-8
209. Arca M, Montali A, Valiante S, et al. Usefulness of atherogenic dyslipidemia for predicting cardiovascular risk in patients with angiographically defined coronary artery disease. Am J Cardiol. 2007 Nov 15;100(10):1511-6. X-1,X-8
210. Ariceta G, Brooks ER and Langman CB. Assessing cardiovascular risk in children with chronic kidney disease. B-type natriuretic peptide: a potential new marker. Pediatr Nephrol. 2005 Dec;20(12):1701-7. X-1,X-4,X-5

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211. Ariesen MJ, Algra A, Koudstaal PJ, et al. Risk of intracerebral hemorrhage in patients with arterial versus cardiac origin of cerebral ischemia on aspirin or placebo: analysis of individual patient data from 9 trials. Stroke. 2004 Mar;35(3):710-4. X-1,X-2,X-8
212. Ariyarajah V, Fernandes J, Kranis M, et al. Prospective evaluation of atrial tachyarrhythmias in patients with interatrial block. Int J Cardiol. 2007 Jun 12;118(3):332-7. X-1,X-2,X-6,X-7,X-8
213. Ariyarajah V, Malinski M, Zieroth S, et al. Risk stratification for recurrent heart failure in patients post-myocardial infarction with electrocardiographic and echocardiographic left atrial abnormality. Am J Cardiol. 2008 May 15;101(10):1373-8. X-1,X-8
214. Arking DE, Becker DM, Yanek LR, et al. KLOTHO allele status and the risk of early-onset occult coronary artery disease. Am J Hum Genet. 2003 May;72(5):1154-61. X-1,X-6
215. Armstrong KA, Rakhit DJ, Case C, et al. Derivation and validation of a disease-specific risk score for cardiac risk stratification in chronic kidney disease. Nephrol Dial Transplant. 2005 Oct;20(10):2097-104. X-1,X-8
216. Aroney CN, Dunlevie HL and Bett JH. Use of an accelerated chest pain assessment protocol in patients at intermediate risk of adverse cardiac events. Med J Aust. 2003 Apr 21;178(8):370-4. X-1,X-5
217. Aronow WS and Ahn C. Reduction of coronary events with aspirin in older patients with prior myocardial infarction treated with and without statins. Heart Dis. 2002 May-Jun;4(3):159-61. X-1,X-8
218. Aronson D, Hammerman H, Kapeliovich MR, et al. Fasting glucose in acute myocardial infarction: incremental value for long-term mortality and relationship with left ventricular systolic function. Diabetes Care. 2007 Apr;30(4):960-6. X-1E,X-1F,X-2,X-6,X-8
219. Aronson S, Dupont F, Savage R, et al. Changes in regional myocardial function after coronary artery bypass graft surgery are predicted by intraoperative low-dose dobutamine echocardiography. Anesthesiology. 2000 Sep;93(3):685-92. X-1,X-6,X-7,X-8
220. Arora P, Rajagopalam S, Ranjan R, et al. Preoperative use of angiotensin-converting enzyme inhibitors/angiotensin receptor blockers is associated with increased risk for acute kidney injury after cardiovascular surgery. Clin J Am Soc Nephrol. 2008 Sep;3(5):1266-73. X-1,X-6,X-8
221. Arora RC, Legare JF, Buth KJ, et al. Identifying patients at risk of intraoperative and postoperative transfusion in isolated CABG: toward selective conservation strategies. Ann Thorac Surg. 2004 Nov;78(5):1547-54. X-1,X-6,X-8
222. Asakimori Y, Yorioka N, Tanaka J, et al. Association between ENOS gene polymorphism and cardiovascular events in nondiabetic hemodialysis patients: a prospective study. Am J Kidney Dis. 2004 Jul;44(1):112-20. X-1
223. Asanin M, Perunicic J, Mrdovic I, et al. Significance of recurrences of new atrial fibrillation in acute myocardial infarction. Int J Cardiol. 2006 May 10;109(2):235-40. X-1,X-6,X-8
224. Asayama K, Ohkubo T, Kikuya M, et al. Prediction of stroke by self-measurement of blood pressure at home versus casual screening blood pressure measurement in relation to the Joint National Committee 7 classification: the Ohasama study. Stroke. 2004 Oct;35(10):2356-61. X-1
225. Asayama K, Ohkubo T, Kikuya M, et al. Use of 2003 European Society of Hypertension-European Society of Cardiology guidelines for predicting stroke using self-measured blood pressure at home: the Ohasama study. Eur Heart J. 2005 Oct;26(19):2026-31. X-2

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226. Asayama K, Ohkubo T, Kikuya M, et al. Prediction of stroke by home "morning" versus "evening" blood pressure values: the Ohasama study. Hypertension. 2006 Oct;48(4):737-43. X-1F,X-2,X-8
227. Ascherio A, Rimm EB, Giovannucci E, et al. Blood donations and risk of coronary heart disease in men. Circulation. 2001 Jan 2;103(1):52-7. X-1,X-2
228. Ash AS, Posner MA, Speckman J, et al. Using claims data to examine mortality trends following hospitalization for heart attack in Medicare. Health Serv Res. 2003 Oct;38(5):1253-62. X-1,X-8
229. Ashburn A, Hyndman D, Pickering R, et al. Predicting people with stroke at risk of falls. Age Ageing. 2008 May;37(3):270-6. X-1,X-6,X-7,X-8
230. Ashley E, Myers J and Froelicher V. Exercise testing scores as an example of better decisions through science. Med Sci Sports Exerc. 2002 Aug;34(8):1391-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
231. Ashton WD, Nanchahal K and Wood DA. Leisure-time physical activity and coronary risk factors in women. J Cardiovasc Risk. 2000 Aug;7(4):259-66. X-1,X-6
232. Ashton WD, Nanchahal K and Wood DA. Body mass index and metabolic risk factors for coronary heart disease in women. Eur Heart J. 2001 Jan;22(1):46-55. X-1,X-2,X-5,X-6
233. Asimakopoulos G, Al-Ruzzeh S, Ambler G, et al. An evaluation of existing risk stratification models as a tool for comparison of surgical performances for coronary artery bypass grafting between institutions. Eur J Cardiothorac Surg. 2003 Jun;23(6):935-41; discussion 941-2. X-1,X-6,X-8
234. Askew JW, Miller TD, Araoz PA, et al. Abnormal electron beam computed tomography results: the value of repeating myocardial perfusion single-photon emission computed tomography in the ongoing assessment of coronary artery disease. Mayo Clin Proc. 2008 Jan;83(1):17-22. X-1,X-2,X-5
235. Askew JW, Miller TD, Hodge DO, et al. The value of myocardial perfusion single-photon emission computed tomography in screening asymptomatic patients with atrial fibrillation for coronary artery disease. J Am Coll Cardiol. 2007 Sep 11;50(11):1080-5. X-1F,X-2,X-5,X-6
236. Asplund K. What MONICA told us about stroke. Lancet Neurol. 2005 Jan;4(1):64-8. X-2,X-4,X-5,X-6,X-7,X-8
237. Assali AR, Brosh D, Vaknin-Assa H, et al. The impact of circadian variation on outcomes in emergency acute anterior myocardial infarction percutaneous coronary intervention. Catheter Cardiovasc Interv. 2006 Feb;67(2):221-6. X-1,X-8
238. Assanelli D, Bonanome A, Grassi M, et al. Determinants of early-onset cardiovascular disease: a case-control study of young myocardial infarction patients. Ital Heart J. 2004 Aug;5(8):604-11. X-1,X-2,X-5,X-7,X-8
239. Asselbergs FW, Hillege HL and van Gilst WH. Framingham score and microalbuminuria: combined future targets for primary prevention? Kidney Int Suppl. 2004 Nov(92):S111-4. X-2
240. Assmann G, Cullen P, Erbey J, et al. Plasma sitosterol elevations are associated with an increased incidence of coronary events in men: results of a nested case-control analysis of the Prospective Cardiovascular Munster (PROCAM) study. Nutr Metab Cardiovasc Dis. 2006 Jan;16(1):13-21. X-2,X-5,X-8(~67%)

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241. Assmann G, Cullen P, Evers T, et al. Importance of arterial pulse pressure as a predictor of coronary heart disease risk in PROCAM. Eur Heart J. 2005 Oct;26(20):2120-6. X-1E,X-1F, (Germany)
242. Assmann G, Cullen P and Schulte H. The Munster Heart Study (PROCAM). Results of follow-up at 8 years. Eur Heart J. 1998 Feb;19 Suppl A:A2-11. X-2
243. Asztalos BF, Collins D, Cupples LA, et al. Value of high-density lipoprotein (HDL) subpopulations in predicting recurrent cardiovascular events in the Veterans Affairs HDL Intervention Trial. Arterioscler Thromb Vasc Biol. 2005 Oct;25(10):2185-91. X-1F,X-2,X-5,X-8(100%)
244. Asztalos BF, Collins D, Horvath KV, et al. Relation of gemfibrozil treatment and high-density lipoprotein subpopulation profile with cardiovascular events in the Veterans Affairs High-Density Lipoprotein Intervention Trial. Metabolism. 2008 Jan;57(1):77-83. X-1,X-2,X-6,X-8(100%)
245. Atanassova PA, Chalakova NT and Dimitrov BD. Major vascular events after transient ischaemic attack and minor ischaemic stroke: post hoc modelling of incidence dynamics. Cerebrovasc Dis. 2008;25(3):225-33. X-7,X-8
246. Attar MN, Wong K, Groves DG, et al. Clinical implications of QRS duration and QT peak prolongation in patients with suspected coronary disease referred for elective cardiac catheterization. Ann Noninvasive Electrocardiol. 2008 Apr;13(2):106-12. X-1F,X-1D,X-8(100%)
247. Augustin T, Glass TA, James BD, et al. Neighborhood psychosocial hazards and cardiovascular disease: the Baltimore Memory Study. Am J Public Health. 2008 Sep;98(9):1664-70. X-2,X-6
248. Austin PC, Alter DA, Anderson GM, et al. Impact of the choice of benchmark on the conclusions of hospital report cards. Am Heart J. 2004 Dec;148(6):1041-6. X-1,X-2,X-5,X-6,X-8
249. Austin PC and Mamdani MM. A comparison of propensity score methods: a case-study estimating the effectiveness of post-AMI statin use. Stat Med. 2006 Jun 30;25(12):2084-106. X-1,X-6,X-8
250. Austin PC, Naylor CD and Tu JV. A comparison of a Bayesian vs. a frequentist method for profiling hospital performance. J Eval Clin Pract. 2001 Feb;7(1):35-45. X-1,X-5,X-6,X-7,X-8
251. Austin PC and Schull MJ. Quantile regression: a statistical tool for out-of-hospital research. Acad Emerg Med. 2003 Jul;10(7):789-97. X-1,X-4,X-5,X-6
252. Avakian SD, Grinberg M, Ramires JA, et al. Outcome of adults with asymptomatic severe aortic stenosis. Int J Cardiol. 2008 Jan 24;123(3):322-7. X-1,X-7,X-8
253. Avierinos JF, Brown RD, Foley DA, et al. Cerebral ischemic events after diagnosis of mitral valve prolapse: a community-based study of incidence and predictive factors. Stroke. 2003 Jun;34(6):1339-44. X-1,X-5,X-6
254. Aviv RI, Mandelcorn J, Chakraborty S, et al. Alberta Stroke Program Early CT Scoring of CT perfusion in early stroke visualization and assessment. AJNR Am J Neuroradiol. 2007 Nov-Dec;28(10):1975-80. X-1,X-5,X-6,X-7,X-8
255. Ayanian JZ, Landon BE, Landrum MB, et al. Use of cholesterol-lowering therapy and related beliefs among middle-aged adults after myocardial infarction. J Gen Intern Med. 2002 Feb;17(2):95-102. X-1,X-2,X-5,X-6,X-8

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303. Bare LA, Morrison AC, Rowland CM, et al. Five common gene variants identify elevated genetic risk for coronary heart disease. Genet Med. 2007 Oct;9(10):682-9. X-1G,X-2,X-5,X-6
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308. Barnes ME, Miyasaka Y, Seward JB, et al. Left atrial volume in the prediction of first ischemic stroke in an elderly cohort without atrial fibrillation. Mayo Clin Proc. 2004 Aug;79(8):1008-14. X-1
309. Barrett-Connor E, Cauley JA, Kulkarni PM, et al. Risk-benefit profile for raloxifene: 4-year data From the Multiple Outcomes of Raloxifene Evaluation (MORE) randomized trial. J Bone Miner Res. 2004 Aug;19(8):1270-5. X-1,X-6
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311. Bartholomew BA, Harjai KJ, Dukkipati S, et al. Impact of nephropathy after percutaneous coronary intervention and a method for risk stratification. Am J Cardiol. 2004 Jun 15;93(12):1515-9. X-1,X-6,X-8
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313. Barton CW and Hemphill JC, 3rd. Cumulative dose of hypertension predicts outcome in intracranial hemorrhage better than American Heart Association guidelines. Acad Emerg Med. 2007 Aug;14(8):695-701. X-1,X-6,X-8
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315. Barud W, Palusinski R, Beltowski J, et al. Inverse relationship between total testosterone and anti-oxidized low density lipoprotein antibody levels in ageing males. Atherosclerosis. 2002 Oct;164(2):283-8. X-1,X-2,X-5,X-6,X-7,X-8
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319. Bassuk SS. The Reynolds Risk Score--improving cardiovascular risk prediction in women. AAOHN J. 2008 Apr;56(4):180. X-1G,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
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321. Bath P, Algert C, Chapman N, et al. Association of mean platelet volume with risk of stroke among 3134 individuals with history of cerebrovascular disease. Stroke. 2004 Mar;35(3):622-6. X-1,X-8
322. Batty GD, Shipley MJ, Gale CR, et al. Does IQ predict total and cardiovascular disease mortality as strongly as other risk factors? Comparison of effect estimates using the Vietnam Experience Study. Heart. 2008 Dec;94(12):1541-4. X-1F,X-2
323. Bauer A, Guzik P, Barthel P, et al. Reduced prognostic power of ventricular late potentials in post-infarction patients of the reperfusion era. Eur Heart J. 2005 Apr;26(8):755-61. X-1,X-8
324. Bayes-Genis A, Vazquez R, Puig T, et al. Left atrial enlargement and NT-proBNP as predictors of sudden cardiac death in patients with heart failure. Eur J Heart Fail. 2007 Aug;9(8):802-7. X-1,X-6,X-8
325. Bazzani LG and Marcin JP. Case volume and mortality in pediatric cardiac surgery patients in California, 1998-2003. Circulation. 2007 May 22;115(20):2652-9. X-1,X-6
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329. Bechtel JF, Detter C, Fischlein T, et al. Cardiac surgery in patients on dialysis: decreased 30-day mortality, unchanged overall survival. Ann Thorac Surg. 2008 Jan;85(1):147-53. X-1,X-2,X-8
330. Beck AW, Murphy EH, Hocking JA, et al. Aortic reconstruction with femoral-popliteal vein: graft stenosis incidence, risk and reintervention. J Vasc Surg. 2008 Jan;47(1):36-43; discussion 44. X-1,X-2,X-5,X-6,X-8
331. Becker CR. Estimation of cardiac event risk by MDCT. Eur Radiol. 2005 Feb;15 Suppl 2:B17-22. X-1,X-2,X-4,X-5,X-6,X-7,X-8
332. Becker CR, Kleffel T, Crispin A, et al. Coronary artery calcium measurement: agreement of multirow detector and electron beam CT. AJR Am J Roentgenol. 2001 May;176(5):1295-8. X-1,X-6,X-7

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336. Bellocci F, Biasucci LM, Gensini GF, et al. Prognostic role of post-infarction C-reactive protein in patients undergoing implantation of cardioverter-defibrillators: design of the C-reactive protein Assessment after Myocardial Infarction to GUide Implantation of DEfibrillator (CAMI GUIDE) study. J Cardiovasc Med (Hagerstown). 2007 Apr;8(4):293-9. X-1,X-8
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338. Bengtson A, Karlsson T and Herlitz J. On the waiting list for possible coronary revascularisation. Symptoms relief during the first year and association between quality of life and the very long-term mortality risk. Int J Cardiol. 2008 Jan 24;123(3):271-6. X-1,X-6,X-8
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346. Berger C, Fiorelli M, Steiner T, et al. Hemorrhagic transformation of ischemic brain tissue: asymptomatic or symptomatic? Stroke. 2001 Jun;32(6):1330-5. X-1,X-6,X-8

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348. Berkowitsch A, Zareba W, Neumann T, et al. Risk stratification using heart rate turbulence and ventricular arrhythmia in MADIT II: usefulness and limitations of a 10-minute holter recording. Ann Noninvasive Electrocardiol. 2004 Jul;9(3):270-9. X-1,X-6,X-8
349. Berman DS, Abidov A, Kang X, et al. Prognostic validation of a 17-segment score derived from a 20-segment score for myocardial perfusion SPECT interpretation. J Nucl Cardiol. 2004 Jul-Aug;11(4):414-23. X-1
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352. Berry JD, Lloyd-Jones DM, Garside DB, et al. Social avoidance and long-term risk for cardiovascular disease death in healthy men: the Western Electric study. Ann Epidemiol. 2007 Aug;17(8):591-6. X-1F,X-2
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359. Bezanson JL, Weaver M, Kinney MR, et al. Presurgical risk factors for late extubation in Medicare recipients after cardiac surgery. Nurs Res. 2004 Jan-Feb;53(1):46-52. X-1,X-6,X-8
360. Bhatt A, Vora NA, Thomas AJ, et al. Lower pretreatment cerebral blood volume affects hemorrhagic risks after intra-arterial revascularization in acute stroke. Neurosurgery. 2008 Nov;63(5):874-8; discussion 878-9. X-1,X-7
361. Bhatti F, Grayson AD, Grotte G, et al. The logistic EuroSCORE in cardiac surgery: how well does it predict operative risk? Heart. 2006 Dec;92(12):1817-20. X-1,X-8

362. Biagini E, Elhendy A, Schinkel AF, et al. Prognostic significance of left anterior hemiblock in patients with suspected coronary artery disease. J Am Coll Cardiol. 2005 Sep 6;46(5):858-63. X-1D,X-1F,X-2, (Netherlands)
363. Biagioli B, Scolletta S, Cevenini G, et al. A multivariate Bayesian model for assessing morbidity after coronary artery surgery. Crit Care. 2006;10(3):R94. X-1,X-8
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377. Bijsterveld NR, Peters RJ, Murphy SA, et al. Recurrent cardiac ischemic events early after discontinuation of short-term heparin treatment in acute coronary syndromes: results from the Thrombolysis in Myocardial Infarction (TIMI) 11B and Efficacy and Safety of

Subcutaneous Enoxaparin in Non-Q-Wave Coronary Events (ESSENCE) studies. J Am Coll Cardiol. 2003 Dec 17;42(12):2083-9. X-1,X-6,X-8
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X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
391. Blankenberg S, Godefroy T, Poirier O, et al. Haplotypes of the caspase-1 gene, plasma caspase-1 levels, and cardiovascular risk. Circ Res. 2006 Jul 7;99(1):102-8. X-1,X-2,X-5,X-8
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403. Bodi V, Sanchis J, Llacer A, et al. Risk stratification in non-ST elevation acute coronary syndromes: predictive power of troponin I, C-reactive protein, fibrinogen and homocysteine. Int J Cardiol. 2005 Feb 15;98(2):277-83. X-1,X-2,X-8
404. Bodi V, Sanchis J, Lopez-Lereu MP, et al. Prognostic value of dipyridamole stress cardiovascular magnetic resonance imaging in patients with known or suspected coronary artery disease. J Am Coll Cardiol. 2007 Sep 18;50(12):1174-9. X-1,X-8
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408. Bolognese L, Carrabba N, Santoro GM, et al. Angiographic findings, time course of regional and global left ventricular function, and clinical outcome in diabetic patients with acute myocardial infarction treated with primary percutaneous transluminal coronary angioplasty. Am J Cardiol. 2003 Mar 1;91(5):544-9. X-1,X-6,X-8
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411. Bond J, Gregson B, Smith M, et al. Predicting place of discharge from hospital for patients with a stroke or hip fracture on admission. J Health Serv Res Policy. 2000 Jul;5(3):133-9. X-1,X-6,X-8
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413. Boos CJ, Lane DA, Karpha M, et al. Circulating endothelial cells, arterial stiffness, and cardiovascular risk stratification in hypertension. Chest. 2007 Nov;132(5):1540-7. X-7,X-8
414. Boos CJ, Soor SK, Kang D, et al. Relationship between circulating endothelial cells and the predicted risk of cardiovascular events in acute coronary syndromes. Eur Heart J. 2007 May;28(9):1092-101. X-1,X-7,X-8
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418. Bos MJ, Schipper CM, Koudstaal PJ, et al. High serum C-reactive protein level is not an independent predictor for stroke: the Rotterdam Study. Circulation. 2006 Oct 10;114(15):1591-8. X-8
419. Boscarino JA and Chang J. Survival after coronary artery bypass graft surgery and community socioeconomic status: clinical and research implications. Med Care. 1999 Feb;37(2):210-6. X-1,X-6,X-8
420. Bosch JG, Nijland F, Mitchell SC, et al. Computer-aided diagnosis via model-based shape analysis: automated classification of wall motion abnormalities in echocardiograms. Acad Radiol. 2005 Mar;12(3):358-67. X-1,X-5,X-6,X-7,X-8
421. Bosch X and Theroux P. Left ventricular ejection fraction to predict early mortality in patients with non-ST-segment elevation acute coronary syndromes. Am Heart J. 2005 Aug;150(2):215-20. X-1,X-8
422. Boutouyrie P, Tropeano AI, Asmar R, et al. Aortic stiffness is an independent predictor of primary coronary events in hypertensive patients: a longitudinal study. Hypertension. 2002 Jan;39(1):10-5. X-2

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423. Bovet P, Shamlaye C, Gabriel A, et al. Prevalence of cardiovascular risk factors in a middle-income country and estimated cost of a treatment strategy. BMC Public Health. 2006;6:9. X-1F,X-1G,X-2,X-5,X-6,X-8
424. Bowers DC, McNeil DE, Liu Y, et al. Stroke as a late treatment effect of Hodgkin's Disease: a report from the Childhood Cancer Survivor Study. J Clin Oncol. 2005 Sep 20;23(27):6508-15. X-1,X-2,X-5,X-8,X-9
425. Boyar A. Creating a web application that combines Framingham risk with Electron Beam CT Coronary Calcium Score to calculate a new event risk. J Thorac Imaging. 2006 Mar;21(1):91-6. X-1F,X-2,X-4,X-5,X-6,X-7,X-8(CAD),X-9
426. Brach JS, Solomon C, Naydeck BL, et al. Incident physical disability in people with lower extremity peripheral arterial disease: the role of cardiovascular disease. J Am Geriatr Soc. 2008 Jun;56(6):1037-44. X-1F,X-1G,X-2,X-6,X-8
427. Bradbury BD, Lash TL, Kaye JA, et al. Tamoxifen-treated breast carcinoma patients and the risk of acute myocardial infarction and newly-diagnosed angina. Cancer. 2005 Mar 15;103(6):1114-21. X-1,X-2,X-5
428. Bradshaw PJ, Ko DT, Newman AM, et al. Validity of the GRACE (Global Registry of Acute Coronary Events) acute coronary syndrome prediction model for six month post-discharge death in an independent data set. Heart. 2006 Jul;92(7):905-9. X-1,X-8
429. Bradshaw PJ, Ko DT, Newman AM, et al. Validation of the Thrombolysis In Myocardial Infarction (TIMI) risk index for predicting early mortality in a population-based cohort of STEMI and non-STEMI patients. Can J Cardiol. 2007 Jan;23(1):51-6. X-1,X-2
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431. Brand-Miller J, Dickinson S, Barclay A, et al. The glycemic index and cardiovascular disease risk. Curr Atheroscler Rep. 2007 Dec;9(6):479-85. X-1,X-2,X-4,X-5,X-6,X-7,X-8
432. Brass EP, Allen SE and Melin JM. Potential impact on cardiovascular public health of over-the-counter statin availability. Am J Cardiol. 2006 Mar 15;97(6):851-6. X-1G,X-2,X-5,X-6,X-8
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436. Brauner EV, Forchhammer L, Moller P, et al. Indoor particles affect vascular function in the aged: an air filtration-based intervention study. Am J Respir Crit Care Med. 2008 Feb 15;177(4):419-25. X-1,X-6,X-7
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438. Brembilla-Perrot B, Suty-Selton C, Beurrier D, et al. Differences in mechanisms and outcomes of syncope in patients with coronary disease or idiopathic left ventricular

dysfunction as assessed by electrophysiologic testing. J Am Coll Cardiol. 2004 Aug 4;44(3):594-601. X-1,X-6,X-7,X-8
439. Brener SJ, Lincoff AM, Bates ER, et al. The relationship between baseline risk and mortality in ST-elevation acute myocardial infarction treated with pharmacological reperfusion: insights from the Global Utilization of Strategies To open Occluded arteries (GUSTO) V trial. Am Heart J. 2005 Jul;150(1):89-93. X-1,X-8
440. Brener SJ, Milford-Beland S, Roe MT, et al. Culprit-only or multivessel revascularization in patients with acute coronary syndromes: an American College of Cardiology National Cardiovascular Database Registry report. Am Heart J. 2008 Jan;155(1):140-6. X-1,X-5,X-6,X-8
441. Brevetti G, Silvestro A, Schiano V, et al. Endothelial dysfunction and cardiovascular risk prediction in peripheral arterial disease: additive value of flow-mediated dilation to ankle-brachial pressure index. Circulation. 2003 Oct 28;108(17):2093-8. X-1,X-2,X-5,X-6,X-7,X-8
442. Brevetti G, Sirico G, Lanero S, et al. The prevalence of hypoechoic carotid plaques is greater in peripheral than in coronary artery disease and is related to the neutrophil count. J Vasc Surg. 2008 Mar;47(3):523-9. X-1,X-2,X-5,X-6,X-7,X-8
443. Bridgewater B, Grayson AD, Jackson M, et al. Surgeon specific mortality in adult cardiac surgery: comparison between crude and risk stratified data. BMJ. 2003 Jul 5;327(7405):13-7. X-1,X-2,X-6,X-8
444. Brilakis ES, Wright RS, Kopecky SL, et al. Association of the PURSUIT risk score with predischarge ejection fraction, angiographic severity of coronary artery disease, and mortality in a nonselected, community-based population with non-ST-elevation acute myocardial infarction. Am Heart J. 2003 Nov;146(5):811-8. X-1,X-6,X-8
445. Brindle P, Beswick A, Fahey T, et al. Accuracy and impact of risk assessment in the primary prevention of cardiovascular disease: a systematic review. Heart. 2006 Dec;92(12):1752-9. X-4,X-5
446. Britton A and Marmot M. Different measures of alcohol consumption and risk of coronary heart disease and all-cause mortality: 11-year follow-up of the Whitehall II Cohort Study. Addiction. 2004 Jan;99(1):109-16. X-1,X-6
447. Broadbent E, Petrie KJ, Ellis CJ, et al. Patients with acute myocardial infarction have an inaccurate understanding of their risk of a future cardiac event. Intern Med J. 2006 Oct;36(10):643-7. X-1,X-2,X-5,X-6,X-7,X-8
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450. Brodie BR, Hansen C, Stuckey TD, et al. Door-to-balloon time with primary percutaneous coronary intervention for acute myocardial infarction impacts late cardiac mortality in high-risk patients and patients presenting early after the onset of symptoms. J Am Coll Cardiol. 2006 Jan 17;47(2):289-95. X-1,X-6,X-8
451. Brook RD, Kansal M, Bard RL, et al. Usefulness of low-density lipoprotein particle size measurement in cardiovascular disease prevention. Clin Cardiol. 2005 Nov;28(11):534-7. X-5,X-6,X-7

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452. Brosig T, Hoinkes A, Seitz RJ, et al. Ultrasound turbulence index during thromboendarterectomy predicts postoperative cerebral microembolism. Cerebrovasc Dis. 2008;26(1):87-92. X-1,X-5,X-6,X-7,X-8
453. Brotman DJ, Davidson MB, Boumitri M, et al. Impaired diurnal blood pressure variation and all-cause mortality. Am J Hypertens. 2008 Jan;21(1):92-7. X-2,X-6
454. Brown BG, Morse J, Zhao XQ, et al. Electron-beam tomography coronary calcium scores are superior to Framingham risk variables for predicting the measured proximal stenosis burden. Am J Cardiol. 2001 Jul 19;88(2A):23E-26E. X-1,X-5,X-6,X-7
455. Brown DL, Barsan WG, Lisabeth LD, et al. Survey of emergency physicians about recombinant tissue plasminogen activator for acute ischemic stroke. Ann Emerg Med. 2005 Jul;46(1):56-60. X-1,X-5,X-6
456. Brown DW, Ford ES, Giles WH, et al. Associations between white blood cell count and risk for cerebrovascular disease mortality: NHANES II Mortality Study, 1976-1992. Ann Epidemiol. 2004 Jul;14(6):425-30. X-1F,X-2
457. Brown DW, Giles WH and Greenlund KJ. Blood pressure parameters and risk of fatal stroke, NHANES II mortality study. Am J Hypertens. 2007 Mar;20(3):338-41. X-1,X-2
458. Brown ER, Kronmal RA, Bluemke DA, et al. Coronary calcium coverage score: determination, correlates, and predictive accuracy in the Multi-Ethnic Study of Atherosclerosis. Radiology. 2008 Jun;247(3):669-75. X-1
459. Brown JM, Poston RS, Gammie JS, et al. Off-pump versus on-pump coronary artery bypass grafting in consecutive patients: decision-making algorithm and outcomes. Ann Thorac Surg. 2006 Feb;81(2):555-61; discussion 561. X-1,X-2,X-8
460. Brown JR, Cochran RP, Leavitt BJ, et al. Multivariable prediction of renal insufficiency developing after cardiac surgery. Circulation. 2007 Sep 11;116(11 Suppl):I139-43. X-1,X-6,X-8
461. Brown JR, Cochran RP, MacKenzie TA, et al. Long-term survival after cardiac surgery is predicted by estimated glomerular filtration rate. Ann Thorac Surg. 2008 Jul;86(1):4-11. X-1,X-2,X-6,X-8
462. Brown JR, Malenka DJ, DeVries JT, et al. Transient and persistent renal dysfunction are predictors of survival after percutaneous coronary intervention: insights from the Dartmouth Dynamic Registry. Catheter Cardiovasc Interv. 2008 Sep 1;72(3):347-54. X-1,X-6,X-8
463. Brown RA. Gauging cardiovascular risk with the PLAC test. Nursing. 2006 Aug;36(8):17. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
464. Brown TL, Merrill J, Volokh L, et al. Determinants of the response of left ventricular ejection fraction to vasodilator stress in electrocardiographically gated (82)rubidium myocardial perfusion PET. Eur J Nucl Med Mol Imaging. 2008 Feb;35(2):336-42. X-1,X-2,X-5,X-6,X-7
465. Bruch C, Kauling D, Reinecke H, et al. Prevalence and prognostic impact of comorbidities in patients with severe aortic valve stenosis. Clin Res Cardiol. 2007 Jan;96(1):23-9. X-1,X-2,X-7,X-8
466. Brugts JJ, Knetsch AM, Mattace-Raso FU, et al. Renal function and risk of myocardial infarction in an elderly population: the Rotterdam Study. Arch Intern Med. 2005 Dec 12-26;165(22):2659-65. X-1F,X-2

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467. Brune K, Katus HA, Moecks J, et al. N-terminal pro-B-type natriuretic peptide concentrations predict the risk of cardiovascular adverse events from antiinflammatory drugs: a pilot trial. Clin Chem. 2008 Jul;54(7):1149-57. X-1
468. Brunelli A, Refai M, Xiume F, et al. Performance at symptom-limited stair-climbing test is associated with increased cardiopulmonary complications, mortality, and costs after major lung resection. Ann Thorac Surg. 2008 Jul;86(1):240-7; discussion 247-8. X-1,X-6
469. Bruno G, Merletti F, Biggeri A, et al. Metabolic syndrome as a predictor of all-cause and cardiovascular mortality in type 2 diabetes: the Casale Monferrato Study. Diabetes Care. 2004 Nov;27(11):2689-94. X-1E,X-1F,X-2,X-8
470. Bucerius J, Gummert JF, Walther T, et al. Predictors of prolonged ICU stay after on-pump versus off-pump coronary artery bypass grafting. Intensive Care Med. 2004 Jan;30(1):88-95. X-1,X-5,X-6,X-8
471. Budaj A, Yusuf S, Mehta SR, et al. Benefit of clopidogrel in patients with acute coronary syndromes without ST-segment elevation in various risk groups. Circulation. 2002 Sep 24;106(13):1622-6. X-1,X-8
472. Budoff MJ, Dowe D, Jollis JG, et al. Diagnostic performance of 64-multidetector row coronary computed tomographic angiography for evaluation of coronary artery stenosis in individuals without known coronary artery disease: results from the prospective multicenter ACCURACY (Assessment by Coronary Computed Tomographic Angiography of Individuals Undergoing Invasive Coronary Angiography) trial. J Am Coll Cardiol. 2008 Nov 18;52(21):1724-32. X-1
473. Budoff MJ and Gopal A. Coronary calcium: does it still play a role in the age of CT angiography. Expert Rev Cardiovasc Ther. 2007 Jan;5(1):1-3. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
474. Budoff MJ and Gul KM. Expert review on coronary calcium. Vasc Health Risk Manag. 2008;4(2):315-24. X-2,X-4,X-5,X-6,X-7,X-8
475. Budoff MJ, Shaw LJ, Liu ST, et al. Long-term prognosis associated with coronary calcification: observations from a registry of 25,253 patients. J Am Coll Cardiol. 2007 May 8;49(18):1860-70. X-6
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477. Bugiardini R. Endothelial function and the prediction of CVD in diabetes. Curr Diab Rep. 2006 Feb;6(1):17-21. X-1,X-2,X-4,X-5,X-6,X-7,X-8
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Appendix O. List of Excluded Studies

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483. Burkhoff D, Jones JW and Becker LC. Variability of myocardial perfusion defects assessed by thallium-201 scintigraphy in patients with coronary artery disease not amenable to angioplasty or bypass surgery. J Am Coll Cardiol. 2001 Oct;38(4):1033-9. X-1,X-2,X-6,X-7,X-8
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485. Bush DE, Ziegelstein RC, Tayback M, et al. Even minimal symptoms of depression increase mortality risk after acute myocardial infarction. Am J Cardiol. 2001 Aug 15;88(4):337-41. X-1,X-6,X-8
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Appendix O. List of Excluded Studies

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Atherosclerosis (MESA) and Coronary Artery Risk Development in Young Adults (CARDIA) study. Radiology. 2005 Jan;234(1):35-43. X-1,X-4,X-5,X-6

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537. Castelvecchio S, Menicanti L, Ranucci M, et al. Impact of surgical ventricular restoration on diastolic function: implications of shape and residual ventricular size. Ann Thorac Surg. 2008 Dec;86(6):1849-54. X-1,X-6,X-7,X-8
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540. Celik T, Yuksel UC, Iyisoy A, et al. The impact of preinfarction angina on electrocardiographic ischemia grades in patients with acute myocardial infarction treated with primary percutaneous coronary intervention. Ann Noninvasive Electrocardiol. 2008 Jul;13(3):278-86. X-1,X-2,X-6,X-7,X-8
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Appendix O. List of Excluded Studies

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547. Chan MR, Bedi S, Sanchez RJ, et al. Stent placement versus angioplasty improves patency of arteriovenous grafts and blood flow of arteriovenous fistulae. Clin J Am Soc Nephrol. 2008 May;3(3):699-705. X-1,X-2,X-6,X-7,X-8
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552. Chang WC, Kaul P, Fu Y, et al. Forecasting mortality: dynamic assessment of risk in ST-segment elevation acute myocardial infarction. Eur Heart J. 2006 Feb;27(4):419-26. X-1,X-6,X-8
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560. Chaudhry FA, Tauke JT, Alessandrini RS, et al. Enhanced detection of ischemic myocardium by transesophageal dobutamine stress echocardiography: comparison with

simultaneous transthoracic echocardiography. Echocardiography. 2000 Apr;17(3):241-53. X-1,X-6,X-7
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564. Chen HJ, Bai CH, Yeh WT, et al. Influence of metabolic syndrome and general obesity on the risk of ischemic stroke. Stroke. 2006 Apr;37(4):1060-4. X-2,X-8,
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568. Chen SM, Li YG, Zhang HX, et al. Hypoxia-inducible factor-1alpha induces the coronary collaterals for coronary artery disease. Coron Artery Dis. 2008 May;19(3):173-9. X-1,X-2,X-5,X-6,X-7,X-8
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592. Chong CF, Li YC, Wang TL, et al. Stratification of adverse outcomes by preoperative risk factors in coronary artery bypass graft patients: an artificial neural network prediction model. AMIA Annu Symp Proc. 2003:160-4. X-1,X-2,X-5,X-8
593. Chou CY, Chien CW, Hsueh IP, et al. Developing a short form of the Berg Balance Scale for people with stroke. Phys Ther. 2006 Feb;86(2):195-204. X-1,X-6,X-8
594. Chouraqui P, Livschitz S, Baron J, et al. The assessment of infarct size in postmyocardial infarction patients undergoing thallium-201 tomographic imaging is improved using attenuation correction. Clin Nucl Med. 2004 Jun;29(6):352-7. X-1,X-6,X-7,X-8
595. Chowdhary S, Ivanov J, Mackie K, et al. The Toronto score for in-hospital mortality after percutaneous coronary interventions. Am Heart J. 2009 Jan;157(1):156-63. X-1,X-8
596. Christensen H, Boysen G and Truelsen T. The Scandinavian stroke scale predicts outcome in patients with mild ischemic stroke. Cerebrovasc Dis. 2005;20(1):46-8. X-1,X-8
597. Christenson RH, Leino EV, Giugliano RP, et al. Usefulness of prodromal unstable angina pectoris in predicting better survival and smaller infarct size in acute myocardial infarction (The InTIME-II Prodromal Symptoms Substudy). Am J Cardiol. 2003 Sep 1;92(5):598-600. X-1,X-6,X-8
598. Christianson TJ, Bryant SC, Weymiller AJ, et al. A pen-and-paper coronary risk estimator for office use with patients with type 2 diabetes. Mayo Clin Proc. 2006 May;81(5):632-6. X-2
599. Christoforidis GA, Mohammad Y, Kehagias D, et al. Angiographic assessment of pial collaterals as a prognostic indicator following intra-arterial thrombolysis for acute ischemic stroke. AJNR Am J Neuroradiol. 2005 Aug;26(7):1789-97. X-1,X-5,X-7
600. Chu D, Bakaeen FG, Wang XL, et al. The impact of peripheral vascular disease on long-term survival after coronary artery bypass graft surgery. Ann Thorac Surg. 2008 Oct;86(4):1175-80. X-1,X-2,X-8
601. Chu WW, Dieter RS and Stone CK. Evolving clinical applications of cardiac markers: a review of the literature. WMJ. 2002;101(3):49-55. X-1,X-2,X-4,X-5,X-6,X-7,X-8
602. Chun AA and McGee SR. Bedside diagnosis of coronary artery disease: a systematic review. Am J Med. 2004 Sep 1;117(5):334-43. X-1,X-6,X-8
603. Chung CP, Oeser A, Avalos I, et al. Cardiovascular risk scores and the presence of subclinical coronary artery atherosclerosis in women with systemic lupus erythematosus. Lupus. 2006;15(9):562-9. X-2,X-5,X-6,X-7
604. Chung SG, van Rey E, Bai Z, et al. Separate quantification of reflex and nonreflex components of spastic hypertonia in chronic hemiparesis. Arch Phys Med Rehabil. 2008 Apr;89(4):700-10. X-1,X-2,X-5,X-6,X-7
605. Chung SH, Chu WS, Lee HA, et al. Peritoneal transport characteristics, comorbid diseases and survival in CAPD patients. Perit Dial Int. 2000 Sep-Oct;20(5):541-7. X-1,X-2,X-6
606. Chung SH, Lindholm B and Lee HB. Is malnutrition an independent predictor of mortality in peritoneal dialysis patients? Nephrol Dial Transplant. 2003 Oct;18(10):2134-40. X-1,X-7
607. Church TS, LaMonte MJ, Barlow CE, et al. Cardiorespiratory fitness and body mass index as predictors of cardiovascular disease mortality among men with diabetes. Arch Intern Med. 2005 Oct 10;165(18):2114-20. X-1F,X-2

Appendix O. List of Excluded Studies

608. Church TS, Levine BD, McGuire DK, et al. Coronary artery calcium score, risk factors, and incident coronary heart disease events. Atherosclerosis. 2007 Jan;190(1):224-31. X-2
609. Chyun D, Vaccarino V, Murillo J, et al. Acute myocardial infarction in the elderly with diabetes. Heart Lung. 2002 Sep-Oct;31(5):327-39. X-1,X-2,X-8
610. Ciampi A, Courteau J, Niyonsenga T, et al. Family history and the risk of coronary heart disease: comparing predictive models. Eur J Epidemiol. 2001;17(7):609-20. X-2,X-4,X-5,X-6,X-7,X-8
611. Cicala S, Renzulli A, Galderisi M, et al. Transthoracic Doppler echocardiography of mammary artery grafts to assess graft function. Can J Cardiol. 2005 Jan;21(1):45-9. X-1,X-2,X-6,X-7,X-8
612. Cirillo M, Amaducci A, Brunelli F, et al. Determinants of postinfarction remodeling affect outcome and left ventricular geometry after surgical treatment of ischemic cardiomyopathy. J Thorac Cardiovasc Surg. 2004 Jun;127(6):1648-56. X-1,X-2,X-6,X-7,X-8
613. Citro R, Galderisi M, Guarini P, et al. Left bundle branch block with and without coronary artery disease: which value for a tissue Doppler-derived post-systolic motion? Ital Heart J. 2003 Oct;4(10):706-12. X-1,X-2,X-6,X-7
614. Claassen J, Bernardini GL, Kreiter K, et al. Effect of cisternal and ventricular blood on risk of delayed cerebral ischemia after subarachnoid hemorrhage: the Fisher scale revisited. Stroke. 2001 Sep;32(9):2012-20. X-1,X-6,X-8
615. Clappers N, van Oijen MG, Sundaresan S, et al. The C50T polymorphism of the cyclooxygenase-1 gene and the risk of thrombotic events during low-dose therapy with acetyl salicylic acid. Thromb Haemost. 2008 Jul;100(1):70-5. X-1,X-6
616. Clarke JL, Anderson JL, Carlquist JF, et al. Comparison of differing C-reactive protein assay methods and their impact on cardiovascular risk assessment. Am J Cardiol. 2005 Jan 1;95(1):155-8. X-1E,X-1F,X-2,X-8
617. Clarke JL, Johnston SC, Farrant M, et al. External validation of the ICH score. Neurocrit Care. 2004;1(1):53-60. X-1,X-7,X-8
618. Classen S, Meuleman J, Garvan C, et al. Review of prescription medications in home-based older adults with stroke: a pilot study. Res Social Adm Pharm. 2007 Mar;3(1):104-22. X-1,X-5,X-6,X-7,X-8
619. Cleary JD, Pearson M, Oliver J, et al. Association between Histoplasma exposure and stroke. J Stroke Cerebrovasc Dis. 2008 Sep;17(5):312-9. X-1,X-2,X-5,X-8
620. Coffey CS, Hebert PR, Ritchie MD, et al. An application of conditional logistic regression and multifactor dimensionality reduction for detecting gene-gene interactions on risk of myocardial infarction: the importance of model validation. BMC Bioinformatics. 2004 Apr 30;5:49. X-1,X-2,X-5,X-6
621. Cohen MG, Kelly RV, Kong DF, et al. Pulmonary artery catheterization in acute coronary syndromes: insights from the GUSTO IIb and GUSTO III trials. Am J Med. 2005 May;118(5):482-8. X-1,X-8
622. Cohen MG, Pascua JA, Garcia-Ben M, et al. A simple prediction rule for significant renal artery stenosis in patients undergoing cardiac catheterization. Am Heart J. 2005 Dec;150(6):1204-11. X-1,X-5,X-6,X-8
623. Cojocaru IM, Cojocaru M, Musuroi C, et al. Study of anti-cardiolipin and anti-beta2-glycoprotein I antibodies in patients with ischemic stroke. Rom J Intern Med. 2003;41(2):189-204. X-1,X-2,X-5,X-6,X-7,X-8

Appendix O. List of Excluded Studies

624. Colivicchi F, Ammirati F, Melina D, et al. Development and prospective validation of a risk stratification system for patients with syncope in the emergency department: the OESIL risk score. Eur Heart J. 2003 May;24(9):811-9. X-1,X-5,X-6
625. Collard CD, Shernan SK, Fox AA, et al. The MBL2 'LYQA secretor' haplotype is an independent predictor of postoperative myocardial infarction in whites undergoing coronary artery bypass graft surgery. Circulation. 2007 Sep 11;116(11 Suppl):I106-12. X-1,X-2,X-6,X-8
626. Collet JP, Montalescot G, Vicaut E, et al. Acute release of plasminogen activator inhibitor-1 in ST-segment elevation myocardial infarction predicts mortality. Circulation. 2003 Jul 29;108(4):391-4. X-1,X-2,X-7,X-8
627. Colli A, Josa M, Pomar JL, et al. Heart fatty acid binding protein in the diagnosis of myocardial infarction: where do we stand today? Cardiology. 2007;108(1):4-10. X-1,X-2
628. Collinson J, Perez de Arenaza D, Flather MD, et al. Managing high-risk patients with acute coronary syndromes: the Prospective Registry of Acute Ischaemic Syndromes in the UK (PRAIS-UK). Clin Med. 2004 Jul-Aug;4(4):369-75. X-1,X-2,X-5,X-6,X-8
629. Collinson PO. Testing for cardiac markers at the point of care. Clin Lab Med. 2001 Jun;21(2):351-62. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
630. Colombet I, Jaulent MC, Degoulet P, et al. Logistic regression model: an assessment of variability of predictions. Stud Health Technol Inform. 2001;84(Pt 2):1314-8. X-1,X-2,X-4,X-5,X-6
631. Colombet I, Ruelland A, Chatellier G, et al. Models to predict cardiovascular risk: comparison of CART, multilayer perceptron and logistic regression. Proc AMIA Symp. 2000:156-60. X-1,X-6
632. Comeau A, Jensen L and Burton JR. Can symptom presentation predict unstable angina/non-ST-segment elevation myocardial infarction in a moderate-risk cohort? Eur J Cardiovasc Nurs. 2006 Jun;5(2):127-36. X-1,X-7,X-8
633. Comte A, Lalande A, Walker PM, et al. Visual estimation of the global myocardial extent of hyperenhancement on delayed contrast-enhanced MRI. Eur Radiol. 2004 Dec;14(12):2182-7. X-1,X-2,X-5,X-6,X-7,X-8
634. Conard SE, Bays HE, Leiter LA, et al. Efficacy and safety of ezetimibe added on to atorvastatin (20 mg) versus uptitration of atorvastatin (to 40 mg) in hypercholesterolemic patients at moderately high risk for coronary heart disease. Am J Cardiol. 2008 Dec 1;102(11):1489-94. X-1,X-2,X-6,X-7
635. Cook JW, Pierson LM, Herbert WG, et al. The influence of patient strength, aerobic capacity and body composition upon outcomes after coronary artery bypass grafting. Thorac Cardiovasc Surg. 2001 Apr;49(2):89-93. X-1,X-8
636. Cook NR, Obarzanek E, Cutler JA, et al. Joint effects of sodium and potassium intake on subsequent cardiovascular disease: the Trials of Hypertension Prevention follow-up study. Arch Intern Med. 2009 Jan 12;169(1):32-40. X-1,X-2
637. Cooley DA. Early experience with cardiopulmonary bypass: reflections. J Card Surg. 2003 May-Jun;18(3):265-7. X-1

X-4

638. Coolong A, Baim DS, Kuntz RE, et al. Saphenous vein graft stenting and major adverse cardiac events: a predictive model derived from a pooled analysis of 3958 patients. Circulation. 2008 Feb 12;117(6):790-7. X-1,X-4,X-5,X-8

639. Cooper HA, Domanski MJ, Rosenberg Y, et al. Acute ST-segment elevation myocardial infarction and prior stroke: an analysis from the Magnesium in Coronaries (MAGIC) trial. Am Heart J. 2004 Dec;148(6):1012-9. X-1,X-8
640. Cooper JA, Miller GJ, Bauer KA, et al. Comparison of novel hemostatic factors and conventional risk factors for prediction of coronary heart disease. Circulation. 2000 Dec 5;102(23):2816-22. X-1
641. Cooper WA, O'Brien SM, Thourani VH, et al. Impact of renal dysfunction on outcomes of coronary artery bypass surgery: results from the Society of Thoracic Surgeons National Adult Cardiac Database. Circulation. 2006 Feb 28;113(8):1063-70. X-1,X-8
642. Coppola G, Rizzo M, Abrignani MG, et al. Fibrinogen as a predictor of mortality after acute myocardial infarction: a forty-two-month follow-up study. Ital Heart J. 2005 Apr;6(4):315-22. X-1,X-7,X-8
643. Cordovil A, Junior WM, Andrade JL, et al. Role of dobutamine-atropine stress echocardiography in prognostic evaluation of 300 women. Echocardiography. 2004 Feb;21(2):113-8. X-1D,X-1E,X-1F,X-2,X-8(40%)
644. Corona AJ, Martinez DR, Avila MH, et al. Microalbuminuria as a predictor of myocardial infarction in a Mexican population: the Mexico City Diabetes Study. Kidney Int Suppl. 2005 Aug(97):S34-9. X-1, Mexico)
645. Corrao G, Zambon A, Nicotra F, et al. Persistence with oral and transdermal hormone replacement therapy and hospitalisation for cardiovascular outcomes. Maturitas. 2007 Jul 20;57(3):315-24. X-1,X-6
646. Correa CR, Litt HI, Hwang WT, et al. Coronary artery findings after left-sided compared with right-sided radiation treatment for early-stage breast cancer. J Clin Oncol. 2007 Jul 20;25(21):3031-7. X-1,X-6
647. Correia LC, Lima JC, Rocha MS, et al. Does high-sensitivity C-reactive protein add prognostic value to the TIMI-Risk Score in individuals with non-ST elevation acute coronary syndromes? Clin Chim Acta. 2007 Jan;375(1-2):124-8. X-1,X-6,X-7,X-8
648. Correll CU, Frederickson AM, Kane JM, et al. Metabolic syndrome and the risk of coronary heart disease in 367 patients treated with second-generation antipsychotic drugs. J Clin Psychiatry. 2006 Apr;67(4):575-83. X-1,X-5,X-6
649. Corson MA, Jones PH and Davidson MH. Review of the evidence for the clinical utility of lipoprotein-associated phospholipase A2 as a cardiovascular risk marker. Am J Cardiol. 2008 Jun 16;101(12A):41F-50F. X-1,X-6
650. Cortigiani L, Bigi R, Gigli G, et al. Prediction of mortality in patients with right bundle branch block referred for pharmacologic stress echocardiography. Am J Cardiol. 2003 Dec 15;92(12):1429-33. X-1,X-5,X-6
651. Cortigiani L, Bigi R, Gregori D, et al. Prognostic value of a multiparametric risk score in patients undergoing dipyridamole stress echocardiography. Am J Cardiol. 2005 Aug 15;96(4):529-32. X-1
652. Cortigiani L, Desideri A and Bigi R. Echocardiography for risk stratification of myocardial infarction in the reperfusion era. Clin Cardiol. 2005 Jan;28(1):3-7. X-1,X-2,X-4,X-5,X-6,X-7,X-8
653. Cortigiani L, Rigo F, Gherardi S, et al. Additional prognostic value of coronary flow reserve in diabetic and nondiabetic patients with negative dipyridamole stress echocardiography by wall motion criteria. J Am Coll Cardiol. 2007 Oct 2;50(14):1354-61. X-1D,X-1F,X-2,X-8(30%)

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654. Cortigiani L, Sicari R, Bigi R, et al. Usefulness of stress echocardiography for risk stratification of patients after percutaneous coronary intervention. Am J Cardiol. 2008 Nov 1;102(9):1170-4. X-1,X-2,X-8
655. Cosic Z, Tavcioski D, Jovelic A, et al. Late ventricular potentials in risk assessment of the occurrence of complex ventricular arrhythmia in patients with myocardial infarction and heart failure. Vojnosanit Pregl. 2004 Nov-Dec;61(6):589-97. X-1,X-7,X-8
656. Costa MA, Carere RG, Lichtenstein SV, et al. Incidence, predictors, and significance of abnormal cardiac enzyme rise in patients treated with bypass surgery in the arterial revascularization therapies study (ARTS). Circulation. 2001 Nov 27;104(22):2689-93. X-1,X-2,X-8
657. Courivaud C, Kazory A, Simula-Faivre D, et al. Metabolic syndrome and atherosclerotic events in renal transplant recipients. Transplantation. 2007 Jun 27;83(12):1577-81. X-1
658. Courtis J, Rodes-Cabau J, Larose E, et al. Comparison of medical treatment and coronary revascularization in patients with moderate coronary lesions and borderline fractional flow reserve measurements. Catheter Cardiovasc Interv. 2008 Mar 1;71(4):541-8. X-1,X-2,X-7,X-8
659. Coutts SB, Eliasziw M, Hill MD, et al. An improved scoring system for identifying patients at high early risk of stroke and functional impairment after an acute transient ischemic attack or minor stroke. Int J Stroke. 2008 Feb;3(1):3-10. X-1,X-7,X-8
660. Covin R, O'Brien M, Grunwald G, et al. Factors affecting transfusion of fresh frozen plasma, platelets, and red blood cells during elective coronary artery bypass graft surgery. Arch Pathol Lab Med. 2003 Apr;127(4):415-23. X-1,X-6
661. Cowper PA, Peterson ED, DeLong ER, et al. The impact of statistical adjustment on economic profiles of interventional cardiologists. J Am Coll Cardiol. 2001 Nov 1;38(5):1416-23. X-1,X-2,X-5,X-6,X-7
662. Cramer GE, Kievit PC, Brouwer MA, et al. Lack of concordance between a rapid bedside and conventional laboratory method of cardiac troponin testing: impact on risk stratification of patients suspected of acute coronary syndrome. Clin Chim Acta. 2007 Jun;381(2):164-6. X-1C,X-1F,X-2,X-6,X-8(Unstable Angina)
663. Criqui MH, Denenberg JO, Bergan J, et al. Risk factors for chronic venous disease: the San Diego Population Study. J Vasc Surg. 2007 Aug;46(2):331-7. X-1,X-5,X-8
664. Cronin L, Mehta SR, Zhao F, et al. Stroke in relation to cardiac procedures in patients with non-ST-elevation acute coronary syndrome: a study involving >18 000 patients. Circulation. 2001 Jul 17;104(3):269-74. X-1,X-8
665. Crow RS, Hannan PJ and Folsom AR. Prognostic significance of corrected QT and corrected JT interval for incident coronary heart disease in a general population sample stratified by presence or absence of wide QRS complex: the ARIC Study with 13 years of follow-up. Circulation. 2003 Oct 21;108(16):1985-9. X-1F,X-2
666. Crystal P, Zelingher J and Crystal E. Breast arterial calcifications as a cardiovascular risk marker in women. Expert Rev Cardiovasc Ther. 2004 Sep;2(5):753-60. X-1,X-4,X-5
667. Cucchiara B, Tanne D, Levine SR, et al. A risk score to predict intracranial hemorrhage after recombinant tissue plasminogen activator for acute ischemic stroke. J Stroke Cerebrovasc Dis. 2008 Nov-Dec;17(6):331-3. X-1,X-8
668. Cucchiara BL, Messe SR, Taylor RA, et al. Is the ABCD score useful for risk stratification of patients with acute transient ischemic attack? Stroke. 2006 Jul;37(7):1710-4. X-1,X-7,X-8

669. Cuculich PS, Sanchez JM, Kerzner R, et al. Poor prognosis for patients with chronic kidney disease despite ICD therapy for the primary prevention of sudden death. Pacing Clin Electrophysiol. 2007 Feb;30(2):207-13. X-1
670. Cuddy TE and Tate RB. Sudden unexpected cardiac death as a function of time since the detection of electrocardiographic and clinical risk factors in apparently healthy men: the Manitoba Follow-Up Study, 1948 to 2004. Can J Cardiol. 2006 Mar 1;22(3):205-11. X-1F,X-2,X-6
671. Cui Y, Blumenthal RS, Flaws JA, et al. Non-high-density lipoprotein cholesterol level as a predictor of cardiovascular disease mortality. Arch Intern Med. 2001 Jun 11;161(11):1413-9. X-1F,X-2
672. Culleton BF, Larson MG, Kannel WB, et al. Serum uric acid and risk for cardiovascular disease and death: the Framingham Heart Study. Ann Intern Med. 1999 Jul 6;131(1):7-13. X-1,X-6
673. Cunningham EJ, Bond R, Mehta Z, et al. Long-term durability of carotid endarterectomy for symptomatic stenosis and risk factors for late postoperative stroke. Stroke. 2002 Nov;33(11):2658-63. X-1
674. Curb JD, Abbott RD, Rodriguez BL, et al. C-reactive protein and the future risk of thromboembolic stroke in healthy men. Circulation. 2003 Apr 22;107(15):2016-20. X-1,X-5
675. Cury RC, Ferencik M, Hoffmann U, et al. Epidemiology and association of vascular and valvular calcium quantified by multidetector computed tomography in elderly asymptomatic subjects. Am J Cardiol. 2004 Aug 1;94(3):348-51. X-1,X-5,X-6
676. Cushman M, Arnold AM, Psaty BM, et al. C-reactive protein and the 10-year incidence of coronary heart disease in older men and women: the cardiovascular health study. Circulation. 2005 Jul 5;112(1):25-31. X-2
677. Cuspidi C, Meani S, Valerio C, et al. Age and target organ damage in essential hypertension: role of the metabolic syndrome. Am J Hypertens. 2007 Mar;20(3):296-303. X-1,X-6
678. Cygankiewicz I, Zareba W and de Luna AB. Prognostic value of Holter monitoring in congestive heart failure. Cardiol J. 2008;15(4):313-23. X-1,X-2,X-4,X-5,X-6,X-7,X-8
679. Cygankiewicz I, Zareba W, Vazquez R, et al. Heart rate turbulence predicts all-cause mortality and sudden death in congestive heart failure patients. Heart Rhythm. 2008 Aug;5(8):1095-1102. X-1,X-2
680. Czechowsky D and Hill MD. Neurological outcome and quality of life after stroke due to vertebral artery dissection. Cerebrovasc Dis. 2002;13(3):192-7. X-1,X-2,X-6,X-7,X-8
681. Dabrowski A, Kramarz E and Piotrowicz R. Dispersion of QT interval following ventricular premature beats and mortality after myocardial infarction. Cardiology. 1999;91(2):75-80. X-1,X-6,X-7
682. Dahl M, Tybjaerg-Hansen A, Sillesen H, et al. Blood pressure, risk of ischemic cerebrovascular and ischemic heart disease, and longevity in alpha(1)-antitrypsin deficiency: the Copenhagen City Heart Study. Circulation. 2003 Feb 11;107(5):747-52. X-1
,X-6,X-8
683. Dai DF, Hwang JJ, Lin JL, et al. Joint effects of N-terminal pro-B-type-natriuretic peptide and C-reactive protein vs angiographic severity in predicting major adverse cardiovascular

events and clinical restenosis after coronary angioplasty in patients with stable coronary artery disease. Circ J. 2008 Aug;72(8):1316-23. X-1,X-8
684. Dakik HA, Hwang WS, Jafar A, et al. Prognostic value of quantitative stress myocardial perfusion imaging in unstable angina patients with negative cardiac enzymes and no new ischemic ECG changes. J Nucl Cardiol. 2005 Jan-Feb;12(1):32-6. X-1,X-7,X-8
685. Dakik HA, Wendt JA, Kimball K, et al. Prognostic value of adenosine Tl-201 myocardial perfusion imaging after acute myocardial infarction: results of a prospective clinical trial. J Nucl Cardiol. 2005 May-Jun;12(3):276-83. X-1,X-7,X-8
686. Dalager S, Falk E, Kristensen IB, et al. Plaque in superficial femoral arteries indicates generalized atherosclerosis and vulnerability to coronary death: an autopsy study. J Vasc Surg. 2008 Feb;47(2):296-302. X-1,X-2,X-5,X-7
687. Dale RA, Jensen LH and Krantz MJ. Comparison of two point-of-care lipid analyzers for use in global cardiovascular risk assessments. Ann Pharmacother. 2008 May;42(5):633-9. X-1,X-2,X-5,X-6,X-7
688. Daly CA, De Stavola B, Sendon JL, et al. Predicting prognosis in stable angina--results from the Euro heart survey of stable angina: prospective observational study. BMJ. 2006 Feb 4;332(7536):262-7. X-1,X-8
689. Daly CA, Stepinska J, Deptuch T, et al. Differences in presentation and management of stable angina from East to West in Europe: a comparison between Poland and the UK. Int J Cardiol. 2008 Apr 25;125(3):311-8. X-1,X-6,X-8
690. Daniels LB, Laughlin GA, Clopton P, et al. Minimally elevated cardiac troponin T and elevated N-terminal pro-B-type natriuretic peptide predict mortality in older adults: results from the Rancho Bernardo Study. J Am Coll Cardiol. 2008 Aug 5;52(6):450-9. X-1,X-2,X-6,X-8
691. Darabian S, Amirzadegan AR, Sadeghian H, et al. Ostial lesions of left main and right coronary arteries: demographic and angiographic features. Angiology. 2008 Dec-2009 Jan;59(6):682-7. X-1,X-2,X-5,X-6,X-8
692. Darwazah AK, Snaineh YA, Kiswani MO, et al. Off-pump coronary artery bypass in multi-vessel disease: effect of ejection fraction on early and midterm mortality and morbidity. J Cardiovasc Surg (Torino). 2008 Aug;49(4):519-26. X-1,X-2,X-7,X-8
693. Das R, Dorsch MF, Lawrance RA, et al. External validation, extension and recalibration of Braunwald's simple risk index in a community-based cohort of patients with both STEMI and NSTEMI. Int J Cardiol. 2006 Mar 8;107(3):327-32. X-1,X-8
694. Dauerman HL, Frederick PD, Miller D, et al. Current incidence and clinical outcomes of bivalirudin administration among patients undergoing primary coronary intervention for stent thrombosis elevation acute myocardial infarction. Coron Artery Dis. 2007 Mar;18(2):141-8. X-1,X-8
695. Daumit GL and Powe NR. Factors influencing access to cardiovascular procedures in patients with chronic kidney disease: race, sex, and insurance. Semin Nephrol. 2001 Jul;21(4):367-76. X-1,X-6
696. Davar JI, Roberts EB, Coghlan JG, et al. Prognostic value of stress echocardiography in women with high (> or = 80%) probability of coronary artery disease. Postgrad Med J. 2001 Sep;77(911):573-7. X-7,X-8
697. Davenport DL, Ferraris VA, Hosokawa P, et al. Multivariable predictors of postoperative cardiac adverse events after general and vascular surgery: results from the patient safety in surgery study. J Am Coll Surg. 2007 Jun;204(6):1199-210. X-1,X-8

Appendix O. List of Excluded Studies

698. Davenport DL, Xenos ES, Hosokawa P, et al. The influence of body mass index obesity status on vascular surgery 30-day morbidity and mortality. J Vasc Surg. 2009 Jan;49(1):140-7, 147 e1; discussion 147. X-1,X-2,X-8
699. Davidson KW, Haas DC, Shimbo D, et al. Standardizing the comparison of systolic blood pressure vs. pulse pressure for predicting coronary heart disease. J Clin Hypertens (Greenwich). 2006 Jun;8(6):411-3. X-1E,X-1F,X-2
700. Daviglus ML, Pirzada A, Liu K, et al. Comparison of low risk and higher risk profiles in middle age to frequency and quantity of coronary artery calcium years later. Am J Cardiol. 2004 Aug 1;94(3):367-9. X-1,X-5,X-6,X-7
701. Daviglus ML, Stamler J, Pirzada A, et al. Favorable cardiovascular risk profile in young women and long-term risk of cardiovascular and all-cause mortality. JAMA. 2004 Oct 6;292(13):1588-92. X-1E,X-1F,X-2
702. Davila JA, Johnson CD, Behrenbeck TR, et al. Assessment of cardiovascular risk status at CT colonography. Radiology. 2006 Jul;240(1):110-5. X-1,X-2,X-5,X-8
703. Davis BR, Arnett DK, Boerwinkle E, et al. Antihypertensive therapy, the alpha-adducin polymorphism, and cardiovascular disease in high-risk hypertensive persons: the Genetics of Hypertension-Associated Treatment Study. Pharmacogenomics J. 2007 Apr;7(2):112-22. X-1,X-2
704. Davis DP, Robertson T and Imbesi SG. Diffusion-weighted magnetic resonance imaging versus computed tomography in the diagnosis of acute ischemic stroke. J Emerg Med. 2006 Oct;31(3):269-77. X-1,X-2,X-4,X-5
705. Davis WJ, 3rd, Vaynblat M, Chiavarelli M, et al. Open heart surgery in patients 85 years and older. J Card Surg. 2004 Jan-Feb;19(1):7-11. X-1,X-2,X-7,X-8
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749. Dekker JM, Crow RS, Hannan PJ, et al. Heart rate-corrected QT interval prolongation predicts risk of coronary heart disease in black and white middle-aged men and women: the ARIC study. J Am Coll Cardiol. 2004 Feb 18;43(4):565-71. X-1D,X-1E,X-1F,X-2,X-6
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761. DeSilvey DL. Estimating risk for percutaneous interventions in the elderly. Am J Geriatr Cardiol. 2003 Jan-Feb;12(1):63, 67. X-1
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772. Di Napoli M, Schwaninger M, Cappelli R, et al. Evaluation of C-reactive protein measurement for assessing the risk and prognosis in ischemic stroke: a statement for health care professionals from the CRP Pooling Project members. Stroke. 2005 Jun;36(6):1316-29. X-1,X-2,X-4,X-5
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775. Dick P, Schillinger M, Minar E, et al. Haem oxygenase-1 genotype and cardiovascular adverse events in patients with peripheral artery disease. Eur J Clin Invest. 2005 Dec;35(12):731-7. X-1
776. Diercks DB, Hollander JE, Sites F, et al. Derivation and validation of a risk stratification model to identify coronary artery disease in women who present to the emergency department with potential acute coronary syndromes. Acad Emerg Med. 2004 Jun;11(6):630-4. X-1,X-8
777. Diercks DB, Kirk JD and Amsterdam EA. Can we identify those at risk for a nondiagnostic treadmill test in a chest pain observation unit? Crit Pathw Cardiol. 2008 Mar;7(1):29-34. X-2,X-5,X-6,X-8
778. Diercks GF, Hillege HL, van Boven AJ, et al. Microalbuminuria modifies the mortality risk associated with electrocardiographic ST-T segment changes. J Am Coll Cardiol. 2002 Oct 16;40(8):1401. X-1F,X-2, (Netherlands)
779. Dixon SR, Grines CL and O'Neill WW. The year in interventional cardiology. J Am Coll Cardiol. 2007 Jul 17;50(3):270-85. X-1,X-4
780. Dixon T, Lim LL and Heller RF. Quality of life: an index for identifying high-risk cardiac patients. J Clin Epidemiol. 2001 Sep;54(9):952-60. X-1G,X-2,X-5,X-6,X-8
781. Djaiani G, Phillips-Bute B, Podgoreanu M, et al. The association of patent foramen ovale and atrial fibrillation after coronary artery bypass graft surgery. Anesth Analg. 2004 Mar;98(3):585-9, table of contents. X-1,X-5,X-6,X-8
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787. Doherty LS, Kiely JL, Swan V, et al. Long-term effects of nasal continuous positive airway pressure therapy on cardiovascular outcomes in sleep apnea syndrome. Chest. 2005 Jun;127(6):2076-84. X-1,X-7
788. Dolan E, Stanton A, Thijs L, et al. Superiority of ambulatory over clinic blood pressure measurement in predicting mortality: the Dublin outcome study. Hypertension. 2005 Jul;46(1):156-61. X-1F,X-2,X-8(9.3-23.1%), (Ireland)
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792. Doobay AV and Anand SS. Sensitivity and specificity of the ankle-brachial index to predict future cardiovascular outcomes: a systematic review. Arterioscler Thromb Vasc Biol. 2005 Jul;25(7):1463-9. X-1,X-2,X-4,X-5
793. Dorfman TA and Iskandrian AE. Adenosine single photon emission computed tomography for assessing risk after myocardial infarction: recent developments. Curr Opin Cardiol. 2007 Sep;22(5):401-7. X-1,X-8
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795. Dornelas EA, Sampson RA, Gray JF, et al. A randomized controlled trial of smoking cessation counseling after myocardial infarction. Prev Med. 2000 Apr;30(4):261-8. X-1,X-2,X-6,X-7,X-8
796. Dorsch MF, Lawrance RA, Sapsford RJ, et al. A simple benchmark for evaluating quality of care of patients following acute myocardial infarction. Heart. 2001 Aug;86(2):150-4. X-1,X-6,X-8
797. Dotsenko O, Chackathayil J, Patel JV, et al. Candidate circulating biomarkers for the cardiovascular disease continuum. Curr Pharm Des. 2008;14(24):2445-61. X-1,X-2,X-4,X-5,X-6,X-7,X-8
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810. Dupuis J, Arsenault A, Meloche B, et al. Quantitative hyperemic reactivity in opposed limbs during myocardial perfusion imaging: a new marker of coronary artery disease. J Am Coll Cardiol. 2004 Oct 6;44(7):1473-7. X-1,X-5,X-6,X-7,X-8
811. Dziewas R, Ritter M, Kruger L, et al. C-reactive protein and fibrinogen in acute stroke patients with and without sleep apnea. Cerebrovasc Dis. 2007;24(5):412-7. X-1,X-2,X-5,X-6,X-7,X-8
812. Dziewas R, Ritter M, Usta N, et al. Atherosclerosis and obstructive sleep apnea in patients with ischemic stroke. Cerebrovasc Dis. 2007;24(1):122-6. X-1,X-6,X-8
813. Dziewas R, Warnecke T, Olenberg S, et al. Towards a basic endoscopic assessment of swallowing in acute stroke - development and evaluation of a simple dysphagia score. Cerebrovasc Dis. 2008;26(1):41-7. X-1,X-2,X-5,X-6,X-7,X-8
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817. Eddinger J and Cohen MC. Advances in nuclear imaging for preoperative risk assessment. Curr Cardiol Rep. 2005 Mar;7(2):143-7. X-1,X-2,X-4,X-5,X-6,X-7,X-8
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Appendix O. List of Excluded Studies

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873. Everett CJ, Mainous AG, 3rd, Koopman RJ, et al. Multiple lipid scoring system for prediction of coronary heart disease risk: application to African Americans. J Natl Med Assoc. 2006 Nov;98(11):1740-5. X-2
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Appendix O. List of Excluded Studies

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887. Farin A and Marshall LF. Lessons from epidemiologic studies in clinical trials of traumatic brain injury. Acta Neurochir Suppl. 2004;89:101-7. X-1,X-4,X-5
888. Farkouh ME, Bansilal S and Mathew V. CRP has little incremental value over traditional cardiovascular risk factors in risk stratification. Nat Clin Pract Cardiovasc Med. 2007 Jun;4(6):290-1. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9
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896. Felber Dietrich D, Schwartz J, Schindler C, et al. Effects of passive smoking on heart rate variability, heart rate and blood pressure: an observational study. Int J Epidemiol. 2007 Aug;36(4):834-40. X-1,X-2,X-5,X-6
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Appendix O. List of Excluded Studies

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901. Feringa HH, Elhendy A, Karagiannis SE, et al. Improving risk assessment with cardiac testing in peripheral arterial disease. Am J Med. 2007 Jun;120(6):531-8. X-1F,X-2,X-8
902. Feringa HH, Karagiannis SE, Schouten O, et al. Prognostic significance of declining ankle-brachial index values in patients with suspected or known peripheral arterial disease. Eur J Vasc Endovasc Surg. 2007 Aug;34(2):206-13. X-1F,X-2,X-8
903. Feringa HH, Karagiannis SE, Vidakovic R, et al. Glycemic control, lipid-lowering treatment, and prognosis in diabetic patients with peripheral atherosclerotic disease. Ann Vasc Surg. 2007 Nov;21(6):780-9. X-1E,X-1F,X-1G,X-2,
904. Fernandez ML and Webb D. The LDL to HDL cholesterol ratio as a valuable tool to evaluate coronary heart disease risk. J Am Coll Nutr. 2008 Feb;27(1):1-5. X-4,X-5,X-6,X-7,X-8
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906. Ferns GA. New and emerging risk factors for CVD. Proc Nutr Soc. 2008 May;67(2):223-31. X-1,X-2,X-4,X-5,X-6,X-7,X-8
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912. Filsoufi F, Jouan J, Chilkwe J, et al. Results and predictors of early and late outcome of coronary artery bypass graft surgery in patients with ejection fraction less than 20%. Arch Cardiovasc Dis. 2008 Sep;101(9):547-56. X-1,X-2,X-7,X-8
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930. Folsom AR, Chambless LE, Ballantyne CM, et al. An assessment of incremental coronary risk prediction using C-reactive protein and other novel risk markers: the atherosclerosis risk in communities study. Arch Intern Med. 2006 Jul 10;166(13):1368-73. X-1
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933. Fonarow GC, Lukas MA, Robertson M, et al. Effects of carvedilol early after myocardial infarction: analysis of the first 30 days in Carvedilol Post-Infarct Survival Control in Left Ventricular Dysfunction (CAPRICORN). Am Heart J. 2007 Oct;154(4):637-44. X-1,X-2,X-8
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941. Forshaw MJ, Strauss DC, Davies AR, et al. Is cardiopulmonary exercise testing a useful test before esophagectomy? Ann Thorac Surg. 2008 Jan;85(1):294-9. X-1,X-2,X-6,X-7,X-8
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943. Fortescue EB, Kahn K and Bates DW. Development and validation of a clinical prediction rule for major adverse outcomes in coronary bypass grafting. Am J Cardiol. 2001 Dec 1;88(11):1251-8. X-1,X-8
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945. Foussas SG, Zairis MN, Lyras AG, et al. Early prognostic usefulness of C-reactive protein added to the Thrombolysis In Myocardial Infarction risk score in acute coronary syndromes. Am J Cardiol. 2005 Aug 15;96(4):533-7. X-1,X-8
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Appendix O. List of Excluded Studies

947. Fowler VG, Jr., O'Brien SM, Muhlbaier LH, et al. Clinical predictors of major infections after cardiac surgery. Circulation. 2005 Aug 30;112(9 Suppl):I358-65. X-1,X-6,X-8
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952. Fox KA, Anderson FA, Jr., Goodman SG, et al. Time course of events in acute coronary syndromes: implications for clinical practice from the GRACE registry. Nat Clin Pract Cardiovasc Med. 2008 Sep;5(9):580-9. X-1,X-2,X-8
953. Fox KA, Dabbous OH, Goldberg RJ, et al. Prediction of risk of death and myocardial infarction in the six months after presentation with acute coronary syndrome: prospective multinational observational study (GRACE). BMJ. 2006 Nov 25;333(7578):1091. X-1,X-8
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956. Franklin SS. Blood pressure and cardiovascular disease: what remains to be achieved? J Hypertens Suppl. 2001 Sep;19(3):S3-8. X-1,X-4
957. Fransson E, de Faire U, Ahlbom A, et al. The effect of leisure-time physical activity on the risk of acute myocardial infarction depending on body mass index: a population-based case-control study. BMC Public Health. 2006;6:296. X-1,X-2
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959. Fraser AG, Scragg RK, Cox B, et al. Helicobacter pylori, Chlamydia pneumoniae and myocardial infarction. Intern Med J. 2003 Jul;33(7):267-72. X-1,X-5,X-6
960. Frazier L. Novel predictors of acute coronary syndrome outcomes. Biol Res Nurs. 2003 Jul;5(1):30-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8
961. Freedman DS, Dietz WH, Srinivasan SR, et al. The relation of overweight to cardiovascular risk factors among children and adolescents: the Bogalusa Heart Study. Pediatrics. 1999 Jun;103(6 Pt 1):1175-82. X-1,X-8
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963. Freeman RV, O'Donnell M, Share D, et al. Nephropathy requiring dialysis after percutaneous coronary intervention and the critical role of an adjusted contrast dose. Am J Cardiol. 2002 Nov 15;90(10):1068-73. X-1,X-2,X-6,X-8
964. Freiberg MS, Pencina MJ, D'Agostino RB, et al. BMI vs. waist circumference for identifying vascular risk. Obesity (Silver Spring). 2008 Feb;16(2):463-9. X-1
965. Frey N, Dietz A, Kurowski V, et al. Angiographic correlates of a positive troponin T test in patients with unstable angina. Crit Care Med. 2001 Jun;29(6):1130-6. X-1,X-6,X-7,X-8
966. Friday G, Alter M and Lai SM. Control of hypertension and risk of stroke recurrence. Stroke. 2002 Nov;33(11):2652-7. X-1
967. Fried LF, Katz R, Sarnak MJ, et al. Kidney function as a predictor of noncardiovascular mortality. J Am Soc Nephrol. 2005 Dec;16(12):3728-35. X-1,X-6
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970. Friedman ND, Bull AL, Russo PL, et al. An alternative scoring system to predict risk for surgical site infection complicating coronary artery bypass graft surgery. Infect Control Hosp Epidemiol. 2007 Oct;28(10):1162-8. X-1,X-6,X-8
971. Frijling BD, Lobo CM, Keus IM, et al. Perceptions of cardiovascular risk among patients with hypertension or diabetes. Patient Educ Couns. 2004 Jan;52(1):47-53. X-1,X-2,X-5,X-6
972. Frimm CD, Trezza B, Gruppi C, et al. Left ventricular hypertrophy predicts outcome of hypertension regardless of the type of ventricular arrhythmia present. J Hum Hypertens. 1999 Sep;13(9):617-23. X-1,X-5,X-6,X-7
973. Frioes F, Azevedo A, Castro A, et al. Impact of cardiovascular risk factors in an urban sample of Portuguese adults according to the Framingham risk prediction models. Rev Port Cardiol. 2003 Apr;22(4):511-20. X-1,X-2,X-5,X-6
974. Froelicher V, Shetler K and Ashley E. Better decisions through science: exercise testing scores. Prog Cardiovasc Dis. 2002 Mar-Apr;44(5):395-414. X-1,X-2,X-4,X-5,X-6,X-7,X-8
975. Frontera JA, Parra A, Shimbo D, et al. Cardiac arrhythmias after subarachnoid hemorrhage: risk factors and impact on outcome. Cerebrovasc Dis. 2008;26(1):71-8. X-1,X-5,X-6,X-8
976. Frontini MG, Srinivasan SR, Xu J, et al. Usefulness of childhood non-high density lipoprotein cholesterol levels versus other lipoprotein measures in predicting adult subclinical atherosclerosis: the Bogalusa Heart Study. Pediatrics. 2008 May;121(5):924-9. X-1,X-2,X-6
977. Froom P, Cohen C, Rashcupkin J, et al. Referral to occupational medicine clinics and resumption of employment after myocardial infarction. J Occup Environ Med. 1999 Nov;41(11):943-7. X-1,X-6,X-7
978. Frutkin AD, Mehta SK, Patel T, et al. Outcomes of 1,090 consecutive, elective, nonselected percutaneous coronary interventions at a community hospital without onsite cardiac surgery. Am J Cardiol. 2008 Jan 1;101(1):53-7. X-1,X-2,X-5,X-6,X-8
979. Fry DE, Pine M, Jordan HS, et al. Combining administrative and clinical data to stratify surgical risk. Ann Surg. 2007 Nov;246(5):875-85. X-1B,X-1F,X-2,X-5,X-6,X-7,X-8,X-9

980. Fuchs I, Frossard M, Spiel A, et al. Platelet function in patients with acute coronary syndrome (ACS) predicts recurrent ACS. J Thromb Haemost. 2006 Dec;4(12):2547-52. X-1,X-2,X-6,X-8
981. Fuchs S, Gruberg L, Singh S, et al. Prognostic value of cardiac troponin I re-elevation following percutaneous coronary intervention in high-risk patients with acute coronary syndromes. Am J Cardiol. 2001 Jul 15;88(2):129-33. X-1,X-7,X-8
982. Fukui T, Shibata T, Sasaki Y, et al. Long-term survival and functional recovery after isolated coronary artery bypass grafting in patients with severe left ventricular dysfunction. Gen Thorac Cardiovasc Surg. 2007 Oct;55(10):403-8. X-1,X-2,X-5,X-6,X-7,X-8
983. Fukui T, Shimokawa T, Manabe S, et al. Prior inferior myocardial infarction has worse early outcomes in patients undergoing coronary artery bypass grafting than prior anterior myocardial infarction. Ann Thorac Surg. 2009 Feb;87(2):475-80. X-1,X-2,X-8
984. Fukuoka K, Nakao K, Morimoto H, et al. Glycated albumin levels predict long-term survival in diabetic patients undergoing haemodialysis. Nephrology (Carlton). 2008 Jun;13(4):278-83. X-1F,X-2,X-7
985. Fuster RG, Argudo JA, Albarova OG, et al. Prognostic value of chronic obstructive pulmonary disease in coronary artery bypass grafting. Eur J Cardiothorac Surg. 2006 Feb;29(2):202-9. X-1,X-6,X-8
986. Gabriel Steg P, Iung B, Feldman LJ, et al. Determinants of use and outcomes of invasive coronary procedures in acute coronary syndromes: results from ENACT. Eur Heart J. 2003 Apr;24(7):613-22. X-1,X-6,X-8
987. Gaeta G, Cuomo S, Capozzi G, et al. Lipoprotein(a) levels are increased in healthy young subjects with parental history of premature myocardial infarction. Nutr Metab Cardiovasc Dis. 2008 Sep;18(7):492-6. X-1,X-2,X-5,X-6,X-7
988. Gage BF, van Walraven C, Pearce L, et al. Selecting patients with atrial fibrillation for anticoagulation: stroke risk stratification in patients taking aspirin. Circulation. 2004 Oct 19;110(16):2287-92. X-1,X-4,X-5,X-8
989. Gage BF, Waterman AD, Shannon W, et al. Validation of clinical classification schemes for predicting stroke: results from the National Registry of Atrial Fibrillation. JAMA. 2001 Jun 13;285(22):2864-70. X-2
990. Galassi AR, Azzarelli S, Tomaselli A, et al. Incremental prognostic value of technetium-99m-tetrofosmin exercise myocardial perfusion imaging for predicting outcomes in patients with suspected or known coronary artery disease. Am J Cardiol. 2001 Jul 15;88(2):101-6. X-1D,X-1F,X-2,X-8
991. Gale CP, Manda SO, Batin PD, et al. Predictors of in-hospital mortality for patients admitted with ST-elevation myocardial infarction: a real-world study using the Myocardial Infarction National Audit Project (MINAP) database. Heart. 2008 Nov;94(11):1407-12. X-1,X-8
992. Gale CR, Ashurst HE, Hall NF, et al. Size at birth and carotid atherosclerosis in later life. Atherosclerosis. 2002 Jul;163(1):141-7. X-1,X-2,X-8
993. Galvani M, Ferrini D and Ottani F. Natriuretic peptides for risk stratification of patients with acute coronary syndromes. Eur J Heart Fail. 2004 Mar 15;6(3):327-33. X-1,X-2,X-8
994. Galvani M, Ottani F, Oltrona L, et al. N-terminal pro-brain natriuretic peptide on admission has prognostic value across the whole spectrum of acute coronary syndromes. Circulation. 2004 Jul 13;110(2):128-34. X-1,X-8

995. Game FL, Bartlett WA, Bayly GR, et al. Comparative accuracy of cardiovascular risk prediction methods in patients with diabetes mellitus. Diabetes Obes Metab. 2001 Aug;3(4):279-86. X-5,X-6
996. Gandley RE, Rohland J, Zhou Y, et al. Increased myeloperoxidase in the placenta and circulation of women with preeclampsia. Hypertension. 2008 Aug;52(2):387-93. X-1,X-2,X-6,X-7
997. Gang Y, Hnatkova K, Mandal K, et al. Preoperative electrocardiographic risk assessment of atrial fibrillation after coronary artery bypass grafting. J Cardiovasc Electrophysiol. 2004 Dec;15(12):1379-86. X-1,X-6,X-7,X-8
998. Ganotakis ES, Vrentzos GE, Gazi IF, et al. Fibrinogen, lipoprotein (a), albumin and bilirubin (F-L-A-B) levels and cardiovascular risk calculated using the Framingham equation. In Vivo. 2007 Jul-Aug;21(4):685-94. X-2,X-5,X-6
999. Gao SA, Johansson M, Hammaren A, et al. Reproducibility of methods for assessing baroreflex sensitivity and temporal QT variability in end-stage renal disease and healthy subjects. Clin Auton Res. 2005 Feb;15(1):21-8. X-1,X-2,X-5,X-6,X-7
1000. Garcia JA, Romano PS, Chan BK, et al. Sociodemographic factors and the assignment of do-not-resuscitate orders in patients with acute myocardial infarctions. Med Care. 2000 Jun;38(6):670-8. X-1,X-2,X-5,X-6,X-8
1001. Garcia S, Canoniero MJ, Chirinos JA, et al. Development of a score to predict the need for coronary artery bypass graft surgery in patients with non-ST segment elevation acute coronary syndromes. Ann Thorac Surg. 2004 Dec;78(6):2022-6; discussion 2026-7. X-1,X-6,X-8
1002. Garcia-Pinilla JM, Espinosa-Caliani S, Jimenez-Navarro M, et al. Influence of 677 C-->T polymorphism of methylenetetrahydrofolate reductase on medium-term prognosis after acute coronary syndromes. Tex Heart Inst J. 2007;34(2):142-7. X-1,X-5,X-6,X-7
1003. Gardemann A, Weidemann H, Philipp M, et al. The TT genotype of the methylenetetrahydrofolate reductase C677T gene polymorphism is associated with the extent of coronary atherosclerosis in patients at high risk for coronary artery disease. Eur Heart J. 1999 Apr;20(8):584-92. X-1,X-5,X-6
1004. Garg AX, Prasad GV, Thiessen-Philbrook HR, et al. Cardiovascular disease and hypertension risk in living kidney donors: an analysis of health administrative data in Ontario, Canada. Transplantation. 2008 Aug 15;86(3):399-406. X-2
1005. Gasowski J, Li Y, Kuznetsova T, et al. Is "usual" blood pressure a proxy for 24-h ambulatory blood pressure in predicting cardiovascular outcomes? Am J Hypertens. 2008 Sep;21(9):994-1000. X-1,X-2
1006. Gasse C, Jacobsen J, Larsen AC, et al. Secondary medical prevention among Danish patients hospitalised with either peripheral arterial disease or myocardial infarction. Eur J Vasc Endovasc Surg. 2008 Jan;35(1):51-8. X-1,X-2,X-6
1007. Gauss A, Rohm HJ, Schauffelen A, et al. Electrocardiographic exercise stress testing for cardiac risk assessment in patients undergoing noncardiac surgery. Anesthesiology. 2001 Jan;94(1):38-46. X-1
1008. Gaw A and Packard CJ. At what level of coronary heart disease risk should a statin be prescribed? Curr Opin Lipidol. 2000 Aug;11(4):363-7. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1009. Gay J and Bergeron P. Can carotid stenting registries help in determining predictors of neurological outcome? J Cardiovasc Surg (Torino). 2006 Apr;47(2):143-51. X-1,X-8

Appendix O. List of Excluded Studies

1010. Gaynor SL, Schuessler RB, Bailey MS, et al. Surgical treatment of atrial fibrillation: predictors of late recurrence. J Thorac Cardiovasc Surg. 2005 Jan;129(1):104-11. X-1,X-2,X-8
1011. Gaze DC. The role of existing and novel cardiac biomarkers for cardioprotection. Curr Opin Investig Drugs. 2007 Sep;8(9):711-7. X-1C,X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1012. Geest TA, Engberg M and Lauritzen T. Discordance between self-evaluated health and doctor-evaluated health in relation to general health promotion. Scand J Prim Health Care. 2004 Sep;22(3):146-51. X-1,X-2,X-5,X-6
1013. Gehi AK, Ali S, Na B, et al. Inducible ischemia and the risk of recurrent cardiovascular events in outpatients with stable coronary heart disease: the heart and soul study. Arch Intern Med. 2008 Jul 14;168(13):1423-8. X-1,X-2,X-8
1014. Geiger AM, Fischberg GM, Chen W, et al. Stroke risk and tamoxifen therapy for breast cancer. J Natl Cancer Inst. 2004 Oct 20;96(20):1528-36. X-1,X-5,X-8
1015. Geisler T, Schaeffeler E, Dippon J, et al. CYP2C19 and nongenetic factors predict poor responsiveness to clopidogrel loading dose after coronary stent implantation. Pharmacogenomics. 2008 Sep;9(9):1251-9. X-1,X-2,X-6,X-8
1016. Geissler HJ, Holzl P, Marohl S, et al. Risk stratification in heart surgery: comparison of six score systems. Eur J Cardiothorac Surg. 2000 Apr;17(4):400-6. X-1,X-8
1017. Gelber RP, Gaziano JM, Orav EJ, et al. Measures of obesity and cardiovascular risk among men and women. J Am Coll Cardiol. 2008 Aug 19;52(8):605-15. X-1F,X-2
1018. Gelsomino S, Lorusso R, Capecchi I, et al. Left ventricular reverse remodeling after undersized mitral ring annuloplasty in patients with ischemic regurgitation. Ann Thorac Surg. 2008 Apr;85(4):1319-30. X-1,X-2,X-6,X-8
1019. Geluk CA, Dikkers R, Kors JA, et al. Measurement of coronary calcium scores or exercise testing as initial screening tool in asymptomatic subjects with ST-T changes on the resting ECG: an evaluation study. BMC Cardiovasc Disord. 2007;7:19. X-7
1020. Georgiou D, Budoff MJ, Kaufer E, et al. Screening patients with chest pain in the emergency department using electron beam tomography: a follow-up study. J Am Coll Cardiol. 2001 Jul;38(1):105-10. X-7
1021. Gerber A, Evers T, Haverkamp H, et al. Cost-benefit analysis of a plant sterol containing low-fat margarine for cholesterol reduction. Eur J Health Econ. 2006 Dec;7(4):247-54. X-1
1022. Gerber Y, Goldbourt U and Drory Y. Interaction between income and education in predicting long-term survival after acute myocardial infarction. Eur J Cardiovasc Prev Rehabil. 2008 Oct;15(5):526-32. X-1,X-2,X-8
1023. Gerber Y, McConnell JP, Jaffe AS, et al. Lipoprotein-associated phospholipase A2 and prognosis after myocardial infarction in the community. Arterioscler Thromb Vasc Biol. 2006 Nov;26(11):2517-22. X-1,X-6,X-8
1024. Gerdtham UG and Johannesson M. A note on the effect of unemployment on mortality. J Health Econ. 2003 May;22(3):505-18. X-1,X-5,X-6
1025. Gerdts E, Wachtell K, Omvik P, et al. Left atrial size and risk of major cardiovascular events during antihypertensive treatment: losartan intervention for endpoint reduction in hypertension trial. Hypertension. 2007 Feb;49(2):311-6. X-1,X-2,X-6,X-8(15%)
1026. Gersh BJ. Optimal management of acute myocardial infarction at the dawn of the next millennium. Am Heart J. 1999 Aug;138(2 Pt 2):S188-202. X-1,X-4,X-5,X-6

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1027. Gerward S, Tyden P, Hansen O, et al. Survival rate 28 days after hospital admission with first myocardial infarction. Inverse relationship with socio-economic circumstances. J Intern Med. 2006 Feb;259(2):164-72. X-1,X-6,X-8
1028. Ghaffari S and Samadikhah J. Predictive value of thrombolysis in myocardial infarction risk score analysis for in-hospital and long term survival of patients with right ventricular infarction. Saudi Med J. 2006 Apr;27(4):553-5. X-1,X-8
1029. Ghali WA, Quan H and Brant R. Risk adjustment using administrative data: impact of a diagnosis-type indicator. J Gen Intern Med. 2001 Aug;16(8):519-24. X-1,X-2,X-6,X-8
1030. Ghanbarian A, Rashidi A, Madjid M, et al. Blood pressure measures and electrocardiogram-defined myocardial infarction in an Iranian population: Tehran Lipid and Glucose study. J Clin Hypertens (Greenwich). 2004 Feb;6(2):71-5. X-1,X-5,X-6,X-8
1031. Ghuran A, Reid F, La Rovere MT, et al. Heart rate turbulence-based predictors of fatal and nonfatal cardiac arrest (The Autonomic Tone and Reflexes After Myocardial Infarction substudy). Am J Cardiol. 2002 Jan 15;89(2):184-90. X-1,X-8
1032. Giannitsis E, Kurz K and Katus HA. Multimarker strategy in acute coronary syndrome--pro-multimarker. Acute Card Care. 2007;9(1):6-9. X-1
1033. Giannitsis E, Muller-Bardorff M, Kurowski V, et al. Independent prognostic value of cardiac troponin T in patients with confirmed pulmonary embolism. Circulation. 2000 Jul 11;102(2):211-7. X-1,X-2,X-6,X-7,X-8
1034. Giannuzzi P. Trends in cardiovascular rehabilitation. Monaldi Arch Chest Dis. 2006 Mar;66(1):44-7. X-5
1035. Giavarina D, Barzon E, Cigolini M, et al. Comparison of methods to identify individuals at increased risk of cardiovascular disease in Italian cohorts. Nutr Metab Cardiovasc Dis. 2007 May;17(4):311-8. X-5,X-6
1036. Gibbons RJ. Abnormal heart-rate recovery after exercise. Lancet. 2002 May 4;359(9317):1536-7. X-1D,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1037. Gibbons RJ, Balady GJ, Bricker JT, et al. ACC/AHA 2002 guideline update for exercise testing: summary article: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee to Update the 1997 Exercise Testing Guidelines). Circulation. 2002 Oct 1;106(14):1883-92. X-1,X-4,X-5,X-6,X-7,X-8
1038. Gibson CM, Murphy SA, Pride YB, et al. Effects of pretreatment with clopidogrel on nonemergent percutaneous coronary intervention after fibrinolytic administration for ST-segment elevation myocardial infarction: a Clopidogrel as Adjunctive Reperfusion Therapy-Thrombolysis in Myocardial Infarction (CLARITY-TIMI) 28 study. Am Heart J. 2008 Jan;155(1):133-9. X-1,X-8
1039. Gibson CM, Pinto DS, Murphy SA, et al. Association of creatinine and creatinine clearance on presentation in acute myocardial infarction with subsequent mortality. J Am Coll Cardiol. 2003 Nov 5;42(9):1535-43. X-1,X-6,X-8
1040. Gidding SS, McMahan CA, McGill HC, et al. Prediction of coronary artery calcium in young adults using the Pathobiological Determinants of Atherosclerosis in Youth (PDAY) risk score: the CARDIA study. Arch Intern Med. 2006 Nov 27;166(21):2341-7. X-6
1041. Gil VM. [Coronary calcium does not accurately predict near-term future coronary events in high-risk adults]. Rev Port Cardiol. 1999 Jun;18(6):659. X-3
1042. Gilbert K, Larocque BJ and Patrick LT. Prospective evaluation of cardiac risk indices for patients undergoing noncardiac surgery. Ann Intern Med. 2000 Sep 5;133(5):356-9. X-1

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1043. Giles MF, Flossman E and Rothwell PM. Patient behavior immediately after transient ischemic attack according to clinical characteristics, perception of the event, and predicted risk of stroke. Stroke. 2006 May;37(5):1254-60. X-1,X-2,X-5,X-6,X-8
1044. Giles MF and Rothwell PM. Prediction and prevention of stroke after transient ischemic attack in the short and long term. Expert Rev Neurother. 2006 Mar;6(3):381-95. X-1,X-4,X-5,X-6,X-7,X-8
1045. Giles MF and Rothwell PM. Risk prediction after TIA: the ABCD system and other methods. Geriatrics. 2008 Oct;63(10):10-3, 16. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1046. Gillett M, Davis WA, Jackson D, et al. Prospective evaluation of carotid bruit as a predictor of first stroke in type 2 diabetes: the Fremantle Diabetes Study. Stroke. 2003 Sep;34(9):2145-51. X-1,X-2
1047. Gilligan AK, Markus R, Read S, et al. Baseline blood pressure but not early computed tomography changes predicts major hemorrhage after streptokinase in acute ischemic stroke. Stroke. 2002 Sep;33(9):2236-42. X-1,X-5,X-8
1048. Gimelli A, L'Abbate A, Glauber M, et al. Cardiac imaging improves risk stratification in high-risk patients undergoing surgical revascularization. J Cardiovasc Med (Hagerstown). 2006 Jan;7(1):51-6. X-1,X-8
1049. Giomarelli P, Scolletta S, Borrelli E, et al. Myocardial and lung injury after cardiopulmonary bypass: role of interleukin (IL)-10. Ann Thorac Surg. 2003 Jul;76(1):117-23. X-1,X-6,X-7,X-8
1050. Giorda CB, Avogaro A, Maggini M, et al. Recurrence of cardiovascular events in patients with type 2 diabetes: epidemiology and risk factors. Diabetes Care. 2008 Nov;31(11):2154-9. X-1,X-2,X-8
1051. Giordano SH, Kuo YF, Freeman JL, et al. Risk of cardiac death after adjuvant radiotherapy for breast cancer. J Natl Cancer Inst. 2005 Mar 16;97(6):419-24. X-1C,X-1F,X-2,X-8
1052. Giorgetti A, Rossi M, Stanislao M, et al. Feasibility and diagnostic accuracy of a gated SPECT early-imaging protocol: a multicenter study of the Myoview Imaging Optimization Group. J Nucl Med. 2007 Oct;48(10):1670-5. X-1,X-2,X-5,X-6,X-7,X-8
1053. Giral P, Bruckert E, Dairou F, et al. Usefulness in predicting coronary artery disease by ultrasonic evaluation of the carotid arteries in asymptomatic hypercholesterolemic patients with positive exercise stress tests. Am J Cardiol. 1999 Jul 1;84(1):14-7. X-1,X-5,X-6,X-7
1054. Giral P, Jacob N, Dourmap C, et al. Elevated gamma-glutamyltransferase activity and perturbed thiol profile are associated with features of metabolic syndrome. Arterioscler Thromb Vasc Biol. 2008 Mar;28(3):587-93. X-1,X-2,X-5,X-6
1055. Girish M, Trayner E, Jr., Dammann O, et al. Symptom-limited stair climbing as a predictor of postoperative cardiopulmonary complications after high-risk surgery. Chest. 2001 Oct;120(4):1147-51. X-1,X-2,X-7
1056. Girkin CA, Kannel WB, Friedman DS, et al. Glaucoma risk factor assessment and prevention: lessons from coronary heart disease. Am J Ophthalmol. 2004 Sep;138(3 Suppl):S11-8. X-1,X-2,X-4,X-5,X-6
1057. Gitt AK, Wasserman K, Kilkowski C, et al. Exercise anaerobic threshold and ventilatory efficiency identify heart failure patients for high risk of early death. Circulation. 2002 Dec 10;106(24):3079-84. X-1

Appendix O. List of Excluded Studies

1058. Gjertsson P, Caidahl K, Oden A, et al. Diagnostic and referral delay in patients with aortic stenosis is common and negatively affects outcome. Scand Cardiovasc J. 2007 Jan;41(1):12-8. X-1,X-6
1059. Glance LG, Dick A, Mukamel DB, et al. Are high-quality cardiac surgeons less likely to operate on high-risk patients compared to low-quality surgeons? Evidence from New York State. Health Serv Res. 2008 Feb;43(1 Pt 1):300-12. X-1,X-2,X-5,X-6,X-8
1060. Glance LG and Osler TM. Comparing outcomes of coronary artery bypass surgery: Is the New York Cardiac Surgery Reporting System model sensitive to changes in case mix? Crit Care Med. 2001 Nov;29(11):2090-6. X-1,X-2,X-5,X-6,X-8
1061. Glance LG, Osler TM, Mukamel DB, et al. Effect of complications on mortality after coronary artery bypass grafting surgery: evidence from New York State. J Thorac Cardiovasc Surg. 2007 Jul;134(1):53-8. X-1,X-8
1062. Glance LG, Osler TM, Mukamel DB, et al. Use of a matching algorithm to evaluate hospital coronary artery bypass grafting performance as an alternative to conventional risk adjustment. Med Care. 2007 Apr;45(4):292-9. X-1,X-5,X-6
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1064. Glickman ME and Kao MF. Apo-E genotypes and cardiovascular diseases: a sensitivity study using cross-validatory criteria. Biom J. 2005 Aug;47(4):541-53. X-1G,X-2
1065. Glineur D, D'Hoore W, El Khoury G, et al. Angiographic predictors of 6-month patency of bypass grafts implanted to the right coronary artery a prospective randomized comparison of gastroepiploic artery and saphenous vein grafts. J Am Coll Cardiol. 2008 Jan 15;51(2):120-5. X-1,X-2,X-6,X-7,X-8
1066. Glower DD, Tuttle RH, Shaw LK, et al. Patient survival characteristics after routine mitral valve repair for ischemic mitral regurgitation. J Thorac Cardiovasc Surg. 2005 Apr;129(4):860-8. X-1,X-5
1067. Glueck CJ, Wang P, Fontaine RN, et al. Estrogen replacement therapy, thrombophilia, and atherothrombosis. Metabolism. 2002 Jun;51(6):724-32. X-1,X-2,X-5,X-8
1068. Glynn RJ, Chae CU, Guralnik JM, et al. Pulse pressure and mortality in older people. Arch Intern Med. 2000 Oct 9;160(18):2765-72. X-1
1069. Glynn RJ, L'Italien GJ, Sesso HD, et al. Development of predictive models for long-term cardiovascular risk associated with systolic and diastolic blood pressure. Hypertension. 2002 Jan;39(1):105-10. X-4,X-5
1070. Glynn RJ and Rosner B. Methods to evaluate risks for composite end points and their individual components. J Clin Epidemiol. 2004 Feb;57(2):113-22. X-1,X-2,X-5,X-6,X-7
1071. Gnasso A, Motti C, Irace C, et al. The Arg allele in position 192 of PON1 is associated with carotid atherosclerosis in subjects with elevated HDLs. Atherosclerosis. 2002 Oct;164(2):289-95. X-2,X-8
1072. Godet G, Riou B, Bertrand M, et al. Does preoperative coronary angioplasty improve perioperative cardiac outcome? Anesthesiology. 2005 Apr;102(4):739-46. X-1,X-5,X-8
1073. Gold MR, Ip JH, Costantini O, et al. Role of microvolt T-wave alternans in assessment of arrhythmia vulnerability among patients with heart failure and systolic dysfunction: primary results from the T-wave alternans sudden cardiac death in heart failure trial substudy. Circulation. 2008 Nov 11;118(20):2022-8. X-1,X-2,X-8

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1074. Goldberg A, Hammerman H, Petcherski S, et al. Prognostic importance of hyponatremia in acute ST-elevation myocardial infarction. Am J Med. 2004 Aug 15;117(4):242-8. X-1,X-6,X-8
1075. Goldberg A, Hammerman H, Petcherski S, et al. Inhospital and 1-year mortality of patients who develop worsening renal function following acute ST-elevation myocardial infarction. Am Heart J. 2005 Aug;150(2):330-7. X-1,X-8
1076. Goldberg Arnold RJ, Akhras KS, Chen C, et al. Review of the development, validation, and application of predictive instruments in interventional cardiology. Heart Dis. 1999 Jul-Aug;1(3):138-48. X-1,X-2,X-4,X-5,X-8
1077. Goldbourt U and Tanne D. Body height is associated with decreased long-term stroke but not coronary heart disease mortality? Stroke. 2002 Mar;33(3):743-8. X-1
1078. Goldenberg I, Jonas M, Tenenbaum A, et al. Current smoking, smoking cessation, and the risk of sudden cardiac death in patients with coronary artery disease. Arch Intern Med. 2003 Oct 27;163(19):2301-5. X-1,X-6,X-8
1079. Goldenberg I, Vyas AK, Hall WJ, et al. Risk stratification for primary implantation of a cardioverter-defibrillator in patients with ischemic left ventricular dysfunction. J Am Coll Cardiol. 2008 Jan 22;51(3):288-96. X-1,X-6,X-8
1080. Gonbert S, Malinsky S, Sposito AC, et al. Atorvastatin lowers lipoprotein(a) but not apolipoprotein(a) fragment levels in hypercholesterolemic subjects at high cardiovascular risk. Atherosclerosis. 2002 Oct;164(2):305-11. X-1,X-2,X-6,X-8
1081. Gonzalez NR, Boscardin WJ, Glenn T, et al. Vasospasm probability index: a combination of transcranial doppler velocities, cerebral blood flow, and clinical risk factors to predict cerebral vasospasm after aneurysmal subarachnoid hemorrhage. J Neurosurg. 2007 Dec;107(6):1101-12. X-1,X-6
1082. Goodney PP, Likosky DS and Cronenwett JL. Factors associated with stroke or death after carotid endarterectomy in Northern New England. J Vasc Surg. 2008 Nov;48(5):1139-45. X-1,X-8
1083. Gopal A and Budoff MJ. Coronary calcium scanning. Am Heart Hosp J. 2006 Winter;4(1):43-50. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1084. Gorelick PB. Lipoprotein-associated phospholipase A2 and risk of stroke. Am J Cardiol. 2008 Jun 16;101(12A):34F-40F. X-1,X-2
1085. Gormley K, Bevan S and Markus HS. Polymorphisms in genes of the renin-angiotensin system and cerebral small vessel disease. Cerebrovasc Dis. 2007;23(2-3):148-55. X-1,X-2,X-8
1086. Gorter PM, Olijhoek JK, van der Graaf Y, et al. Prevalence of the metabolic syndrome in patients with coronary heart disease, cerebrovascular disease, peripheral arterial disease or abdominal aortic aneurysm. Atherosclerosis. 2004 Apr;173(2):363-9. X-1,X-2,X-5,X-6,X-8
1087. Gossl M, Modder UI, Atkinson EJ, et al. Osteocalcin expression by circulating endothelial progenitor cells in patients with coronary atherosclerosis. J Am Coll Cardiol. 2008 Oct 14;52(16):1314-25. X-1,X-2,X-5,X-6,X-7,X-8
1088. Gotoh F, Terayama Y and Amano T. Development of a novel, weighted, quantifiable stroke scale: Japan stroke scale. Stroke. 2001 Aug;32(8):1800-7. X-1,X-5,X-6,X-7,X-8
1089. Gottlieb I and Lima JA. Screening high-risk patients with computed tomography angiography. Circulation. 2008 Mar 11;117(10):1318-32; discussion 1332. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9

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1090. Grabowski M, Filipiak KJ, Malek LA, et al. Admission B-type natriuretic peptide assessment improves early risk stratification by Killip classes and TIMI risk score in patients with acute ST elevation myocardial infarction treated with primary angioplasty. Int J Cardiol. 2007 Feb 14;115(3):386-90. X-1,X-8
1091. Gracey M, Burke V, Martin DD, et al. Assessment of risks of "lifestyle" diseases including cardiovascular disease and type 2 diabetes by anthropometry in remote Australian Aborigines. Asia Pac J Clin Nutr. 2007;16(4):688-97. X-1C,X-1G,X-5,X-6
1092. Grady D, Cauley JA, Geiger MJ, et al. Reduced incidence of invasive breast cancer with raloxifene among women at increased coronary risk. J Natl Cancer Inst. 2008 Jun 18;100(12):854-61. X-1,X-6
1093. Graham MM, Ghali WA, Faris PD, et al. Survival after coronary revascularization in the elderly. Circulation. 2002 May 21;105(20):2378-84. X-1,X-8
1094. Graham MM, Ghali WA, Faris PD, et al. Population rates of cardiac catheterization and yield of high-risk coronary artery disease. CMAJ. 2005 Jul 5;173(1):35-9. X-1C,X-1F,X-2,X-5,X-6,X-8
1095. Gramling R, Klein W, Roberts M, et al. Self-rated cardiovascular risk and 15-year cardiovascular mortality. Ann Fam Med. 2008 Jul-Aug;6(4):302-6. X-1F,X-2
1096. Gravning J, Ueland T, Morkrid L, et al. Different prognostic importance of elevated troponin I after percutaneous coronary intervention in acute coronary syndrome and stable angina pectoris. Scand Cardiovasc J. 2008 Jun;42(3):214-21. X-1,X-2,X-8
1097. Gray WA, Yadav JS, Verta P, et al. The CAPTURE registry: predictors of outcomes in carotid artery stenting with embolic protection for high surgical risk patients in the early post-approval setting. Catheter Cardiovasc Interv. 2007 Dec 1;70(7):1025-33. X-1,X-8
1098. Grayson AD, Moore RK, Jackson M, et al. Multivariate prediction of major adverse cardiac events after 9914 percutaneous coronary interventions in the north west of England. Heart. 2006 May;92(5):658-63. X-1,X-8
1099. Grazuleviciene R and Dulskiene V. Risk factors for heart failure in survivors after first myocardial infarction. Medicina (Kaunas). 2006;42(10):810-6. X-1,X-2,X-6,X-8
1100. Green M, Bjork J, Forberg J, et al. Comparison between neural networks and multiple logistic regression to predict acute coronary syndrome in the emergency room. Artif Intell Med. 2006 Nov;38(3):305-18. X-1,X-5,X-6,X-8
1101. Greenberg JA. Removing confounders from the relationship between mortality risk and systolic blood pressure at low and moderately increased systolic blood pressure. J Hypertens. 2003 Jan;21(1):49-56. X-1F,X-2,X-8
1102. Greenland P, Smith SC, Jr. and Grundy SM. Improving coronary heart disease risk assessment in asymptomatic people: role of traditional risk factors and noninvasive cardiovascular tests. Circulation. 2001 Oct 9;104(15):1863-7. X-1F,X-1G,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1103. Greenson N, Macoviak J, Krishnaswamy P, et al. Usefulness of cardiac troponin I in patients undergoing open heart surgery. Am Heart J. 2001 Mar;141(3):447-55. X-1,X-2,X-7,X-8
1104. Greenstein AJ, Chassin MR, Wang J, et al. Association between minor and major surgical complications after carotid endarterectomy: results of the New York Carotid Artery Surgery study. J Vasc Surg. 2007 Dec;46(6):1138-44; discussion 1145-6. X-1,X-2,X-8

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1105. Gregori D, Rosato R, Zecchin M, et al. Heart failure and sudden death in dilated cardiomyopathy: a hidden competition we should not forget about when modelling mortality. J Eval Clin Pract. 2008 Feb;14(1):53-8. X-1,X-2,X-5,X-7,X-8
1106. Greil GF, Stuber M, Botnar RM, et al. Coronary magnetic resonance angiography in adolescents and young adults with kawasaki disease. Circulation. 2002 Feb 26;105(8):908-11. X-1,X-2,X-6,X-7,X-8
1107. Grewal J, Anand S, Islam S, et al. Prevalence and predictors of subclinical atherosclerosis among asymptomatic "low risk" individuals in a multiethnic population. Atherosclerosis. 2008 Mar;197(1):435-42. X-2,X-5
1108. Grieve R, Hutton J and Green C. Selecting methods for the prediction of future events in cost-effectiveness models: a decision-framework and example from the cardiovascular field. Health Policy. 2003 Jun;64(3):311-24. X-1,X-4,X-5,X-6
1109. Griffin M, Nicolaides AN, Belcaro G, et al. Cardiovascular risk assessment using ultrasound: the value of arterial wall changes including the presence, severity and character of plaques. Pathophysiol Haemost Thromb. 2002 Sep-Dec;32(5-6):367-70. X-1,X-2,X-5,X-8
1110. Grimes DA and Lobo RA. Perspectives on the Women's Health Initiative trial of hormone replacement therapy. Obstet Gynecol. 2002 Dec;100(6):1344-53. X-1,X-2,X-4,X-5,X-6
1111. Grimm W, Glaveris C, Hoffmann J, et al. Arrhythmia risk stratification in idiopathic dilated cardiomyopathy based on echocardiography and 12-lead, signal-averaged, and 24-hour holter electrocardiography. Am Heart J. 2000 Jul;140(1):43-51. X-1,X-2,X-6,X-8
1112. Grimm W, Hoffmann J, Menz V, et al. Prediction of major arrhythmic events and sudden cardiac death in dilated cardiomyopathy. The Marburg Cardiomyopathy Study design and description of baseline clinical characteristics. Herz. 2000 May;25(3):189-99. X-1,X-8
1113. Grimm W, Liedtke J and Muller HH. Prevalence of potential noninvasive arrhythmia risk predictors in healthy, middle-aged persons. Ann Noninvasive Electrocardiol. 2003 Jan;8(1):37-46. X-1,X-2,X-6,X-7
1114. Grodstein F, Stampfer MJ, Falkeborn M, et al. Postmenopausal hormone therapy and risk of cardiovascular disease and hip fracture in a cohort of Swedish women. Epidemiology. 1999 Sep;10(5):476-80. X-1
1115. Gromova HA, Gafarov VV and Gagulin IV. Depression and risk of cardiovascular diseases among males aged 25-64 (WHO MONICA--psychosocial). Alaska Med. 2007;49(2 Suppl):255-8. X-1E,X-1F,X-2
1116. Gronholdt ML, Nordestgaard BG, Schroeder TV, et al. Ultrasonic echolucent carotid plaques predict future strokes. Circulation. 2001 Jul 3;104(1):68-73. X-2,X-7,X-8
1117. Groschel K, Ernemann U, Schnaudigel S, et al. A risk score to predict ischemic lesions after protected carotid artery stenting. J Neurol Sci. 2008 Oct 15;273(1-2):112-5. X-1,X-2,X-6,X-7,X-8
1118. Grossi E. How artificial intelligence tools can be used to assess individual patient risk in cardiovascular disease: problems with the current methods. BMC Cardiovasc Disord. 2006;6:20. X-2,X-4,X-5,X-6,X-7,X-8
1119. Grossman SA, Fischer C, Lipsitz LA, et al. Predicting adverse outcomes in syncope. J Emerg Med. 2007 Oct;33(3):233-9. X-1F,X-1G,X-2
1120. Grover FL, Shroyer AL, Hammermeister K, et al. A decade's experience with quality improvement in cardiac surgery using the Veterans Affairs and Society of Thoracic

Surgeons national databases. Ann Surg. 2001 Oct;234(4):464-72; discussion 472-4. X-1,X-2,X-5,X-6,X-8
1121. Grover SA, Hemmelgarn B, Joseph L, et al. The role of global risk assessment in hypertension therapy. Can J Cardiol. 2006 May 15;22(7):606-13. X-2,X-4,X-5,X-6,X-7,X-8
1122. Grubbs V, Bibbins-Domingo K, Fernandez A, et al. Acute myocardial infarction length of stay and hospital mortality are not associated with language p . J Gen Intern Med. 2008 Feb;23(2):190-4. X-1,X-2,X-5,X-6,X-8
1123. Grunau GL, Sheps S, Goldner EM, et al. Specific comorbidity risk adjustment was a better predictor of 5-year acute myocardial infarction mortality than general methods. J Clin Epidemiol. 2006 Mar;59(3):274-80. X-1,X-8
1124. Grzybowski M, Zalenski RJ, Ross MA, et al. A prediction model for prehospital triage of patients with suspected cardiac ischemia. J Electrocardiol. 2000;33 Suppl:253-8. X-1,X-5,X-8
1125. Gu Q, Burt VL, Paulose-Ram R, et al. High blood pressure and cardiovascular disease mortality risk among U.S. adults: the third National Health and Nutrition Examination Survey mortality follow-up study. Ann Epidemiol. 2008 Apr;18(4):302-9. X-1E,X-2,X-6,X-8(2.4-20.4%)
1126. Guckelberger O, Byram A, Klupp J, et al. Coronary event rates in liver transplant recipients reflect the increased prevalence of cardiovascular risk-factors. Transpl Int. 2005 Aug;18(8):967-74. X-1
1127. Guckelberger O, Mutzke F, Glanemann M, et al. Validation of cardiovascular risk scores in a liver transplant population. Liver Transpl. 2006 Mar;12(3):394-401. X-2
1128. Gudmundsson LS, Johannsson M, Thorgeirsson G, et al. Risk profiles and prognosis of treated and untreated hypertensive men and women in a population-based longitudinal study: the Reykjavik Study. J Hum Hypertens. 2004 Sep;18(9):615-22. X-1,X-2
1129. Gueret P, Khalife K, Jobic Y, et al. Echocardiographic assessment of the incidence of mechanical complications during the early phase of myocardial infarction in the reperfusion era: a French multicentre prospective registry. Arch Cardiovasc Dis. 2008 Jan;101(1):41-7. X-1,X-2,X-8
1130. Gueyffier F, Boissel JP, Pocock S, et al. Identification of risk factors in hypertensive patients: contribution of randomized controlled trials through an individual patient database. Circulation. 1999 Nov 2;100(18):e88-94. X-1F,X-2
1131. Gugl A, Renner W, Seinost G, et al. Two polymorphisms in the fracalkine receptor CX3CR1 are not associated with peripheral arterial disease. Atherosclerosis. 2003 Feb;166(2):339-43. X-1,X-2,X-6
1132. Gula LJ, Klein GJ, Hellkamp AS, et al. Ejection fraction assessment and survival: an analysis of the Sudden Cardiac Death in Heart Failure Trial (SCD-HeFT). Am Heart J. 2008 Dec;156(6):1196-200. X-1,X-2,X-8
1133. Gulati M, Arnsdorf MF, Shaw LJ, et al. Prognostic value of the duke treadmill score in asymptomatic women. Am J Cardiol. 2005 Aug 1;96(3):369-75. X-1
1134. Gulati M, Patel S, Jaffe AS, et al. Impact of contemporary guideline compliance on risk stratification models for acute coronary syndromes in The Registry of Acute Coronary Syndromes. Am J Cardiol. 2004 Oct 1;94(7):873-8. X-1,X-2,X-8

1135. Gunarathne A, Patel JV, Hughes EA, et al. Measurement of stiffness index by digital volume pulse analysis technique: clinical utility in cardiovascular disease risk stratification. Am J Hypertens. 2008 Aug;21(8):866-72. X-1,X-5,X-6
1136. Gunnarsson G, Eriksson P and Dellborg M. ECG criteria in diagnosis of acute myocardial infarction in the presence of left bundle branch block. Int J Cardiol. 2001 Apr;78(2):167-74. X-1,X-6,X-7,X-8
1137. Guo G, Wu RH, Zhang YP, et al. Prediction of hemorrhagic transformation after acute ischemic stroke using hyperintense MCA sign. Conf Proc IEEE Eng Med Biol Soc. 2006;1:1881-4. X-1,X-5,X-6,X-7,X-8
1138. Gur AY, Lampl Y, Gross B, et al. A new scale for assessing patients with vertebrobasilar stroke-the Israeli Vertebrobasilar Stroke Scale (IVBSS): inter-rater reliability and concurrent validity. Clin Neurol Neurosurg. 2007 May;109(4):317-22. X-1,X-5,X-6,X-7,X-8
1139. Guthrie JR, Taffe JR, Lehert P, et al. Association between hormonal changes at menopause and the risk of a coronary event: a longitudinal study. Menopause. 2004 May-Jun;11(3):315-22.X-2,X-6
1140. Guttormsen BN, Stein JH, McBride PE, et al. Rationale for targeted rather than population based screening with C-reactive protein using the National Health and Nutrition Examination Survey (1999 to 2002). Am J Cardiol. 2007 Oct 1;100(7):1130-3. X-1F,X-2,X-6,X-8
1141. Gyenes G, Shrive FM, Graham MM, et al. The prognostic importance of nonsignificant left main coronary artery disease in patients undergoing percutaneous coronary intervention. J Am Coll Cardiol. 2006 Jul 18;48(2):276-80. X-8
1142. Haapanen-Niemi N, Vuori I and Pasanen M. Public health burden of coronary heart disease risk factors among middle-aged and elderly men. Prev Med. 1999 Apr;28(4):343-8. X-1,X-6,X-8
1143. Habil E, Faris R, Magid A, et al. Predictive model of coronary heart disease in Egypt (a disease with multiple risk factors). J Egypt Public Health Assoc. 1999;74(3-4):297-312. X-5
1144. Hachamovitch R, Berman DS, Kiat H, et al. Value of stress myocardial perfusion single photon emission computed tomography in patients with normal resting electrocardiograms: an evaluation of incremental prognostic value and cost-effectiveness. Circulation. 2002 Feb 19;105(7):823-9. X-1F,X-2,X-8
1145. Hachamovitch R, Hayes S, Friedman JD, et al. Determinants of risk and its temporal variation in patients with normal stress myocardial perfusion scans: what is the warranty period of a normal scan? J Am Coll Cardiol. 2003 Apr 16;41(8):1329-40. X-1,X-6,X-7
1146. Hachamovitch R, Hayes SW, Friedman JD, et al. A prognostic score for prediction of cardiac mortality risk after adenosine stress myocardial perfusion scintigraphy. J Am Coll Cardiol. 2005 Mar 1;45(5):722-9. X-1C,X-2,X-8
1147. Hacker M, Tausig A, Romuller B, et al. Dobutamine myocardial scintigraphy for the prediction of cardiac events after heart transplantation. Nucl Med Commun. 2005 Jul;26(7):607-12. X-1,X-6,X-7,X-8
1148. Hackett ML and Anderson CS. Predictors of depression after stroke: a systematic review of observational studies. Stroke. 2005 Oct;36(10):2296-301. X-1,X-2,X-4,X-5,X-6,X-8

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1149. Hadaegh F, Esmaillzadeh A and Azizi F. Metabolic risks in individuals with normal body mass index and normal waist circumference. Eur J Cardiovasc Prev Rehabil. 2007 Apr;14(2):200-7. X-1,X-5,X-6
1150. Hadley RD and Graber MA. Should we measure CRP levels to assess cardiovascular risk? JAAPA. 2003 Jan;16(1):17-9. X-1
1151. Haffner SM. Abdominal adiposity and cardiometabolic risk: do we have all the answers? Am J Med. 2007 Sep;120(9 Suppl 1):S10-6; discussion S16-7. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1152. Haghjoo M, Arya A and Sadr-Ameli MA. Value of microvolt T-wave alternans for predicting patients who would benefit from implantable cardioverter-defibrillator therapy. Cardiol Rev. 2006 Jul-Aug;14(4):173-9. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1153. Hahn KA, Strickland PA, Hamilton JL, et al. Hyperlipidemia guideline adherence and association with patient gender. J Womens Health (Larchmt). 2006 Nov;15(9):1009-13. X-1,X-2,X-5,X-6
1154. Haidari M, Javadi E, Sadeghi B, et al. Evaluation of C-reactive protein, a sensitive marker of inflammation, as a risk factor for stable coronary artery disease. Clin Biochem. 2001 Jun;34(4):309-15. X-1,X-2,X-5,X-8
1155. Haidari M, Javadi E, Sanati A, et al. Association of increased ferritin with premature coronary stenosis in men. Clin Chem. 2001 Sep;47(9):1666-72. X-5,X-8
1156. Haim M, Tanne D, Boyko V, et al. Soluble intercellular adhesion molecule-1 and long-term risk of acute coronary events in patients with chronic coronary heart disease. Data from the Bezafibrate Infarction Prevention (BIP) Study. J Am Coll Cardiol. 2002 Apr 3;39(7):1133-8. X-1,X-2,X-5,X-8
1157. Hajat C, Dundas R, Stewart JA, et al. Cerebrovascular risk factors and stroke subtypes: differences between ethnic groups. Stroke. 2001 Jan;32(1):37-42. X-2,X-8
1158. Hajek P, Macek M, Hladikova M, et al. Pregnancy-associated plasma protein A and proform eosinophilic major basic protein in the detection of different types of coronary artery disease. Physiol Res. 2008;57(1):23-32. X-1,X-2,X-5,X-7,X-8
1159. Hajer GR, van der Graaf Y, Olijhoek JK, et al. Low plasma levels of adiponectin are associated with low risk for future cardiovascular events in patients with clinical evident vascular disease. Am Heart J. 2007 Oct;154(4):750 e1-7. X-1D,X-1F,X-2,X-5,X-8(MI, CAD, Stroke, Angina, 100%)
1160. Hajilooi M, Sanati A, Ahmadieh A, et al. Circulating ICAM-1, VCAM-1, E-selectin, P-selectin, and TNFalphaRII in patients with coronary artery disease. Immunol Invest. 2003 Nov;32(4):245-57. X-1,X-5,X-6,X-7,X-8
1161. Hajilooi M, Sanati A, Ahmadieh A, et al. Circulating ICAM-1, VCAM-1, E-selectin, P-selectin, and TNFRII in patients with coronary artery disease. Immunol Invest. 2004 Aug;33(3):263-75. X-1,X-2,X-5,X-6,X-7,X-8
1162. Hak AE, Polderman KH, Westendorp IC, et al. Increased plasma homocysteine after menopause. Atherosclerosis. 2000 Mar;149(1):163-8. X-1,X-2,X-5,X-6,X-7
1163. Hakeem A, Bhatti S, Dillie KS, et al. Predictive value of myocardial perfusion single-photon emission computed tomography and the impact of renal function on cardiac death. Circulation. 2008 Dec 9;118(24):2540-9. X-1,X-2,X-8
1164. Halamek J, Kara T, Jurak P, et al. Variability of phase shift between blood pressure and heart rate fluctuations: a marker of short-term circulation control. Circulation. 2003 Jul 22;108(3):292-7. X-1,X-2,X-6,X-7,X-8

Appendix O. List of Excluded Studies

1165. Halcox JP and Deanfield JE. Endothelial cell function testing: how does the method help us in evaluating vascular status? Acta Paediatr Suppl. 2004 Dec;93(446):48-54. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1166. Halim AX, Singh V, Johnston SC, et al. Characteristics of brain arteriovenous malformations with coexisting aneurysms: a comparison of two referral centers. Stroke. 2002 Mar;33(3):675-9. X-1,X-2,X-5,X-8
1167. Halkes PH, Gray LJ, Bath PM, et al. Dipyridamole plus aspirin versus aspirin alone in secondary prevention after TIA or stroke: a meta-analysis by risk. J Neurol Neurosurg Psychiatry. 2008 Nov;79(11):1218-23. X-1,X-2,X-4,X-5,X-8
1168. Halkin A, Singh M, Nikolsky E, et al. Prediction of mortality after primary percutaneous coronary intervention for acute myocardial infarction: the CADILLAC risk score. J Am Coll Cardiol. 2005 May 3;45(9):1397-405. X-1,X-8
1169. Hall JA, French TK, Rasmusson KD, et al. The paradox of obesity in patients with heart failure. J Am Acad Nurse Pract. 2005 Dec;17(12):542-6. X-1,X-8
1170. Haller C, Schulz J, Schmidt-Trucksass A, et al. Sequential based analysis of Intima-Media Thickness (IMT) in common carotid artery studies. Atherosclerosis. 2007 Dec;195(2):e203-9. X-1,X-2,X-5,X-6,X-8
1171. Hallevi H, Albright KC, Martin-Schild S, et al. The complications of cardioembolic stroke: lessons from the VISTA database. Cerebrovasc Dis. 2008;26(1):38-40. X-1,X-2,X-8
1172. Halperin RO, Sesso HD, Ma J, et al. Dyslipidemia and the risk of incident hypertension in men. Hypertension. 2006 Jan;47(1):45-50. X-1,X-6
1173. Hamidon BB, Nabil I and Raymond AA. Risk factors and outcome of dysphagia after an acute ischaemic stroke. Med J Malaysia. 2006 Dec;61(5):553-7. X-1,X-6,X-7
1174. Hamirani YS, Jibrin I, Abraham D, et al. Paclitaxel-eluting versus bare-metal stents in acute ST elevation myocardial infarction (STEMI). Crit Pathw Cardiol. 2008 Dec;7(4):232-8. X-1,X-2,X-7,X-8
1175. Han B, Liu L, Aboud M, et al. Provisional stenting for multivessel PCI. Int J Cardiovasc Intervent. 2005;7(1):46-51. X-1,X-6,X-7,X-8
1176. Han JH, Lindsell CJ, Hornung RW, et al. The elder patient with suspected acute coronary syndromes in the emergency department. Acad Emerg Med. 2007 Aug;14(8):732-9. X-1,X-6
1177. Hanekom L, Jenkins C, Jeffries L, et al. Incremental value of strain rate analysis as an adjunct to wall-motion scoring for assessment of myocardial viability by dobutamine echocardiography: a follow-up study after revascularization. Circulation. 2005 Dec 20;112(25):3892-900. X-1,X-6,X-7,X-8
1178. Hankey GJ, Jamrozik K, Broadhurst RJ, et al. Long-term disability after first-ever stroke and related prognostic factors in the Perth Community Stroke Study, 1989-1990. Stroke. 2002 Apr;33(4):1034-40. X-1,X-6,X-8
1179. Hankey GJ, Spiesser J, Hakimi Z, et al. Time frame and predictors of recovery from disability following recurrent ischemic stroke. Neurology. 2007 Jan 16;68(3):202-5. X-1,X-2,X-6,X-8
1180. Hannan EL, Wu C, Bennett EV, et al. Risk stratification of in-hospital mortality for coronary artery bypass graft surgery. J Am Coll Cardiol. 2006 Feb 7;47(3):661-8. X-1,X-8
1181. Hannan EL, Wu C, Bennett EV, et al. Risk index for predicting in-hospital mortality for cardiac valve surgery. Ann Thorac Surg. 2007 Mar;83(3):921-9. X-1,X-8

Appendix O. List of Excluded Studies

1182. Hannan EL, Wu C, Ryan TJ, et al. Do hospitals and surgeons with higher coronary artery bypass graft surgery volumes still have lower risk-adjusted mortality rates? Circulation. 2003 Aug 19;108(7):795-801. X-1,X-2,X-5,X-6,X-8
1183. Hansen HH, Joensen AM, Riahi S, et al. Short and long-term outcome in diabetic patients with acute myocardial infarction in the invasive era. Scand Cardiovasc J. 2007 Jan;41(1):19-24. X-1,X-8
1184. Hansen TW, Thijs L, Boggia J, et al. Prognostic value of ambulatory heart rate revisited in 6928 subjects from 6 populations. Hypertension. 2008 Aug;52(2):229-35. X-1,X-2
1185. Haq IU, Ramsay LE, Yeo WW, et al. Is the Framingham risk function valid for northern European populations? A comparison of methods for estimating absolute coronary risk in high risk men. Heart. 1999 Jan;81(1):40-6. X-5,X-7
1186. Harats D, Leibovitz E, Maislos M, et al. Cardiovascular risk assessment and treatment to target low density lipoprotein levels in hospitalized ischemic heart disease patients: results of the HOLEM study. Isr Med Assoc J. 2005 Jun;7(6):355-9. X-1,X-2,X-6,X-8
1187. Harawa NT, Morgenstern H, Beck J, et al. Correlates of knowledge of one's blood pressure and cholesterol levels among older members of a managed care plan. Aging (Milano). 2001 Apr;13(2):95-104. X-1,X-2,X-5,X-6
1188. Harinstein ME, Flaherty JD, Ansari AH, et al. Predictive value of dobutamine stress echocardiography for coronary artery disease detection in liver transplant candidates. Am J Transplant. 2008 Jul;8(7):1523-8. X-1,X-5,X-6,X-7
1189. Harrell L, Schunkert H and Palacios IF. Risk predictors in patients scheduled for percutaneous coronary revascularization. Catheter Cardiovasc Interv. 1999 Nov;48(3):253-60. X-1,X-6,X-8
1190. Harriss LR, English DR, Hopper JL, et al. Alcohol consumption and cardiovascular mortality accounting for possible misclassification of intake: 11-year follow-up of the Melbourne Collaborative Cohort Study. Addiction. 2007 Oct;102(10):1574-85. X-1E,X-1F,X-2
1191. Hart CL, Taylor MD, Davey Smith G, et al. Childhood IQ, social class, deprivation, and their relationships with mortality and morbidity risk in later life: prospective observational study linking the Scottish Mental Survey 1932 and the Midspan studies. Psychosom Med. 2003 Sep-Oct;65(5):877-83. X-1F,X-2,X-6
1192. Hasdai D, Califf RM, Thompson TD, et al. Predictors of cardiogenic shock after thrombolytic therapy for acute myocardial infarction. J Am Coll Cardiol. 2000 Jan;35(1):136-43. X-1,X-6,X-8
1193. Hasdai D, Holmes DR, Jr., Califf RM, et al. Cardiogenic shock complicating acute myocardial infarction: predictors of death. GUSTO Investigators. Global Utilization of Streptokinase and Tissue-Plasminogen Activator for Occluded Coronary Arteries. Am Heart J. 1999 Jul;138(1 Pt 1):21-31. X-1,X-6,X-8
1194. Hashimoto A, Nakata T, Wakabayashi T, et al. Validation of quantitative gated single photon emission computed tomography and an automated scoring system for the assessment of regional left ventricular systolic function. Nucl Med Commun. 2002 Sep;23(9):887-98. X-1,X-5,X-6,X-7,X-8
1195. Hashimoto H, Kitagawa K, Hougaku H, et al. C-reactive protein predicts carotid atherosclerosis progression in mild to moderate risk and middle-aged patients. Clin Invest Med. 2006 Apr;29(2):77-82. X-7

1196. Hassan A, Gormley K, O'Sullivan M, et al. Endothelial nitric oxide gene haplotypes and risk of cerebral small-vessel disease. Stroke. 2004 Mar;35(3):654-9. X-1,X-5,X-6,X-8
1197. Hassapoyannes CA, Giurgiutiu DV, Bagasra A, et al. Utilization efficacy of noninvasive and invasive cardiac testing among stable cardiac patients undergoing noncardiac surgery. Cardiovasc Revasc Med. 2006 Jan-Mar;7(1):12-8. X-1,X-8
1198. Hassapoyannes CA, Giurgiutiu DV, Eaves G, et al. Apparent racial disparity in the utilization of invasive testing for risk assessment of cardiac patients undergoing noncardiac surgery. Cardiovasc Revasc Med. 2006 Apr-Jun;7(2):64-9. X-1,X-2,X-8
1199. Hassapoyannes CA, McLaurin BT, Hornung CA, et al. Normokinesia adjacent to left ventricular aneurysm: a differential risk for sudden cardiac death. Eur J Heart Fail. 2002 Jan;4(1):33-40. X-1,X-7,X-8
1200. Hata Y, Muratani H, Kimura Y, et al. Office blood pressure variability as a predictor of acute myocardial infarction in elderly patients receiving antihypertensive therapy. J Hum Hypertens. 2002 Feb;16(2):141-6. X-1,X-2,X-5,X-7,X-8
1201. Hatfield J, Gulati S, Abdul Rahman MN, et al. Nurse-led risk assessment/management clinics reduce predicted cardiac morbidity and mortality in claudicants. J Vasc Nurs. 2008 Dec;26(4):118-22. X-1,X-2,X-6,X-7
1202. Hatzinikolaou-Kotsakou E, Tziakas D, Hotidis A, et al. Could sustained monomorphic ventricular tachycardia in the early phase of a prime acute myocardial infarction affect patient outcome? J Electrocardiol. 2007 Jan;40(1):72-7. X-1,X-2,X-6,X-7,X-8
1203. Hauner H, Hanisch J, Bramlage P, et al. Prevalence of undiagnosed Type-2-diabetes mellitus and impaired fasting glucose in German primary care: data from the German Metabolic and Cardiovascular Risk Project (GEMCAS). Exp Clin Endocrinol Diabetes. 2008 Jan;116(1):18-25. X-1F,X-2,X-5,X-6,X-8(15%)
1204. Hayashi SY, Rohani M, Lindholm B, et al. Left ventricular function in patients with chronic kidney disease evaluated by colour tissue Doppler velocity imaging. Nephrol Dial Transplant. 2006 Jan;21(1):125-32. X-1,X-6,X-8
1205. Hayashi T, Obi Y, Kimura T, et al. Cardiac troponin T predicts occult coronary artery stenosis in patients with chronic kidney disease at the start of renal replacement therapy. Nephrol Dial Transplant. 2008 Sep;23(9):2936-42. X-1,X-6,X-7,X-8
1206. Hayashida K, Imanaka Y, Sekimoto M, et al. Evaluation of acute myocardial infarction in-hospital mortality using a risk-adjustment model based on Japanese administrative data. J Int Med Res. 2007 Sep-Oct;35(5):590-6. X-1,X-5,X-6,X-8
1207. Hayden M, Pignone M, Phillips C, et al. Aspirin for the primary prevention of cardiovascular events: a summary of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med. 2002 Jan 15;136(2):161-72. X-4
1208. Hayes SW, De Lorenzo A, Hachamovitch R, et al. Prognostic implications of combined prone and supine acquisitions in patients with equivocal or abnormal supine myocardial perfusion SPECT. J Nucl Med. 2003 Oct;44(10):1633-40. X-1,X-8
1209. He J and Whelton PK. Elevated systolic blood pressure and risk of cardiovascular and renal disease: overview of evidence from observational epidemiologic studies and randomized controlled trials. Am Heart J. 1999 Sep;138(3 Pt 2):211-9. X-4,X-5,X-6
1210. Healy DG, Veerasingam D and Wood AE. EuroSCORE: useful in directing preoperative intra-aortic balloon pump placement in cardiac surgery? Heart Surg Forum. 2006;9(6):E893-6. X-1,X-8

Appendix O. List of Excluded Studies

1211. Heckbert SR, Hindorff LA, Edwards KL, et al. Beta2-adrenergic receptor polymorphisms and risk of incident cardiovascular events in the elderly. Circulation. 2003 Apr 22;107(15):2021-4. X-1F,X-1G,X-2
1212. Heeneman S, Donners MM, Bai L, et al. Drug-induced immunomodulation to affect the development and progression of atherosclerosis: a new opportunity? Expert Rev Cardiovasc Ther. 2007 Mar;5(2):345-64. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1213. Heeschen C, Dimmeler S, Fichtlscherer S, et al. Prognostic value of placental growth factor in patients with acute chest pain. JAMA. 2004 Jan 28;291(4):435-41. X-1,X-2,X-8
1214. Heeschen C, Dimmeler S, Hamm CW, et al. Prognostic significance of angiogenic growth factor serum levels in patients with acute coronary syndromes. Circulation. 2003 Feb 4;107(4):524-30. X-1,X-5,X-6
1215. Heeschen C, Goldmann BU, Terres W, et al. Cardiovascular risk and therapeutic benefit of coronary interventions for patients with unstable angina according to the troponin T status. Eur Heart J. 2000 Jul;21(14):1159-66. X-1,X-8
1216. Heggunje PS, Harjai KJ, Stone GW, et al. Procedural success versus clinical risk status in determining discharge of patients after primary angioplasty for acute myocardial infarction. J Am Coll Cardiol. 2004 Oct 6;44(7):1400-7. X-1,X-8
1217. Heijmans BT, Westendorp RG, Lagaay AM, et al. Common paraoxonase gene variants, mortality risk and fatal cardiovascular events in elderly subjects. Atherosclerosis. 2000 Mar;149(1):91-7. X-1,X-2
1218. Heijmans JH, Maessen JG and Roekaerts PM. Risk stratification for adverse outcome in cardiac surgery. Eur J Anaesthesiol. 2003 Jul;20(7):515-27. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1219. Heikkinen J, Biancari F, Satta J, et al. Predicting immediate and late outcome after surgery for mitral valve regurgitation with EuroSCORE. J Heart Valve Dis. 2007 Mar;16(2):116-21. X-1,X-6,X-8
1220. Heine GH, Gerhart MK, Ulrich C, et al. Renal Doppler resistance indices are associated with systemic atherosclerosis in kidney transplant recipients. Kidney Int. 2005 Aug;68(2):878-85. X-1,X-6,X-7
1221. Heiss G, Wallace R, Anderson GL, et al. Health risks and benefits 3 years after stopping randomized treatment with estrogen and progestin. JAMA. 2008 Mar 5;299(9):1036-45. X-1F,X-2,X-6,X-8(7-8.8%)
1222. Heitzer T, Schlinzig T, Krohn K, et al. Endothelial dysfunction, oxidative stress, and risk of cardiovascular events in patients with coronary artery disease. Circulation. 2001 Nov 27;104(22):2673-8. X-1,X-2,X-8
1223. Heltai K, Kis Z, Burian K, et al. Elevated antibody levels against Chlamydia pneumoniae, human HSP60 and mycobacterial HSP65 are independent risk factors in myocardial infarction and ischaemic heart disease. Atherosclerosis. 2004 Apr;173(2):339-46. X-1,X-2,X-5,X-6,X-7,X-8
1224. Hemphill JC, 3rd, Bonovich DC, Besmertis L, et al. The ICH score: a simple, reliable grading scale for intracerebral hemorrhage. Stroke. 2001 Apr;32(4):891-7. X-1,X-6,X-8
1225. Hendler A, Kaluski E, Blatt A, et al. Percutaneous coronary intervention of unprotected left main coronary artery in the emergent/urgent setting. J Invasive Cardiol. 2007 May;19(5):202-6. X-1,X-7,X-8
1226. Hendricks AS, Goodman B, Stein JH, et al. Gender differences in acute myocardial infarction: the University of Wisconsin experience. WMJ. 1999 Dec;98(8):30-3, 36. X-1,X-5,X-6,X-8

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1227. Hendrix SL, Wassertheil-Smoller S, Johnson KC, et al. Effects of conjugated equine estrogen on stroke in the Women's Health Initiative. Circulation. 2006 May 23;113(20):2425-34. X-1F,X-2,X-8
1228. Henley SJ, Thun MJ, Chao A, et al. Association between exclusive pipe smoking and mortality from cancer and other diseases. J Natl Cancer Inst. 2004 Jun 2;96(11):853-61. X-1,X-2
1229. Henley SJ, Thun MJ, Connell C, et al. Two large prospective studies of mortality among men who use snuff or chewing tobacco (United States). Cancer Causes Control. 2005 May;16(4):347-58. X-1F,X-2,X-8(6%)
1230. Henon H, Vroylandt P, Durieu I, et al. Leukoaraiosis more than dementia is a predictor of stroke recurrence. Stroke. 2003 Dec;34(12):2935-40. X-1,X-7,X-8
1231. Henriksen T and Clausen T. The fetal origins hypothesis: placental insufficiency and inheritance versus maternal malnutrition in well-nourished populations. Acta Obstet Gynecol Scand. 2002 Feb;81(2):112-4. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1232. Henriques JP, Zijlstra F, Ottervanger JP, et al. Angiographic predictors of left ventricular ejection fraction after successful angioplasty in acute myocardial infarction: an angiographic risk score for use in the catheterization laboratory. Catheter Cardiovasc Interv. 2004 Mar;61(3):338-43. X-1,X-2,X-6,X-8
1233. Hense HW, Koesters E, Wellmann J, et al. Evaluation of a recalibrated Systematic Coronary Risk Evaluation cardiovascular risk chart: results from Systematic Coronary Risk Evaluation Germany. Eur J Cardiovasc Prev Rehabil. 2008 Aug;15(4):409-15. X-5
1234. Hergenc G, Onat A, Sari I, et al. Serum total and high-density lipoprotein phospholipid levels in a population-based study and relationship to risk of metabolic syndrome and coronary disease. Angiology. 2008 Feb-Mar;59(1):26-35. X-1,X-2,X-6
1235. Herman C, Sullivan JA, Buth K, et al. Intraoperative graft flow measurements during coronary artery bypass surgery predict in-hospital outcomes. Interact Cardiovasc Thorac Surg. 2008 Aug;7(4):582-5. X-1,X-2,X-8
1236. Hermann-Arnhof KM, Kastenbauer T, Publig T, et al. Initially elevated osteoprotegerin serum levels may predict a perioperative myocardial lesion in patients undergoing coronary artery bypass grafting. Crit Care Med. 2006 Jan;34(1):76-80. X-1,X-6,X-7,X-8
1237. Hermida JS, Leenhardt A, Cauchemez B, et al. Decreased nocturnal standard deviation of averaged NN intervals. An independent marker to identify patients at risk in the Brugada Syndrome. Eur Heart J. 2003 Nov;24(22):2061-9. X-1,X-6,X-7
1238. Herrmann W, Quast S, Wolter K, et al. Determination of free apolipoprotein(a) in serum by immunoassay and its significance for risk assessment in patients with coronary artery disease. Clin Chem Lab Med. 1999 Jan;37(1):21-8. X-1,X-5,X-6,X-8
1239. Hertzer NR, Bena JF and Karafa MT. A personal experience with the influence of diabetes and other factors on the outcome of infrainguinal bypass grafts for occlusive disease. J Vasc Surg. 2007 Aug;46(2):271-279. X-1,X-6,X-8
1240. Herwaldt LA, Cullen JJ, French P, et al. Preoperative risk factors for nasal carriage of Staphylococcus aureus. Infect Control Hosp Epidemiol. 2004 Jun;25(6):481-4. X-1,X-6
1241. Herzog C, Britten M, Balzer JO, et al. Multidetector-row cardiac CT: diagnostic value of calcium scoring and CT coronary angiography in patients with symptomatic, but atypical, chest pain. Eur Radiol. 2004 Feb;14(2):169-77. X-1,X-5,X-6

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1242. Heuchan AM, Evans N, Henderson Smart DJ, et al. Perinatal risk factors for major intraventricular haemorrhage in the Australian and New Zealand Neonatal Network, 1995-97. Arch Dis Child Fetal Neonatal Ed. 2002 Mar;86(2):F86-90. X-1
1243. Heuschmann PU, Kolominsky-Rabas PL, Misselwitz B, et al. Predictors of in-hospital mortality and attributable risks of death after ischemic stroke: the German Stroke Registers Study Group. Arch Intern Med. 2004 Sep 13;164(16):1761-8. X-1,X-8
1244. Heuschmann PU, Neureiter D, Gesslein M, et al. Association between infection with Helicobacter pylori and Chlamydia pneumoniae and risk of ischemic stroke subtypes: Results from a population-based case-control study. Stroke. 2001 Oct;32(10):2253-8. X-1,X-2,X-5,X-8
1245. Hiatt WR, Money SR and Brass EP. Long-term safety of cilostazol in patients with peripheral artery disease: the CASTLE study (Cilostazol: A Study in Long-term Effects). J Vasc Surg. 2008 Feb;47(2):330-336. X-1,X-2,X-8
1246. Hietanen H, Paakkonen R and Salomaa V. Ankle blood pressure as a predictor of total and cardiovascular mortality. BMC Cardiovasc Disord. 2008;8:3. X-1E,X-1F,X-2,X-8(4-54%)
1247. Higashikuni Y, Tanabe K, Tanimoto S, et al. Impact of culprit plaque composition on the no-reflow phenomenon in patients with acute coronary syndrome: an intravascular ultrasound radiofrequency analysis. Circ J. 2008 Aug;72(8):1235-41. X-1,X-2,X-6,X-7,X-8
1248. Hildemann S, Karmann B, Pittrow D, et al. Predictors of uncontrolled hyperlipidaemia in high-risk ambulatory patients in primary care. Curr Med Res Opin. 2008 Jun;24(6):1659-68. X-1,X-4,X-5,X-6
1249. Hill AB, Obrand D, O'Rourke K, et al. Hemispheric stroke following cardiac surgery: a case-control estimate of the risk resulting from ipsilateral asymptomatic carotid artery stenosis. Ann Vasc Surg. 2000 May;14(3):200-9. X-1,X-2,X-5,X-8
1250. Hill DC, Ethans KD, MacLeod DA, et al. Exercise stress testing in subacute stroke patients using a combined upper- and lower-limb ergometer. Arch Phys Med Rehabil. 2005 Sep;86(9):1860-6. X-1,X-2,X-5,X-6X-7,X-8
1251. Hill JM, Zalos G, Halcox JP, et al. Circulating endothelial progenitor cells, vascular function, and cardiovascular risk. N Engl J Med. 2003 Feb 13;348(7):593-600. X-1,X-5,X-6,X-7
1252. Hill MD, Yiannakoulias N, Jeerakathil T, et al. The high risk of stroke immediately after transient ischemic attack: a population-based study. Neurology. 2004 Jun 8;62(11):2015-20. X-1,X-8
1253. Hillsdon M, Thorogood M, Murphy M, et al. Can a simple measure of vigorous physical activity predict future mortality? Results from the OXCHECK study. Public Health Nutr. 2004 Jun;7(4):557-62. X-1,X-2
1254. Hines GL, Feuerman M, Cappello D, et al. Results of carotid endarterectomy with pericardial patch angioplasty: rate and predictors of restenosis. Ann Vasc Surg. 2007 Nov;21(6):767-71. X-1,X-6,X-7,X-8
1255. Hirakawa Y, Masuda Y, Kuzuya M, et al. Impact of gender on in-hospital mortality of patients with acute myocardial infarction undergoing percutaneous coronary intervention: an evaluation of the TAMIS-II data. Intern Med. 2007;46(7):363-6. X-1,X-8
1256. Hirokawa K, Nagata C, Takatsuka N, et al. The relationships of a rationality/antiemotionality personality scale to mortalities of cancer and cardiovascular disease in a community population in Japan. J Psychosom Res. 2004 Jan;56(1):103-11. X-1F,X-2,X-5,X-6

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1257. Hirsch A, Nijveldt R, van der Vleuten PA, et al. Intracoronary infusion of autologous mononuclear bone marrow cells in patients with acute myocardial infarction treated with primary PCI: Pilot study of the multicenter HEBE trial. Catheter Cardiovasc Interv. 2008 Feb 15;71(3):273-81. X-1,X-2,X-5,X-6,X-7,X-8
1258. Hirsch AT. Vascular disease, hypertension, and prevention: "from endothelium to clinical events". J Am Coll Cardiol. 2003 Jul 16;42(2):377-9. X-2,X-4
1259. Hirtz D, Thurman DJ, Gwinn-Hardy K, et al. How common are the "common" neurologic disorders? Neurology. 2007 Jan 30;68(5):326-37. X-1,X-2,X-4,X-5
1260. Hitman GA, Colhoun H, Newman C, et al. Stroke prediction and stroke prevention with atorvastatin in the Collaborative Atorvastatin Diabetes Study (CARDS). Diabet Med. 2007 Dec;24(12):1313-21. X-1F,X-2
1261. Hiura Y, Fukushima Y, Yuno M, et al. Validation of the association of genetic variants on chromosome 9p21 and 1q41 with myocardial infarction in a Japanese population. Circ J. 2008 Aug;72(8):1213-7. X-1,X-2,X-5,X-8
1262. Ho JE, Paultre F and Mosca L. Is diabetes mellitus a cardiovascular disease risk equivalent for fatal stroke in women? Data from the Women's Pooling Project. Stroke. 2003 Dec;34(12):2812-6. X-4
1263. Ho KT, Miller TD, Hodge DO, et al. Use of a simple clinical score to predict prognosis of patients with normal or mildly abnormal resting electrocardiographic findings undergoing evaluation for coronary artery disease. Mayo Clin Proc. 2002 Jun;77(6):515-21. X-1,X-8
1264. Hobbs FD, Erhardt LR and Rycroft C. The From The Heart study: a global survey of patient understanding of cholesterol management and cardiovascular risk, and physician-patient communication. Curr Med Res Opin. 2008 May;24(5):1267-78. X-1,X-2,X-5,X-6
1265. Hobbs JB, Peterson DR, Moss AJ, et al. Risk of aborted cardiac arrest or sudden cardiac death during adolescence in the long-QT syndrome. JAMA. 2006 Sep 13;296(10):1249-54. X-1D,X-1F,X-1G,X-2,X-5,X-8(100%),X-9
1266. Hochadel M, Schneider S, Gottwik M, et al. Evaluation of hospitals regarding outcomes and baseline risk -- an application to percutaneous coronary intervention. Clin Res Cardiol. 2007 Jul;96(7):502-7. X-1,X-6,X-8
1267. Hocher B, Ziebig R, Altermann C, et al. Different impact of biomarkers as mortality predictors among diabetic and nondiabetic patients undergoing hemodialysis. J Am Soc Nephrol. 2003 Sep;14(9):2329-37. X-1F,X-2
1268. Hoefle G, Muendlein A, Saely CH, et al. The -11377 C>G promoter variant of the adiponectin gene, prevalence of coronary atherosclerosis, and incidence of vascular events in men. Thromb Haemost. 2007 Mar;97(3):451-7. X-1
1269. Hoeks SE, Scholte Op Reimer WJ, van Urk H, et al. Increase of 1-year mortality after perioperative beta-blocker withdrawal in endovascular and vascular surgery patients. Eur J Vasc Endovasc Surg. 2007 Jan;33(1):13-9. X-1,X-7
1270. Hoenig MR. Implications of the obesity epidemic for lipid-lowering therapy: non-HDL cholesterol should replace LDL cholesterol as the primary therapeutic target. Vasc Health Risk Manag. 2008;4(1):143-56. X-2,X-4,X-5
1271. Hoffmann U, Brady TJ and Muller J. Cardiology patient page. Use of new imaging techniques to screen for coronary artery disease. Circulation. 2003 Aug 26;108(8):e50-3. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9

Appendix O. List of Excluded Studies

1272. Hoffmann U, Nagurney JT, Moselewski F, et al. Coronary multidetector computed tomography in the assessment of patients with acute chest pain. Circulation. 2006 Nov 21;114(21):2251-60. X-1,X-2,X-6,X-7,X-8
1273. Hogh AL, Joensen J, Lindholt JS, et al. C-reactive protein predicts future arterial and cardiovascular events in patients with symptomatic peripheral arterial disease. Vasc Endovascular Surg. 2008 Aug-Sep;42(4):341-7. X-1
1274. Hognestad A, Endresen K, Wergeland R, et al. Inflammatory response and re-stenosis after percutaneous coronary intervention in heart transplant recipients and patients with native atherosclerosis. J Heart Lung Transplant. 2005 Aug;24(8):1026-32. X-1,X-2,X-6,X-7,X-8
1275. Hoh J, Wille A, Zee R, et al. Selecting SNPs in two-stage analysis of disease association data: a model-free approach. Ann Hum Genet. 2000 Sep;64(Pt 5):413-7. X-1,X-8
1276. Hoieggen A, Alderman MH, Kjeldsen SE, et al. The impact of serum uric acid on cardiovascular outcomes in the LIFE study. Kidney Int. 2004 Mar;65(3):1041-9. X-1E,X-1F,X-2
1277. Hollander JE, Muttreja MR, Dalesandro MR, et al. Risk stratification of emergency department patients with acute coronary syndromes using P-selectin. J Am Coll Cardiol. 1999 Jul;34(1):95-105. X-1,X-6
1278. Hollander JE, Sites FD, Pollack CV, Jr., et al. Lack of utility of telemetry monitoring for identification of cardiac death and life-threatening ventricular dysrhythmias in low-risk patients with chest pain. Ann Emerg Med. 2004 Jan;43(1):71-6. X-1,X-5
1279. Hollander M, Hak AE, Koudstaal PJ, et al. Comparison between measures of atherosclerosis and risk of stroke: the Rotterdam Study. Stroke. 2003 Oct;34(10):2367-72. X-1F,X-2
1280. Holloman CH, Bortnick SM, Morara M, et al. A Bayesian hierarchical approach for relating PM(2.5) exposure to cardiovascular mortality in North Carolina. Environ Health Perspect. 2004 Sep;112(13):1282-8. X-1,X-2,X-5
1281. Holmboe ES, Wang Y, Meehan TP, et al. Association between maintenance of certification examination scores and quality of care for medicare beneficiaries. Arch Intern Med. 2008 Jul 14;168(13):1396-403. X-1,X-6
1282. Holmes D, Velappan P and Kern MJ. Coronary pressure notch: an early non-hyperemic visual indicator of the physiologic significance of a coronary artery stenosis. J Invasive Cardiol. 2004 Nov;16(11):617-20. X-1,X-2,X-5,X-6,X-7,X-8
1283. Holscher B, Heitmeyer C, Fobker M, et al. Predictors for contrast media-induced nephropathy and long-term survival: prospectively assessed data from the randomized controlled Dialysis-Versus-Diuresis (DVD) trial. Can J Cardiol. 2008 Nov;24(11):845-50. X-1,X-2,X-6
1284. Holubkov R, Pepine CJ, Rickens C, et al. Electrocardiogram abnormalities predict angiographic coronary artery disease in women with chest pain: results from the NHLBI WISE Study. Clin Cardiol. 2002 Dec;25(12):553-8. X-1,X-2,X-5,X-8
1285. Holvoet P, Harris TB, Tracy RP, et al. Association of high coronary heart disease risk status with circulating oxidized LDL in the well-functioning elderly: findings from the Health, Aging, and Body Composition study. Arterioscler Thromb Vasc Biol. 2003 Aug 1;23(8):1444-8. X-1,X-5,X-8
1286. Honda O, Sugiyama S, Kugiyama K, et al. Echolucent carotid plaques predict future coronary events in patients with coronary artery disease. J Am Coll Cardiol. 2004 Apr 7;43(7):1177-84. X-1,X-8

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1287. Hong MK, Mintz GS, Lee CW, et al. Late target lesion revascularization after implantation of sirolimus-eluting stent. Catheter Cardiovasc Interv. 2008 Feb 15;71(3):299-303. X-1,X-6,X-8
1288. Hong YJ, Jeong MH, Park OY, et al. The role of C-reactive protein on the long-term clinical outcome after primary or rescue percutaneous coronary intervention. Korean J Intern Med. 2003 Mar;18(1):29-34. X-1,X-6,X-8
1289. Hongzong S, Tao W, Xiaojun Y, et al. Support vector machines classification for discriminating coronary heart disease patients from non-coronary heart disease. West Indian Med J. 2007 Oct;56(5):451-7. X-1,X-2,X-5,X-6,X-8
1290. Honzikova N, Fiser B and Semrad B. Critical value of baroreflex sensitivity determined by spectral analysis in risk stratification after myocardial infarction. Pacing Clin Electrophysiol. 2000 Nov;23(11 Pt 2):1965-7. X-1,X-7,X-8
1291. Hoogeveen EK, Kostense PJ, Valk GD, et al. Hyperhomocysteinaemia is not related to risk of distal somatic polyneuropathy: the Hoorn Study. J Intern Med. 1999 Dec;246(6):561-6. X-1,X-6
1292. Hooning MJ, Dorresteijn LD, Aleman BM, et al. Decreased risk of stroke among 10-year survivors of breast cancer. J Clin Oncol. 2006 Dec 1;24(34):5388-94. X-1,X-2
1293. Hope SA, Antonis P, Adam D, et al. Arterial pulse wave velocity but not augmentation index is associated with coronary artery disease extent and severity: implications for arterial transfer function applicability. J Hypertens. 2007 Oct;25(10):2105-9. X-1,X-2,X-5,X-6,X-7,X-8
1294. Hopkins PN, Heiss G, Ellison RC, et al. Coronary artery disease risk in familial combined hyperlipidemia and familial hypertriglyceridemia: a case-control comparison from the National Heart, Lung, and Blood Institute Family Heart Study. Circulation. 2003 Aug 5;108(5):519-23. X-1,X-2,X-5,X-7
1295. Horai T, Fukui T, Tabata M, et al. Early and mid-term results of off-pump coronary artery bypass grafting in patients with end stage renal disease: surgical outcomes after achievement of complete revascularization. Interact Cardiovasc Thorac Surg. 2008 Apr;7(2):218-21. X-1,X-2,X-5,X-6,X-7
1296. Horan PG, Kamaruddin MS, Moore MJ, et al. Cardiovascular disease risk profiles among 'healthy' siblings of patients with early-onset cardiovascular disease: application of the new SCORE system. Eur J Cardiovasc Prev Rehabil. 2007 Aug;14(4):521-5. X-5,X-6
1297. Horan PG, Leonard N and Herity NA. Progressively increasing operative risk among patients referred for coronary artery bypass surgery. Ulster Med J. 2006 May;75(2):136-40. X-1F,X-2
1298. Horenstein RB, Smith DE and Mosca L. Cholesterol predicts stroke mortality in the Women's Pooling Project. Stroke. 2002 Jul;33(7):1863-8. X-4,X-5
1299. Hori R, Hayano J, Monou H, et al. Coronary-prone behavior among Japanese men. Circ J. 2003 Feb;67(2):129-32. X-1,X-5,X-6
1300. Horibe H, Yamada Y, Ichihara S, et al. Genetic risk for restenosis after coronary balloon angioplasty. Atherosclerosis. 2004 May;174(1):181-7. X-1,X-2,X-6,X-8
1301. Horne BD, Anderson JL, John JM, et al. Which white blood cell subtypes predict increased cardiovascular risk? J Am Coll Cardiol. 2005 May 17;45(10):1638-43. X-1F,X-2,X-8(MI)(Unstable Angina)(Stable Angina)

Appendix O. List of Excluded Studies

1302. Horne BD, Muhlestein JB, Lappe DL, et al. Less affluent area of residence and lesser-insured status predict an increased risk of death or myocardial infarction after angiographic diagnosis of coronary disease. Ann Epidemiol. 2004 Feb;14(2):143-50. X-1F,X-2,X-8
1303. Horwich TB, Patel J, MacLellan WR, et al. Cardiac troponin I is associated with impaired hemodynamics, progressive left ventricular dysfunction, and increased mortality rates in advanced heart failure. Circulation. 2003 Aug 19;108(7):833-8. X-1,X-5,X-8
1304. Hoshida S, Nishino M, Takeda T, et al. A persistent increase in C-reactive protein is a risk factor for restenosis in patients with stable angina who are not receiving statins. Atherosclerosis. 2004 Apr;173(2):285-90. X-1,X-2,X-6,X-8
1305. Hossain A and Khan HT. Risk factors of coronary heart disease. Indian Heart J. 2007 Mar-Apr;59(2):147-51. X-1,X-2
1306. Hougaku H, Fleg JL, Najjar SS, et al. Relationship between androgenic hormones and arterial stiffness, based on longitudinal hormone measurements. Am J Physiol Endocrinol Metab. 2006 Feb;290(2):E234-42. X-1,X-6
1307. House A, Knapp P, Bamford J, et al. Mortality at 12 and 24 months after stroke may be associated with depressive symptoms at 1 month. Stroke. 2001 Mar;32(3):696-701. X-1,X-8
1308. Houterman S, Janssen-Heijnen ML, Verheij CD, et al. Greater influence of age than co-morbidity on primary treatment and complications of prostate cancer patients: an in-depth population-based study. Prostate Cancer Prostatic Dis. 2006;9(2):179-84. X-1,X-6
1309. Hoy A, Leininger-Muller B, Poirier O, et al. Myeloperoxidase polymorphisms in brain infarction. Association with infarct size and functional outcome. Atherosclerosis. 2003 Apr;167(2):223-30. X-1,X-5,X-6
1310. Hoy W, Kelly A, Jacups S, et al. Stemming the tide: reducing cardiovascular disease and renal failure in Australian Aborigines. Aust N Z J Med. 1999 Jun;29(3):480-3. X-1,X-2,X-6
1311. Hoyer D, Maestri R, La Rovere MT, et al. Autonomic response to cardiac dysfunction in chronic heart failure: a risk predictor based on autonomic information flow. Pacing Clin Electrophysiol. 2008 Feb;31(2):214-20. X-1,X-2,X-5,X-6,X-8
1312. Hozawa A, Houston T, Steffes MW, et al. The association of cigarette smoking with self-reported disease before middle age: the Coronary Artery Risk Development in Young Adults (CARDIA) study. Prev Med. 2006 Mar;42(3):193-9. X-1
1313. Hsia HH and Marchlinski FE. Electrophysiology studies in patients with dilated cardiomyopathies. Card Electrophysiol Rev. 2002 Dec;6(4):472-81. X-1,X-2,X-4,X-5,X-6
1314. Hsia J, Barad D, Margolis K, et al. Usefulness of prior hysterectomy as an independent predictor of Framingham risk score (The Women's Health Initiative). Am J Cardiol. 2003 Aug 1;92(3):264-9. X-1,X-2,X-5,X-6
1315. Hsia J, Jablonski KA, Rice MM, et al. Sudden cardiac death in patients with stable coronary artery disease and preserved left ventricular systolic function. Am J Cardiol. 2008 Feb 15;101(4):457-61. X-1,X-8
1316. Hsia J, Klouj A, Prasad A, et al. Progression of coronary calcification in healthy postmenopausal women. BMC Cardiovasc Disord. 2004 Dec 1;4:21. X-6
1317. Hsia J, Simon JA, Lin F, et al. Peripheral arterial disease in randomized trial of estrogen with progestin in women with coronary heart disease: the Heart and Estrogen/Progestin Replacement Study. Circulation. 2000 Oct 31;102(18):2228-32. X-1,X-8

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1318. Hsueh IP, Wang WC, Sheu CF, et al. Rasch analysis of combining two indices to assess comprehensive ADL function in stroke patients. Stroke. 2004 Mar;35(3):721-6. X-1,X-5,X-6,X-8
1319. Hu G, Qiao Q, Tuomilehto J, et al. Prevalence of the metabolic syndrome and its relation to all-cause and cardiovascular mortality in nondiabetic European men and women. Arch Intern Med. 2004 May 24;164(10):1066-76. X-1,X-2,X-4X-5 ,
1320. Hu G and Root MM. Building prediction models for coronary heart disease by synthesizing multiple longitudinal research findings. Eur J Cardiovasc Prev Rehabil. 2005 Oct;12(5):459-64. X-1
1321. Hu G, Tuomilehto J, Borodulin K, et al. The joint associations of occupational, commuting, and leisure-time physical activity, and the Framingham risk score on the 10-year risk of coronary heart disease. Eur Heart J. 2007 Feb;28(4):492-8. X-5,X-6
1322. Huang AL, Silver AE, Shvenke E, et al. Predictive value of reactive hyperemia for cardiovascular events in patients with peripheral arterial disease undergoing vascular surgery. Arterioscler Thromb Vasc Biol. 2007 Oct;27(10):2113-9. X-1F,X-2
1323. Huang DT, Sesselberg HW, McNitt S, et al. Improved survival associated with prophylactic implantable defibrillators in elderly patients with prior myocardial infarction and depressed ventricular function: a MADIT-II substudy. J Cardiovasc Electrophysiol. 2007 Aug;18(8):833-8. X-1,X-6,X-8
1324. Huang HW, Guo MH, Lin RJ, et al. Prevalence and risk factors of middle cerebral artery stenosis in asymptomatic residents in Rongqi County, Guangdong. Cerebrovasc Dis. 2007;24(1):111-5. X-1,X-5,X-6
1325. Huang KC, Lee LT, Chen CY, et al. All-cause and cardiovascular disease mortality increased with metabolic syndrome in Taiwanese. Obesity (Silver Spring). 2008 Mar;16(3):684-9. X-1E,X-1F,X-2
1326. Huang WF, Hsiao FY, Tsai YW, et al. Cardiovascular events associated with long-term use of celecoxib, rofecoxib and meloxicam in Taiwan: an observational study. Drug Saf. 2006;29(3):261-72. X-1,X-2
1327. Hubacek J, Galbraith PD, Gao M, et al. External validation of a percutaneous coronary intervention mortality prediction model in patients with acute coronary syndromes. Am Heart J. 2006 Feb;151(2):308-15. X-1,X-6,X-8
1328. Huddart RA, Norman A, Shahidi M, et al. Cardiovascular disease as a long-term complication of treatment for testicular cancer. J Clin Oncol. 2003 Apr 15;21(8):1513-23. X-1F,X-1G
1329. Hui AC, Wu B, Tang AS, et al. Lack of clinical utility of the Siriraj Stroke Score. Intern Med J. 2002 Jul;32(7):311-4. X-1,X-8
1330. Huijskes RV, Rosseel PM and Tijssen JG. Outcome prediction in coronary artery bypass grafting and valve surgery in the Netherlands: development of the Amphiascore and its comparison with the Euroscore. Eur J Cardiothorac Surg. 2003 Nov;24(5):741-9. X-1,X-6,X-8
1331. Huikuri HV, Mahaux V and Bloch-Thomsen PE. Cardiac arrhythmias and risk stratification after myocardial infarction: results of the CARISMA pilot study. Pacing Clin Electrophysiol. 2003 Jan;26(1 Pt 2):416-9. X-1,X-5,X-6
1332. Huikuri HV, Makikallio TH, Raatikainen MJ, et al. Prediction of sudden cardiac death: appraisal of the studies and methods assessing the risk of sudden arrhythmic death. Circulation. 2003 Jul 8;108(1):110-5. X-1,X-2,X-4,X-5,X-6,X-7,X-8

Appendix O. List of Excluded Studies

1333. Huittinen T, Leinonen M, Tenkanen L, et al. Autoimmunity to human heat shock protein 60, Chlamydia pneumoniae infection, and inflammation in predicting coronary risk. Arterioscler Thromb Vasc Biol. 2002 Mar 1;22(3):431-7. X-5,X-8
1334. Hula W, Doyle PJ, McNeil MR, et al. Rasch modeling of revised token test performance: validity and sensitivity to change. J Speech Lang Hear Res. 2006 Feb;49(1):27-46. X-1,X-6,X-7,X-8
1335. Hulzebos EH, Van Meeteren NL, De Bie RA, et al. Prediction of postoperative pulmonary complications on the basis of preoperative risk factors in patients who had undergone coronary artery bypass graft surgery. Phys Ther. 2003 Jan;83(1):8-16. X-1,X-2,X-6,X-7,X-8
1336. Humphries KH, Westendorp IC, Bots ML, et al. Parity and carotid artery atherosclerosis in elderly women: The Rotterdam Study. Stroke. 2001 Oct;32(10):2259-64. X-1,X-6
1337. Humphries SE, Ridker PM and Talmud PJ. Genetic testing for cardiovascular disease susceptibility: a useful clinical management tool or possible misinformation? Arterioscler Thromb Vasc Biol. 2004 Apr;24(4):628-36. X-1,X-2,X-4,X-5,X-6
1338. Hundley WG, Morgan TM, Neagle CM, et al. Magnetic resonance imaging determination of cardiac prognosis. Circulation. 2002 Oct 29;106(18):2328-33. X-1
1339. Hung HC, Joshipura KJ, Jiang R, et al. Fruit and vegetable intake and risk of major chronic disease. J Natl Cancer Inst. 2004 Nov 3;96(21):1577-84. X-1,X-2
1340. Hung J, Beilby JP, Knuiman MW, et al. Folate and vitamin B-12 and risk of fatal cardiovascular disease: cohort study from Busselton, Western Australia. BMJ. 2003 Jan 18;326(7381):131. X-1,X-2,X-8
1341. Hung J, Knuiman MW, Divitini ML, et al. Prevalence and risk factor correlates of elevated C-reactive protein in an adult Australian population. Am J Cardiol. 2008 Jan 15;101(2):193-8. X-1,X-2,X-5,X-6
1342. Hung J, McQuillan BM, Nidorf M, et al. Angiotensin-converting enzyme gene polymorphism and carotid wall thickening in a community population. Arterioscler Thromb Vasc Biol. 1999 Aug;19(8):1969-74. X-1,X-5,X-6
1343. Hung MJ, Cherng WJ and Cheng CW. Increased volume reduction of late left-atrial emptying for patients with pseudonormal mitral inflow: an analysis for differentiation between normal and pseudonormal mitral inflow. Echocardiography. 2003 Nov;20(8):703-9. X-1,X-5,X-6,X-7,X-8
1344. Hunt KJ, Evans GW, Folsom AR, et al. Acoustic shadowing on B-mode ultrasound of the carotid artery predicts ischemic stroke: the Atherosclerosis Risk in Communities (ARIC) study. Stroke. 2001 May;32(5):1120-6. X-1F,X-2
1345. Hunt ME, O'Malley PG, Feuerstein I, et al. The relationship between the 'metabolic score' and sub-clinical atherosclerosis detected with electron beam computed tomography. Coron Artery Dis. 2003 Jun;14(4):317-22. X-1,X-5,X-6
1346. Hunt SC, Gwinn M and Adams TD. Family history assessment: strategies for prevention of cardiovascular disease. Am J Prev Med. 2003 Feb;24(2):136-42. X-1,X-4
1347. Hunziker PR, Imsand C, Keller D, et al. Bedside quantification of atherosclerosis severity for cardiovascular risk stratification: a prospective cohort study. J Am Coll Cardiol. 2002 Feb 20;39(4):702-9. X-1,X-2,X-8
1348. Hur C, Simon LS and Gazelle GS. Analysis of aspirin-associated risks in healthy individuals. Ann Pharmacother. 2005 Jan;39(1):51-7. X-1,X-2,X-4,X-5,X-6,X-7,X-8

1349. Husmann L, Scheffel H, Valenta I, et al. Impact of hypertension on the diagnostic accuracy of coronary angiography with computed tomography. Int J Cardiovasc Imaging. 2008 Oct;24(7):763-70. X-1,X-2,X-6,X-7,X-8
1350. Husmann L, Schepis T, Scheffel H, et al. Comparison of diagnostic accuracy of 64-slice computed tomography coronary angiography in patients with low, intermediate, and high cardiovascular risk. Acad Radiol. 2008 Apr;15(4):452-61. X-7
1351. Hussain T, Burch M, Fenton MJ, et al. Positive pretransplantation cytomegalovirus serology is a risk factor for cardiac allograft vasculopathy in children. Circulation. 2007 Apr 3;115(13):1798-805. X-1,X-5,X-6,X-7
1352. Hutfless R, Kazanegra R, Madani M, et al. Utility of B-type natriuretic peptide in predicting postoperative complications and outcomes in patients undergoing heart surgery. J Am Coll Cardiol. 2004 May 19;43(10):1873-9. X-1,X-7,X-8
1353. Huxley R, Woodward M, Barzi F, et al. Does sex matter in the associations between classic risk factors and fatal coronary heart disease in populations from the Asia-Pacific region? J Womens Health (Larchmt). 2005 Nov;14(9):820-8. X-4,X-5,X-8
1354. Huynh BC, Rovner A and Rich MW. Long-term survival in elderly patients hospitalized for heart failure: 14-year follow-up from a prospective randomized trial. Arch Intern Med. 2006 Sep 25;166(17):1892-8. X-1,X-6,X-8
1355. Hwu CM, Fuh JL, Hsiao CF, et al. Waist circumference predicts metabolic cardiovascular risk in postmenopausal Chinese women. Menopause. 2003 Jan-Feb;10(1):73-80. X-1,X-5,X-6,X-8
1356. Iacoviello M, Forleo C, Guida P, et al. Ventricular repolarization dynamicity provides independent prognostic information toward major arrhythmic events in patients with idiopathic dilated cardiomyopathy. J Am Coll Cardiol. 2007 Jul 17;50(3):225-31. X-1,X-6,X-7
1357. I'Allemand D, Wiegand S, Reinehr T, et al. Cardiovascular risk in 26,008 European overweight children as established by a multicenter database. Obesity (Silver Spring). 2008 Jul;16(7):1672-9. X-1,X-6
1358. Ibanez J, Riera M, Saez de Ibarra JI, et al. Effect of preoperative mild renal dysfunction on mortality and morbidity following valve cardiac surgery. Interact Cardiovasc Thorac Surg. 2007 Dec;6(6):748-52. X-1,X-2,X-5,X-8
1359. Idicula TT, Waje-Andreassen U, Brogger J, et al. The effect of physiologic derangement in patients with stroke treated with thrombolysis. J Stroke Cerebrovasc Dis. 2008 May-Jun;17(3):141-6. X-1,X-2,X-6,X-7,X-8
1360. Idorn L, Hofsten DE, Wachtell K, et al. Prevalence and prognostic implications of ST-segment deviations from ambulatory Holter monitoring after ST-segment elevation myocardial infarction treated with either fibrinolysis or primary percutaneous coronary intervention (a Danish Trial in Acute Myocardial Infarction-2 Substudy). Am J Cardiol. 2007 Sep 15;100(6):937-43. X-1,X-6,X-8
1361. Idris I, Deepa R, Fernando DJ, et al. Relation between age and coronary heart disease (CHD) risk in Asian Indian patients with diabetes: A cross-sectional and prospective cohort study. Diabetes Res Clin Pract. 2008 Aug;81(2):243-9. X-1F,X-5
1362. Ikeda A, Iso H, Kawachi I, et al. Type A behaviour and risk of coronary heart disease: the JPHC Study. Int J Epidemiol. 2008 Dec;37(6):1395-405; discussion 1406-7. X-1,X-2
1363. Ikeda T, Yoshino H, Sugi K, et al. Predictive value of microvolt T-wave alternans for sudden cardiac death in patients with preserved cardiac function after acute myocardial

infarction: results of a collaborative cohort study. J Am Coll Cardiol. 2006 Dec 5;48(11):2268-74. X-1,X-2,X-6,X-8
1364. Ilva T, Eriksson S, Lund J, et al. Improved early risk stratification and diagnosis of myocardial infarction, using a novel troponin I assay concept. Eur J Clin Invest. 2005 Feb;35(2):112-6. X-1,X-8
1365. Imai Y, Morita H, Kurihara H, et al. Evidence for association between paraoxonase gene polymorphisms and atherosclerotic diseases. Atherosclerosis. 2000 Apr;149(2):435-42. X-1,X-2,X-5
1366. Immer F, Habicht J, Nessensohn K, et al. Prospective evaluation of 3 risk stratification scores in cardiac surgery. Thorac Cardiovasc Surg. 2000 Jun;48(3):134-9. X-1,X-8
1367. Imperatore G, Cadwell BL, Geiss L, et al. Thirty-year trends in cardiovascular risk factor levels among US adults with diabetes: National Health and Nutrition Examination Surveys, 1971-2000. Am J Epidemiol. 2004 Sep 15;160(6):531-9. X-1,X-2,X-5,X-6
1368. Inaba Y and Bergmann SR. Diagnostic accuracy of beta-methyl-p-[123I]-iodophenyl-pentadecanoic acid (BMIPP) imaging: a meta-analysis. J Nucl Cardiol. 2008 May-Jun;15(3):345-52. X-1,X-5
1369. Inaguma D, Nagaya H, Hara K, et al. Relationship between serum 1,25-dihydroxyvitamin D and mortality in patients with pre-dialysis chronic kidney disease. Clin Exp Nephrol. 2008 Apr;12(2):126-31. X-1,X-2,X-8
1370. Inama G, Pedrinazzi C, Durin O, et al. Microvolt T-wave alternans for risk stratification in athletes with ventricular arrhythmias: correlation with programmed ventricular stimulation. Ann Noninvasive Electrocardiol. 2008 Jan;13(1):14-21. X-1,X-2,X-6,X-7
1371. Ingelsson E, Gona P, Larson MG, et al. Altered blood pressure progression in the community and its relation to clinical events. Arch Intern Med. 2008 Jul 14;168(13):1450-7. X-1,X-2,X-6
1372. Ingelsson E, Schaefer EJ, Contois JH, et al. Clinical utility of different lipid measures for prediction of coronary heart disease in men and women. JAMA. 2007 Aug 15;298(7):776-85. X-1
1373. Ingul CB, Stoylen A, Slordahl SA, et al. Automated analysis of myocardial deformation at dobutamine stress echocardiography: an angiographic validation. J Am Coll Cardiol. 2007 Apr 17;49(15):1651-9. X-1,X-5,X-6,X-7
1374. Inoue T, Matsunaga R, Morooka S, et al. Serum N-acetyl-beta-D-gulucosaminidase activity increases in association with insulin resistance in patients with coronary artery disease. Atherosclerosis. 2000 Mar;149(1):117-22. X-1,X-2,X-5,X-7
1375. Ioannou GN, Weiss NS, Boyko EJ, et al. Elevated serum alanine aminotransferase activity and calculated risk of coronary heart disease in the United States. Hepatology. 2006 May;43(5):1145-51. X-1,X-5,X-6
1376. Iqbal R, Anand S, Ounpuu S, et al. Dietary patterns and the risk of acute myocardial infarction in 52 countries: results of the INTERHEART study. Circulation. 2008 Nov 4;118(19):1929-37. X-1,X-2,X-5,X-8
1377. Irace C, Cortese C, Fiaschi E, et al. Wall shear stress is associated with intima-media thickness and carotid atherosclerosis in subjects at low coronary heart disease risk. Stroke. 2004 Feb;35(2):464-8. X-1,X-2,X-5,X-6
1378. Iribarren C, Darbinian JA, Lo JC, et al. Value of the sagittal abdominal diameter in coronary heart disease risk assessment: cohort study in a large, multiethnic population. Am J Epidemiol. 2006 Dec 15;164(12):1150-9. X-1F,X-2

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1379. Iribarren C, Go AS, Tolstykh I, et al. Breast vascular calcification and risk of coronary heart disease, stroke, and heart failure. J Womens Health (Larchmt). 2004 May;13(4):381-9; discussion 390-2. X-1,X-2
1380. Iribarren JL, Sagasti FM, Jimenez JJ, et al. TNFbeta+250 polymorphism and hyperdynamic state in cardiac surgery with extracorporeal circulation. Interact Cardiovasc Thorac Surg. 2008 Dec;7(6):1071-4. X-1,X-2,X-6,X-7,X-8
1381. Isaacs A, Sayed-Tabatabaei FA, Hofman A, et al. The cholesteryl ester transfer protein I405V polymorphism is associated with increased high-density lipoprotein levels and decreased risk of myocardial infarction: the Rotterdam Study. Eur J Cardiovasc Prev Rehabil. 2007 Jun;14(3):419-21. X-1,X-2,X-5,X-6,X-8
1382. Isgum I, Rutten A, Prokop M, et al. Detection of coronary calcifications from computed tomography scans for automated risk assessment of coronary artery disease. Med Phys. 2007 Apr;34(4):1450-61. X-1,X-2,X-5,X-6,X-7
1383. Ishani A, Grandits GA, Grimm RH, et al. Association of single measurements of dipstick proteinuria, estimated glomerular filtration rate, and hematocrit with 25-year incidence of end-stage renal disease in the multiple risk factor intervention trial. J Am Soc Nephrol. 2006 May;17(5):1444-52. X-1,X-6
1384. Ishizaki T, Imanaka Y, Sekimoto M, et al. Comparisons of risk-adjusted clinical outcomes for patients with aneurysmal subarachnoid haemorrhage across eight teaching hospitals in Japan. J Eval Clin Pract. 2008 Jun;14(3):416-21. X-1,X-6,X-8
1385. Ismeno G, Falco A, Tritto FP, et al. The use of "LAST" operation in high risk patient. Monaldi Arch Chest Dis. 2006 Mar;66(1):3-7. X-1,X-2,X-6,X-7,X-8
1386. Ivanov J, Borger MA, Rao V, et al. The Toronto Risk Score for adverse events following cardiac surgery. Can J Cardiol. 2006 Mar 1;22(3):221-7. X-1,X-8
1387. Ivanov J, Tu JV and Naylor CD. Ready-made, recalibrated, or Remodeled? Issues in the use of risk indexes for assessing mortality after coronary artery bypass graft surgery. Circulation. 1999 Apr 27;99(16):2098-104. X-1,X-4,X-5,X-6
1388. Ivascu FA, Howells GA, Junn FS, et al. Predictors of mortality in trauma patients with intracranial hemorrhage on preinjury aspirin or clopidogrel. J Trauma. 2008 Oct;65(4):785-8. X-1,X-2,X-6,X-7
1389. Ivey SL, Mehta KM, Fyr CL, et al. Prevalence and correlates of cardiovascular risk factors in South Asians: population-based data from two California surveys. Ethn Dis. 2006 Autumn;16(4):886-93. X-2,X-5,X-6
1390. Iwashita M, Matsushita Y, Sasaki J, et al. Relation of serum total cholesterol and other risk factors to risk of coronary events in middle-aged and elderly Japanese men with hypercholesterolemia: the Kyushu Lipid Intervention Study. Circ J. 2004 May;68(5):405-9. X-1F,X-2
1391. Ix JH, Mercado N, Shlipak MG, et al. Association of chronic kidney disease with clinical outcomes after coronary revascularization: the Arterial Revascularization Therapies Study (ARTS). Am Heart J. 2005 Mar;149(3):512-9. X-1,X-8
1392. Jacob G, Noble JA, Behrenbruch C, et al. A shape-space-based approach to tracking myocardial borders and quantifying regional left-ventricular function applied in echocardiography. IEEE Trans Med Imaging. 2002 Mar;21(3):226-38. X-1,X-2,X-6,X-7
1393. Jacoby DS, Mohler IE and Rader DJ. Noninvasive atherosclerosis imaging for predicting cardiovascular events and assessing therapeutic interventions. Curr Atheroscler Rep. 2004 Jan;6(1):20-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8

Appendix O. List of Excluded Studies

1394. Jafary FH, Arham AZ, Waqar F, et al. Survival of patients receiving fibrinolytic therapy for acute ST-segment elevation myocardial infarction in a developing country - patient characteristics and predictors of mortality. J Thromb Thrombolysis. 2008 Oct;26(2):147-9. X-1,X-2,X-6,X-8
1395. Jaffe AS, Krumholz HM, Catellier DJ, et al. Prediction of medical morbidity and mortality after acute myocardial infarction in patients at increased psychosocial risk in the Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD) study. Am Heart J. 2006 Jul;152(1):126-35. X-1,X-8
1396. Jaffery Z, Hudson MP, Jacobsen G, et al. Modified thrombolysis in myocardial infarction (TIMI) risk score to risk stratify patients in the emergency department with possible acute coronary syndrome. J Thromb Thrombolysis. 2007 Oct;24(2):137-44. X-1F,X-8
1397. Jager A, Kostense PJ, Ruhe HG, et al. Microalbuminuria and peripheral arterial disease are independent predictors of cardiovascular and all-cause mortality, especially among hypertensive subjects: five-year follow-up of the Hoorn Study. Arterioscler Thromb Vasc Biol. 1999 Mar;19(3):617-24. X-1,X-6
1398. Jagsi R, Griffith KA, Koelling T, et al. Rates of myocardial infarction and coronary artery disease and risk factors in patients treated with radiation therapy for early-stage breast cancer. Cancer. 2007 Feb 15;109(4):650-7. X-1
1399. Jain D, Wegscheider K, Hartmann F, et al. Differential outcome after intracoronary radiation therapy is related to a simple classification based on lesion length and diameter. J Invasive Cardiol. 2005 May;17(5):256-61. X-1,X-6,X-8
1400. Jain T, Peshock R, McGuire DK, et al. African Americans and Caucasians have a similar prevalence of coronary calcium in the Dallas Heart Study. J Am Coll Cardiol. 2004 Sep 1;44(5):1011-7. X-1,X-2,X-5,X-6
1401. Jakobsen MU, Overvad K, Dyerberg J, et al. Intake of ruminant trans fatty acids and risk of coronary heart disease. Int J Epidemiol. 2008 Feb;37(1):173-82. X-1G,X-2
1402. James AL, Knuiman MW, Divitini ML, et al. Associations between white blood cell count, lung function, respiratory illness and mortality: the Busselton Health Study. Eur Respir J. 1999 May;13(5):1115-9. X-1,X-6
1403. James PA, Li P and Ward MM. Myocardial infarction mortality in rural and urban hospitals: rethinking measures of quality of care. Ann Fam Med. 2007 Mar-Apr;5(2):105-11. X-1,X-2,X-6,X-8
1404. James SK, Armstrong P, Barnathan E, et al. Troponin and C-reactive protein have different relations to subsequent mortality and myocardial infarction after acute coronary syndrome: a GUSTO-IV substudy. J Am Coll Cardiol. 2003 Mar 19;41(6):916-24. X-1,X-6,X-8
1405. James SK, Lindahl B, Armstrong P, et al. A rapid troponin I assay is not optimal for determination of troponin status and prediction of subsequent cardiac events at suspicion of unstable coronary syndromes. Int J Cardiol. 2004 Feb;93(2-3):113-20. X-1,X-2,X-5,X-6,X-8
1406. James SK, Lindahl B, Siegbahn A, et al. N-terminal pro-brain natriuretic peptide and other risk markers for the separate prediction of mortality and subsequent myocardial infarction in patients with unstable coronary artery disease: a Global Utilization of Strategies To Open occluded arteries (GUSTO)-IV substudy. Circulation. 2003 Jul 22;108(3):275-81. X-1,X-2,X-8

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1408. James SK, Lindback J, Tilly J, et al. Troponin-T and N-terminal pro-B-type natriuretic peptide predict mortality benefit from coronary revascularization in acute coronary syndromes: a GUSTO-IV substudy. J Am Coll Cardiol. 2006 Sep 19;48(6):1146-54. X-1,X-8
1409. Jamieson WR, Edwards FH, Schwartz M, et al. Risk stratification for cardiac valve replacement. National Cardiac Surgery Database. Database Committee of The Society of Thoracic Surgeons. Ann Thorac Surg. 1999 Apr;67(4):943-51. X-1,X-6,X-8
1410. Janardhan V, Wolf PA, Kase CS, et al. Anticardiolipin antibodies and risk of ischemic stroke and transient ischemic attack: the Framingham cohort and offspring study. Stroke. 2004 Mar;35(3):736-41. X-1,X-2
1411. Janardhanan R, Kenchaiah S, Velazquez EJ, et al. Extent of coronary artery disease as a predictor of outcomes in acute myocardial infarction complicated by heart failure, left ventricular dysfunction, or both. Am Heart J. 2006 Jul;152(1):183-9. X-1,X-8
1412. Janssen DP, Noyez L, van Druten JA, et al. Predictors of nephrological morbidity after coronary artery bypass surgery. Cardiovasc Surg. 2002 Jun;10(3):222-7. X-1,X-6,X-8
1413. Janssen I, Katzmarzyk PT, Church TS, et al. The Cooper Clinic Mortality Risk Index: clinical score sheet for men. Am J Prev Med. 2005 Oct;29(3):194-203. X-6
1414. Jansson L, Lavstedt S and Frithiof L. Relationship between oral health and mortality rate. J Clin Periodontol. 2002 Nov;29(11):1029-34. X-1,X-2,X-6
1415. Janszky I, Ericson M, Mittleman MA, et al. Heart rate variability in long-term risk assessment in middle-aged women with coronary heart disease: The Stockholm Female Coronary Risk Study. J Intern Med. 2004 Jan;255(1):13-21. X-1,X-8
1416. Januzzi JL, Jr., Newby LK, Murphy SA, et al. Predicting a late positive serum troponin in initially troponin-negative patients with non-ST-elevation acute coronary syndrome: clinical predictors and validated risk score results from the TIMI IIIB and GUSTO IIA studies. Am Heart J. 2006 Feb;151(2):360-6. X-1,X-6,X-8
1417. Jault F, Rama A, Bonnet N, et al. Cardiac surgery in patients receiving long term hemodialysis. Short and long term results. J Cardiovasc Surg (Torino). 2003 Dec;44(6):725-30. X-1,X-2,X-5,X-6,X-7,X-8
1418. Jeetley P, Burden L, Greaves K, et al. Prognostic value of myocardial contrast echocardiography in patients presenting to hospital with acute chest pain and negative troponin. Am J Cardiol. 2007 May 15;99(10):1369-73. X-1,X-7
1419. Jegaden O, de Gevigney G, Farhat F, et al. Limits of arterial myocardial revascularization. J Card Surg. 2003 Mar-Apr;18(2):147-52. X-1,X-5,X-6
1420. Jeger RV, Bonetti PO, Zellweger MJ, et al. Influence of revascularization on long-term outcome in patients > or =75 years of age with diabetes mellitus and angina pectoris. Am J Cardiol. 2005 Jul 15;96(2):193-8. X-1,X-8
1421. Jehkonen M, Ahonen JP, Dastidar P, et al. Visual neglect as a predictor of functional outcome one year after stroke. Acta Neurol Scand. 2000 Mar;101(3):195-201. X-1,X-6,X-7,X-8
1422. Jensen BT, Abildstrom SZ, Larroude CE, et al. QT dynamics in risk stratification after myocardial infarction. Heart Rhythm. 2005 Apr;2(4):357-64. X-1,X-8

1423. Jensen J, Eriksson SV, Lindvall B, et al. On-line vectorcardiography during elective coronary angioplasty indicates procedure-related myocardial infarction. Coron Artery Dis. 2000 Mar;11(2):161-9. X-1,X-2,X-7,X-8
1424. Jensen L and Yang L. Risk factors for postoperative pulmonary complications in coronary artery bypass graft surgery patients. Eur J Cardiovasc Nurs. 2007 Sep;6(3):241-6. X-1,X-8
1425. Jensen LO, Maeng M, Kaltoft A, et al. Stent thrombosis, myocardial infarction, and death after drug-eluting and bare-metal stent coronary interventions. J Am Coll Cardiol. 2007 Jul 31;50(5):463-70. X-1,X-8
1426. Jensen LO, Thayssen P, Kassis E, et al. Target vessel revascularization following percutaneous coronary intervention. A 10-year report from the Danish Percutaneous Transluminal Coronary Angioplasty Registry. Scand Cardiovasc J. 2005 Apr;39(1-2):30-5. X-1,X-6,X-8
1427. Jensen MS, Thomsen JL, Jensen SE, et al. Electrocardiogram interpretation in general practice. Fam Pract. 2005 Feb;22(1):109-13. X-1,X-5,X-6,X-8
1428. Jensen-Urstad M, Samad BA, Jensen-Urstad K, et al. Risk assessment in patients with acute myocardial infarction treated with thrombolytic therapy. J Intern Med. 2001 Jun;249(6):527-37. X-1,X-6,X-7,X-8
1429. Jeon DS, Atar S, Brasch AV, et al. Association of mitral annulus calcification, aortic valve sclerosis and aortic root calcification with abnormal myocardial perfusion single photon emission tomography in subjects age < or =65 years old. J Am Coll Cardiol. 2001 Dec;38(7):1988-93. X-1,X-2,X-5,X-6
1430. Jeon HW and Cha JK. Factors related to progression of middle cerebral artery stenosis determined using transcranial Doppler ultrasonograhy. J Thromb Thrombolysis. 2008 Jun;25(3):265-9. X-1,X-4,X-5,X-6,X-7,X-8
1431. Jeppesen J, Hansen TW, Olsen MH, et al. C-reactive protein, insulin resistance and risk of cardiovascular disease: a population-based study. Eur J Cardiovasc Prev Rehabil. 2008 Oct;15(5):594-8. X-2
1432. Jeppesen J, Hansen TW, Rasmussen S, et al. Insulin resistance, the metabolic syndrome, and risk of incident cardiovascular disease: a population-based study. J Am Coll Cardiol. 2007 May 29;49(21):2112-9. X-1F,X-2
1433. Jeppesen J, Hein HO, Suadicani P, et al. High triglycerides/low high-density lipoprotein cholesterol, ischemic electrocardiogram changes, and risk of ischemic heart disease. Am Heart J. 2003 Jan;145(1):103-8. X-2
1434. Jernberg T, Cronblad J, Lindahl B, et al. Observer variability and optimal criteria of transient ischemia during ST monitoring with continuous 12-lead ECG. Ann Noninvasive Electrocardiol. 2002 Jul;7(3):181-90. X-1,X-7,X-8
1435. Jernberg T, James S, Lindahl B, et al. Natriuretic peptides in unstable coronary artery disease. Eur Heart J. 2004 Sep;25(17):1486-93. X-1,X-2,X-4,X-5
1436. Jernberg T and Lindahl B. A combination of troponin T and 12-lead electrocardiography: a valuable tool for early prediction of long-term mortality in patients with chest pain without ST-segment elevation. Am Heart J. 2002 Nov;144(5):804-10. X-1,X-8
1437. Jha AK and Epstein AM. The predictive accuracy of the New York State coronary artery bypass surgery report-card system. Health Aff (Millwood). 2006 May-Jun;25(3):844-55. X-1,X-2,X-5,X-6,X-8

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1438. Jha HC, Vardhan H, Gupta R, et al. Higher incidence of persistent chronic infection of Chlamydia pneumoniae among coronary artery disease patients in India is a cause of concern. BMC Infect Dis. 2007;7:48. X-1,X-2,X-5,X-6,X-7
1439. Jiang R, Schulze MB, Li T, et al. Non-HDL cholesterol and apolipoprotein B predict cardiovascular disease events among men with type 2 diabetes. Diabetes Care. 2004 Aug;27(8):1991-7. X-1F
1440. Jiang WJ, Xu XT, Du B, et al. Comparison of elective stenting of severe vs moderate intracranial atherosclerotic stenosis. Neurology. 2007 Feb 6;68(6):420-6. X-1,X-8
1441. Jilcott SB, Keyserling TC, Samuel-Hodge CD, et al. Validation of a brief dietary assessment to guide counseling for cardiovascular disease risk reduction in an underserved population. J Am Diet Assoc. 2007 Feb;107(2):246-55. X-1,X-6
1442. Jimenez-Candil J, Gonzalez IC, Gonzalez Matas JM, et al. Short- and long-term prognostic value of the corrected QT interval in the non-ST-elevation acute coronary syndrome. J Electrocardiol. 2007 Apr;40(2):180-7. X-1,X-8
1443. Jin J, Huang L, Wang H, et al. Value of myocardial regional perfusion on long-term function in collateral-dependent myocardium. South Med J. 2008 Sep;101(9):894-9. X-1,X-2,X-6,X-8
1444. Jin R, Grunkemeier GL and Starr A. Validation and refinement of mortality risk models for heart valve surgery. Ann Thorac Surg. 2005 Aug;80(2):471-9. X-1
1445. Johannes CB, Koro CE, Quinn SG, et al. The risk of coronary heart disease in type 2 diabetic patients exposed to thiazolidinediones compared to metformin and sulfonylurea therapy. Pharmacoepidemiol Drug Saf. 2007 May;16(5):504-12. X-1
1446. Johansen A, Hoilund-Carlsen PF, Christensen HW, et al. Observer variability in the evaluation of dual-isotope Tl-201/Tc-99m sestamibi rest/stress myocardial perfusion SPECT in men and women with known or suspected stable angina pectoris. J Nucl Cardiol. 2004 Nov-Dec;11(6):710-8. X-1X-5,X-6,X-8
1447. Johanson P, Jernberg T, Gunnarsson G, et al. Prognostic value of ST-segment resolution-when and what to measure. Eur Heart J. 2003 Feb;24(4):337-45. X-1,X-5,X-6
1448. Johnsen SH, Joakimsen O, Fosse E, et al. Sex differences in plaque morphology may explain the higher male prevalence of myocardial infarction compared to angina pectoris. The Tromso Study. Scand Cardiovasc J. 2005 Apr;39(1-2):36-41. X-1,X-2,X-5
1449. Johnsen SP, Overvad K, Sorensen HT, et al. Predictive value of stroke and transient ischemic attack discharge diagnoses in The Danish National Registry of Patients. J Clin Epidemiol. 2002 Jun;55(6):602-7. X-1,X-2,X-8
1450. Johnston KC, Connors AF, Jr., Wagner DP, et al. Risk adjustment effect on stroke clinical trials. Stroke. 2004 Feb;35(2):e43-5. X-1
1451. Johnston KC, Wagner DP, Wang XQ, et al. Validation of an acute ischemic stroke model: does diffusion-weighted imaging lesion volume offer a clinically significant improvement in prediction of outcome? Stroke. 2007 Jun;38(6):1820-5. X-1,X-5,X-6,X-8
1452. Johnston SC, Rothwell PM, Nguyen-Huynh MN, et al. Validation and refinement of scores to predict very early stroke risk after transient ischaemic attack. Lancet. 2007 Jan 27;369(9558):283-92. X-1,X-8
1453. Johnston TC, Coory MD, Scott I, et al. Should we add clinical variables to administrative data?: The case of risk-adjusted case fatality rates after admission for acute myocardial infarction. Med Care. 2007 Dec;45(12):1180-5. X-1,X-5,X-6,X-8

1454. Joki N, Hase H, Takahashi Y, et al. Angiographical severity of coronary atherosclerosis predicts death in the first year of hemodialysis. Int Urol Nephrol. 2003;35(2):289-97. X-1,X-2,X-5,X-7
1455. Jokinen JJ, Mustonen PK, Hippelainen MJ, et al. Effects of coronary artery bypass related conduction defects: a 10-year follow-up study. Scand Cardiovasc J. 2004 Aug;38(4):235-9. X-1,X-2,X-7,X-8
1456. Jonas M, Resnic FS, Levin AD, et al. Transition from bare metal to drug eluting stenting in contemporary US practice: effect on incidence and predictors of clinically driven target lesion revascularization. Catheter Cardiovasc Interv. 2007 Aug 1;70(2):175-83. X-1
1457. Jones AF, Walker J, Jewkes C, et al. Comparative accuracy of cardiovascular risk prediction methods in primary care patients. Heart. 2001 Jan;85(1):37-43. X-1,X-2,X-5,X-6,X-8
1458. Jones RH. The year in cardiovascular surgery. J Am Coll Cardiol. 2007 May 8;49(18):1887-98. X-1,X-2,X-4,X-5,X-6,X-7
1459. Jorgensen L, Engstad T and Jacobsen BK. Bone mineral density in acute stroke patients: low bone mineral density may predict first stroke in women. Stroke. 2001 Jan;32(1):47-51. X-5,X-8
1460. Jorgensen L, Engstad T and Jacobsen BK. Higher incidence of falls in long-term stroke survivors than in population controls: depressive symptoms predict falls after stroke. Stroke. 2002 Feb;33(2):542-7. X-1,X-2,X-5,X-6,X-8
1461. Joseph A, Ad S and Srivastava A. PM(10) and its impacts on health - a case study in Mumbai. Int J Environ Health Res. 2003 Jun;13(2):207-14. X-1,X-5,X-6
1462. Josephson SA, Sidney S, Pham TN, et al. Factors associated with the decision to hospitalize patients after transient ischemic attack before publication of prediction rules. Stroke. 2008 Feb;39(2):411-3. X-1D,X-2,X-5,X-6,X-8(100%)
1463. Jousilahti P, Tuomilehto J, Rastenyte D, et al. Headache and the risk of stroke: a prospective observational cohort study among 35,056 Finnish men and women. Arch Intern Med. 2003 May 12;163(9):1058-62. X-1,X-6
1464. Jousilahti P, Vartiainen E, Alho H, et al. Opposite associations of carbohydrate-deficient transferrin and gamma-glutamyltransferase with prevalent coronary heart disease. Arch Intern Med. 2002 Apr 8;162(7):817-21. X-1,X-2,X-6,X-8
1465. Jousilahti P, Vartiainen E, Korhonen HJ, et al. Is the effect of smoking on the risk for coronary heart disease even stronger than was previously thought? J Cardiovasc Risk. 1999 Oct;6(5):293-8. X-1E,X-1F,X-2
1466. Jungner I, Sniderman AD, Furberg C, et al. Does low-density lipoprotein size add to atherogenic particle number in predicting the risk of fatal myocardial infarction? Am J Cardiol. 2006 Apr 1;97(7):943-6. X-1F,X-2
1467. Juonala M, Viikari JS, Ronnemaa T, et al. Elevated blood pressure in adolescent boys predicts endothelial dysfunction: the cardiovascular risk in young Finns study. Hypertension. 2006 Sep;48(3):424-30. X-6,X-7
1468. Jurlander B, Clemmensen P, Wagner GS, et al. Very early diagnosis and risk stratification of patients admitted with suspected acute myocardial infarction by the combined evaluation of a single serum value of cardiac troponin-T, myoglobin, and creatine kinase MB(mass). Eur Heart J. 2000 Mar;21(5):382-9. X-1,X-2,X-7,X-8
1469. Juutilainen A, Lehto S, Ronnemaa T, et al. Retinopathy predicts cardiovascular mortality in type 2 diabetic men and women. Diabetes Care. 2007 Feb;30(2):292-9. X-1F,X-1G,X-2

1470. Juvela S. Prehemorrhage risk factors for fatal intracranial aneurysm rupture. Stroke. 2003 Aug;34(8):1852-7. X-1,X-6
1471. Kabbani SS, Watkins MW, Ashikaga T, et al. Platelet reactivity characterized prospectively: a determinant of outcome 90 days after percutaneous coronary intervention. Circulation. 2001 Jul 10;104(2):181-6. X-1,X-2,X-7,X-8
1472. Kagansky N, Berner Y, Koren-Morag N, et al. Poor nutritional habits are predictors of poor outcome in very old hospitalized patients. Am J Clin Nutr. 2005 Oct;82(4):784-91; quiz 913-4. X-1,X-8
1473. Kain K, Catto AJ, Young J, et al. Insulin resistance and elevated levels of tissue plasminogen activator in first-degree relatives of South Asian patients with ischemic cerebrovascular disease. Stroke. 2001 May;32(5):1069-73. X-1,X-5,X-6,X-7
1474. Kaiser J. Air pollution risks. Software glitch threw off mortality estimates. Science. 2002 Jun 14;296(5575):1945-7. X-1
1475. Kakkos SK, Stevens JM, Nicolaides AN, et al. Texture analysis of ultrasonic images of symptomatic carotid plaques can identify those plaques associated with ipsilateral embolic brain infarction. Eur J Vasc Endovasc Surg. 2007 Apr;33(4):422-9. X-1,X-2,X-5,X-7
1476. Kalahasti V, Nambi V, Martin DO, et al. QRS duration and prediction of mortality in patients undergoing risk stratification for ventricular arrhythmias. Am J Cardiol. 2003 Oct 1;92(7):798-803. X-1,X-2,X-5
1477. Kalinczuk L, Przyluski J, Karcz M, et al. Comparison of prognostic value of epicardial blood flow and early ST-segment resolution after primary coronary angioplasty. ANIN--Myocardial Infarction Registry. Kardiol Pol. 2007 Jan;65(1):1-10; discussion 11-2. X-1,X-8
1478. Kalogeropoulos AP, Chiladakis JA, Sihlimiris I, et al. Predischarge QRS score and risk for heart failure after first ST-elevation myocardial infarction. J Card Fail. 2008 Apr;14(3):225-31. X-1,X-7,X-8
1479. Kamalesh M, Sawada S, Humphreys A, et al. Prognostic value of negative transesophageal dobutamine stress echocardiography in men at high risk for coronary artery disease. Am J Cardiol. 2000 Jan 1;85(1):41-4. X-7
1480. Kamikawa S, Iwasaki K, Yamamoto K, et al. Significant correlation of recruitable coronary collateral blood flow determined by coronary wedge pressure with ST-segment elevation during coronary occlusion. Coron Artery Dis. 2005 Jun;16(4):231-6. X-1,X-6,X-7,X-8
1481. Kammeraad JA, van Deurzen CH, Sreeram N, et al. Predictors of sudden cardiac death after Mustard or Senning repair for transposition of the great arteries. J Am Coll Cardiol. 2004 Sep 1;44(5):1095-102. X-1,X-2,X-5,X-6,X-7
1482. Kang X, Shaw LJ, Hayes SW, et al. Impact of body mass index on cardiac mortality in patients with known or suspected coronary artery disease undergoing myocardial perfusion single-photon emission computed tomography. J Am Coll Cardiol. 2006 Apr 4;47(7):1418-26. X-1F,X-2,X-5,X-8
1483. Kanis J, Oden A and Johnell O. Acute and long-term increase in fracture risk after hospitalization for stroke. Stroke. 2001 Mar;32(3):702-6. X-1,X-2,X-6,X-8
1484. Kanjilal S, Rao VS, Mukherjee M, et al. Application of cardiovascular disease risk prediction models and the relevance of novel biomarkers to risk stratification in Asian Indians. Vasc Health Risk Manag. 2008;4(1):199-211. X-1G,X-2,X-5,X-6

Appendix O. List of Excluded Studies

1485. Kannel WB, D'Agostino RB, Silbershatz H, et al. Profile for estimating risk of heart failure. Arch Intern Med. 1999 Jun 14;159(11):1197-204. X-1,X-6,X-8
1486. Kannel WB, Evans JC, Piper S, et al. Angina pectoris is a stronger indicator of diffuse vascular atherosclerosis than intermittent claudication: Framingham study. J Clin Epidemiol. 2008 Sep;61(9):951-7. X-1E,X-1F,X-2,X-8
1487. Kannel WB, Vasan RS, Keyes MJ, et al. Usefulness of the triglyceride-high-density lipoprotein versus the cholesterol-high-density lipoprotein ratio for predicting insulin resistance and cardiometabolic risk (from the Framingham Offspring Cohort). Am J Cardiol. 2008 Feb 15;101(4):497-501. X-1F
1488. Kannel WB, Wilson PW, Nam BH, et al. A likely explanation for the J-curve of blood pressure cardiovascular risk. Am J Cardiol. 2004 Aug 1;94(3):380-4. X-1
1489. Kanwar M, Rosman HS, Fozo PK, et al. Usefulness of carotid ultrasound to improve the ability of stress testing to predict coronary artery disease. Am J Cardiol. 2007 May 1;99(9):1196-200. X-1,X-5,X-6,X-7,X-8
1490. Kapela A and Bezerianos A. A theoretical model of the high-frequency arrhythmogenic depolarization signal following myocardial infarction. IEEE Trans Biomed Eng. 2004 Nov;51(11):1915-22. X-1,X-2,X-5,X-6,X-7,X-8
1491. Kaplan RC, Heckbert SR, Furberg CD, et al. Predictors of subsequent coronary events, stroke, and death among survivors of first hospitalized myocardial infarction. J Clin Epidemiol. 2002 Jul;55(7):654-64. X-1,X-2,X-8
1492. Kaplan RC, McGinn AP, Baird AE, et al. Inflammation and hemostasis biomarkers for predicting stroke in postmenopausal women: the Women's Health Initiative Observational Study. J Stroke Cerebrovasc Dis. 2008 Nov-Dec;17(6):344-55. X-5
1493. Karalis IK, Alegakis AK, Kafatos AG, et al. Risk factors for ischaemic heart disease in a Cretan rural population: a twelve year follow-up study. BMC Public Health. 2007;7:351. X-2
1494. Kardia SL, Modell SM and Peyser PA. Family-centered approaches to understanding and preventing coronary heart disease. Am J Prev Med. 2003 Feb;24(2):143-51. X-2,X-4
1495. Kardys I, Kors JA, van der Meer IM, et al. Spatial QRS-T angle predicts cardiac death in a general population. Eur Heart J. 2003 Jul;24(14):1357-64. X-1,X-2
1496. Karimi A, Ahmadi H, Davoodi S, et al. Early mortality predictors in coronary artery bypass grafting patients required intra-aortic balloon pump in perioperative and postoperative periods. J Cardiovasc Surg (Torino). 2008 Feb;49(1):103-11. X-1,X-2,X-5,X-8
1497. Karjalainen J, Tikkanen H, Hernelahti M, et al. Muscle fiber-type distribution predicts weight gain and unfavorable left ventricular geometry: a 19 year follow-up study. BMC Cardiovasc Disord. 2006;6:2. X-1,X-6,X-7
1498. Karkos CD, Thomson GJ, Hughes R, et al. Prediction of cardiac risk before abdominal aortic reconstruction: comparison of a revised Goldman Cardiac Risk Index and radioisotope ejection fraction. J Vasc Surg. 2002 May;35(5):943-9. X-1,X-7,X-8
1499. Karkos CD, Thomson GJ, Hughes R, et al. Prediction of cardiac risk prior to elective abdominal aortic surgery: role of multiple gated acquisition scan. World J Surg. 2003 Oct;27(10):1085-92. X-1,X-5,X-7,X-8
1500. Karlsson B, Lax I and Soderman M. Risk for hemorrhage during the 2-year latency period following gamma knife radiosurgery for arteriovenous malformations. Int J Radiat Oncol Biol Phys. 2001 Mar 15;49(4):1045-51. X-1,X-2

Appendix O. List of Excluded Studies

1501. Karnath BM. Preoperative cardiac risk assessment. Am Fam Physician. 2002 Nov 15;66(10):1889-96. X-1,X-2,X-4,X-5,X-6
1502. Karp I, Abrahamowicz M, Bartlett G, et al. Updated risk factor values and the ability of the multivariable risk score to predict coronary heart disease. Am J Epidemiol. 2004 Oct 1;160(7):707-16. X-1
1503. Karpansalo M, Manninen P, Lakka TA, et al. Physical workload and risk of early retirement: prospective population-based study among middle-aged men. J Occup Environ Med. 2002 Oct;44(10):930-9. X-1,X-6
1504. Karthik S, Srinivasan AK, Grayson AD, et al. Limitations of additive EuroSCORE for measuring risk stratified mortality in combined coronary and valve surgery. Eur J Cardiothorac Surg. 2004 Aug;26(2):318-22. X-1,X-6,X-8
1505. Kasai T, Miyauchi K, Kajimoto K, et al. Influence of diabetes on >10-year outcomes after percutaneous coronary intervention. Heart Vessels. 2008 May;23(3):149-54. X-1,X-2,X-8
1506. Kasamatsu T, Hashimoto J, Iyatomi H, et al. Application of support vector machine classifiers to preoperative risk stratification with myocardial perfusion scintigraphy. Circ J. 2008 Nov;72(11):1829-35. X-1,X-8
1507. Kasimir MT, Bialy J, Moidl R, et al. EuroSCORE predicts mid-term outcome after combined valve and coronary bypass surgery. J Heart Valve Dis. 2004 May;13(3):439-43. X-1,X-8
1508. Kasiske BL, Maclean JR and Snyder JJ. Acute myocardial infarction and kidney transplantation. J Am Soc Nephrol. 2006 Mar;17(3):900-7. X-1D,X-2,X-8(100%)
1509. Kasliwal RR, Bansal M, Bhargava K, et al. Carotid intima-media thickness and brachial-ankle pulse wave velocity in patients with and without coronary artery disease. Indian Heart J. 2004 Mar-Apr;56(2):117-22. X-1,X-5,X-6,X-7
1510. Kasner SE, Demchuk AM, Berrouschot J, et al. Predictors of fatal brain edema in massive hemispheric ischemic stroke. Stroke. 2001 Sep;32(9):2117-23. X-1,X-2,X-5,X-6,X-8
1511. Kasner SE, Lynn MJ, Jackson BP, et al. Echocardiography in patients with symptomatic intracranial stenosis. J Stroke Cerebrovasc Dis. 2007 Sep-Oct;16(5):216-9. X-1,X-8
1512. Kass-Hout TA, Moye LA, Smith MA, et al. A scoring system for ascertainment of incident stroke; the Risk Index Score (RISc). Methods Inf Med. 2006;45(1):27-36. X-1C,X-5,X-8
1513. Kastrati A, Mehilli J, Dirschinger J, et al. Intracoronary stenting and angiographic results: strut thickness effect on restenosis outcome (ISAR-STEREO) trial. Circulation. 2001 Jun 12;103(23):2816-21. X-1,X-2,X-6,X-8
1514. Kastrati A, Pache J, Dirschinger J, et al. Primary intracoronary stenting in acute myocardial infarction: long-term clinical and angiographic follow-up and risk factor analysis. Am Heart J. 2000 Feb;139(2 Pt 1):208-16. X-1,X-2,X-8
1515. Kathiresan S, Melander O, Anevski D, et al. Polymorphisms associated with cholesterol and risk of cardiovascular events. N Engl J Med. 2008 Mar 20;358(12):1240-9. X-1G
1516. Katrinchak C and Fritz K. Clinical implications of C-reactive protein as a predictor of vascular risk. J Am Acad Nurse Pract. 2007 Jul;19(7):335-40. X-2,X-4,X-5,X-7
1517. Katz DA, Aufderheide TP, Bogner M, et al. The impact of unstable angina guidelines in the triage of emergency department patients with possible acute coronary syndrome. Med Decis Making. 2006 Nov-Dec;26(6):606-16. X-1,X-2,X-6,X-8
1518. Katz DA, Dawson J, Beshansky JR, et al. Does concordance with guideline triage recommendations affect clinical care of patients with possible acute coronary syndrome? Med Decis Making. 2007 Jul-Aug;27(4):423-37. X-1,X-6,X-8

Appendix O. List of Excluded Studies

1519. Katzan IL, Cebul RD, Husak SH, et al. The effect of pneumonia on mortality among patients hospitalized for acute stroke. Neurology. 2003 Feb 25;60(4):620-5. X-1,X-6
1520. Kauffman AB, Delate T, Olson KL, et al. Relationship between haemoglobin A1C values and recurrent cardiac events: A retrospective, longitudinal cohort study. Clin Drug Investig. 2008;28(8):501-7. X-1,X-2,X-8
1521. Kaufman ES, McNitt S, Moss AJ, et al. Risk of death in the long QT syndrome when a sibling has died. Heart Rhythm. 2008 Jun;5(6):831-6. X-1,X-2
1522. Kauhanen L, Lakka HM, Lynch JW, et al. Social disadvantages in childhood and risk of all-cause death and cardiovascular disease in later life: a comparison of historical and retrospective childhood information. Int J Epidemiol. 2006 Aug;35(4):962-8. X-1F,X-2
1523. Kaukiainen A, Riala R, Martikainen R, et al. Solvent-related health effects among construction painters with decreasing exposure. Am J Ind Med. 2004 Dec;46(6):627-36. X-1,X-2,X-5,X-6
1524. Kaul P, Fu Y, Chang WC, et al. Prognostic value of ST segment depression in acute coronary syndromes: insights from PARAGON-A applied to GUSTO-IIb. PARAGON-A and GUSTO IIb Investigators. Platelet IIb/IIIa Antagonism for the Reduction of Acute Global Organization Network. J Am Coll Cardiol. 2001 Jul;38(1):64-71. X-1,X-8
1525. Kavsak PA, Newman AM, Lustig V, et al. Long-term health outcomes associated with detectable troponin I concentrations. Clin Chem. 2007 Feb;53(2):220-7. X-1,X-2,X-8
1526. Kawada T and Otsuka T. Relations of body mass index and coronary risk as estimated by the Framingham Risk Score. Percept Mot Skills. 2006 Feb;102(1):254-8. X-1,X-2,X-5,X-6
1527. Kawaguchi R, Oshima S, Jingu M, et al. Usefulness of virtual histology intravascular ultrasound to predict distal embolization for ST-segment elevation myocardial infarction. J Am Coll Cardiol. 2007 Oct 23;50(17):1641-6. X-1,X-2,X-6,X-7,X-8
1528. Kawaguchi R, Tsurugaya H, Hoshizaki H, et al. Impact of lesion calcification on clinical and angiographic outcome after sirolimus-eluting stent implantation in real-world patients. Cardiovasc Revasc Med. 2008 Jan-Mar;9(1):2-8. X-1,X-2,X-8
1529. Kawasaki T, Azuma A, Sawada T, et al. Electrocardiographic score as a predictor of mortality after subarachnoid hemorrhage. Circ J. 2002 Jun;66(6):567-70. X-1,X-2,X-7,X-8
1530. Kazmierski R. Predictors of early mortality in patients with ischemic stroke. Expert Rev Neurother. 2006 Sep;6(9):1349-62. X-1,X-2,X-4,X-5,X-6
1531. Kazui T, Osada H and Fujita H. An attempt to analyze the relation between hospital surgical volume and clinical outcome. Gen Thorac Cardiovasc Surg. 2007 Dec;55(12):483-92. X-1,X-2,X-5,X-6,X-8
1532. Keavney B, Danesh J, Parish S, et al. Fibrinogen and coronary heart disease: test of causality by 'Mendelian randomization'. Int J Epidemiol. 2006 Aug;35(4):935-43. X-1,X-5
1533. Kechagias A, Perala J, Ylonen K, et al. Validation of the Finnvasc score in infrainguinal percutaneous transluminal angioplasty for critical lower limb ischemia. Ann Vasc Surg. 2008 Jul-Aug;22(4):547-51. X-1
1534. Keeling D. Combined oral contraceptives and the risk of myocardial infarction. Ann Med. 2003;35(6):413-8. X-1,X-3,X-4,X-6,X-7,X-8
1535. Keevil JG, Cullen MW, Gangnon R, et al. Implications of cardiac risk and low-density lipoprotein cholesterol distributions in the United States for the diagnosis and treatment of dyslipidemia: data from National Health and Nutrition Examination Survey 1999 to 2002. Circulation. 2007 Mar 20;115(11):1363-70. X-1,X-5,X-6,X-8

Appendix O. List of Excluded Studies

1536. Keezer MR, Yu AY, Zhu B, et al. Blood pressure and antihypertensive therapy as predictors of early outcome in acute ischemic stroke. Cerebrovasc Dis. 2008;25(3):202-8. X-1,X-2,X-5,X-6,X-8
1537. Kelder SH, Osganian SK, Feldman HA, et al. Tracking of physical and physiological risk variables among ethnic subgroups from third to eighth grade: the Child and Adolescent Trial for Cardiovascular Health cohort study. Prev Med. 2002 Mar;34(3):324-33. X-1,X-2,X-6
1538. Kelishadi R, Gharipour M, Sadri GH, et al. Cardiovascular disease risk factors, metabolic syndrome and obesity in an Iranian population. East Mediterr Health J. 2008 Sep-Oct;14(5):1070-9. X-1,X-2,X-5,X-6
1539. Kelley-Hedgepeth A, Lloyd-Jones DM, Colvin A, et al. Ethnic differences in C-reactive protein concentrations. Clin Chem. 2008 Jun;54(6):1027-37. X-1,X-2,X-5,X-6
1540. Kempf T, Bjorklund E, Olofsson S, et al. Growth-differentiation factor-15 improves risk stratification in ST-segment elevation myocardial infarction. Eur Heart J. 2007 Dec;28(23):2858-65. X-1,X-2,X-8
1541. Kennedy BS. Does race predict stroke readmission? An analysis using the truncated negative binomial model. J Natl Med Assoc. 2005 May;97(5):699-713. X-1,X-8
1542. Kennedy CR, Ayers S, Campbell MJ, et al. Randomized, controlled trial of acetazolamide and furosemide in posthemorrhagic ventricular dilation in infancy: follow-up at 1 year. Pediatrics. 2001 Sep;108(3):597-607. X-1,X-6,X-7,X-8
1543. Kennon S, Timmis AD, Whitbourn R, et al. C reactive protein for risk stratification in acute coronary syndromes? Verdict: unproven. Heart. 2003 Nov;89(11):1288-90. X-1,X-4,X-5,X-8
1544. Kent DM, Hill MD, Ruthazer R, et al. "Clinical-CT mismatch" and the response to systemic thrombolytic therapy in acute ischemic stroke. Stroke. 2005 Aug;36(8):1695-9. X-1,X-6,X-8
1545. Kent DM, Langa KM and Selker HP. The potential use of ECG-based prognostic instruments in clinical trials and cost-effectiveness analyses of new therapies in acute cardiac ischemia. J Electrocardiol. 2000;33 Suppl:263-8. X-1,X-6,X-8
1546. Kent DM, Ruthazer R, Griffith JL, et al. Comparison of mortality benefit of immediate thrombolytic therapy versus delayed primary angioplasty for acute myocardial infarction. Am J Cardiol. 2007 May 15;99(10):1384-8. X-1,X-6,X-8
1547. Kent DM, Ruthazer R and Selker HP. Are some patients likely to benefit from recombinant tissue-type plasminogen activator for acute ischemic stroke even beyond 3 hours from symptom onset? Stroke. 2003 Feb;34(2):464-7. X-1,X-6
1548. Kent DM, Selker HP, Ruthazer R, et al. Can multivariable risk-benefit profiling be used to select treatment-favorable patients for thrombolysis in stroke in the 3- to 6-hour time window? Stroke. 2006 Dec;37(12):2963-9. X-1,X-2,X-6,X-8
1549. Kerber KA, Whitman GT, Brown DL, et al. Increased risk of death in community-dwelling older people with white matter hyperintensities on MRI. J Neurol Sci. 2006 Dec 1;250(1-2):33-8. X-1,X-5,X-6
1550. Kernan WN, Viscoli CM, Inzucchi SE, et al. Prevalence of abnormal glucose tolerance following a transient ischemic attack or ischemic stroke. Arch Intern Med. 2005 Jan 24;165(2):227-33. X-1,X-2,X-5,X-6,X-7,X-8
1551. Kertai MD, Boersma E, Westerhout CM, et al. A combination of statins and beta-blockers is independently associated with a reduction in the incidence of perioperative mortality and

nonfatal myocardial infarction in patients undergoing abdominal aortic aneurysm surgery. Eur J Vasc Endovasc Surg. 2004 Oct;28(4):343-52. X-1
1552. Kertai MD, Klein J, Bax JJ, et al. Predicting perioperative cardiac risk. Prog Cardiovasc Dis. 2005 Jan-Feb;47(4):240-57. X-1,X-4,X-8
1553. Kessler M, Zannad F, Lehert P, et al. Predictors of cardiovascular events in patients with end-stage renal disease: an analysis from the Fosinopril in dialysis study. Nephrol Dial Transplant. 2007 Dec;22(12):3573-9. X-8,
1554. Kestenbaum B, Gillen DL, Sherrard DJ, et al. Calcium channel blocker use and mortality among patients with end-stage renal disease. Kidney Int. 2002 Jun;61(6):2157-64. X-1F,X-2,X-6,X-8
1555. Kestler HA, Wohrle J and Hoher M. Cardiac vulnerability assessment from electrical microvariability of high-resolution electrocardiogram. Med Biol Eng Comput. 2000 Jan;38(1):88-92. X-1,X-5,X-6,X-7
1556. Ketch TR, Turner SJ, Sacrinty MT, et al. Derived fibrinogen compared with C-reactive protein and brain natriuretic peptide for predicting events after myocardial infarction and coronary stenting. Am Heart J. 2008 Aug;156(2):234-40. X-1,X-2,X-8
1557. Kettelkamp R, House J, Garg M, et al. Using the risk of restenosis as a guide to triaging patients between surgical and percutaneous coronary revascularization. Circulation. 2004 Sep 14;110(11 Suppl 1):II50-4. X-1,X-5,X-6,X-8
1558. Khan SQ, Dhillon O, Kelly D, et al. Plasma N-terminal B-Type natriuretic peptide as an indicator of long-term survival after acute myocardial infarction: comparison with plasma midregional pro-atrial natriuretic peptide: the LAMP (Leicester Acute Myocardial Infarction Peptide) study. J Am Coll Cardiol. 2008 May 13;51(19):1857-64. X-1,X-8
1559. Khan SQ, Dhillon O, Struck J, et al. C-terminal pro-endothelin-1 offers additional prognostic information in patients after acute myocardial infarction: Leicester Acute Myocardial Infarction Peptide (LAMP) Study. Am Heart J. 2007 Oct;154(4):736-42. X-1,X-6,X-8
1560. Khan SQ, Quinn P, Davies JE, et al. N-terminal pro-B-type natriuretic peptide is better than TIMI risk score at predicting death after acute myocardial infarction. Heart. 2008 Jan;94(1):40-3. X-1,X-6,X-8
1561. Khashoggi TY. Current trends in hormone replacement therapy. Saudi Med J. 2002 May;23(5):495-502. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1562. Khaw AV, Mohr JP, Sciacca RR, et al. Association of infratentorial brain arteriovenous malformations with hemorrhage at initial presentation. Stroke. 2004 Mar;35(3):660-3. X-1,X-2,X-6,X-8
1563. Khaw KT and Wareham N. Glycated hemoglobin as a marker of cardiovascular risk. Curr Opin Lipidol. 2006 Dec;17(6):637-43. X-2,X-4,X-5
1564. Khera A, McGuire DK, Murphy SA, et al. Race and gender differences in C-reactive protein levels. J Am Coll Cardiol. 2005 Aug 2;46(3):464-9. X-1,X-2,X-5,X-6
1565. Khor LL, Muhlestein JB, Carlquist JF, et al. Sex- and age-related differences in the prognostic value of C-reactive protein in patients with angiographic coronary artery disease. Am J Med. 2004 Nov 1;117(9):657-64. X-1,X-8
1566. Khuseyinova N and Koenig W. Apolipoprotein A-I and risk for cardiovascular diseases. Curr Atheroscler Rep. 2006 Sep;8(5):365-73. X-1,X-2,X-4,X-5,X-6,X-7
1567. Kiberd B, Keough-Ryan T and Panek R. Cardiovascular disease reduction in the outpatient kidney transplant clinic. Am J Transplant. 2003 Nov;3(11):1393-9. X-1,X-2,X-5,X-8

Appendix O. List of Excluded Studies

1568. Kiberd B and Panek R. Cardiovascular outcomes in the outpatient kidney transplant clinic: the Framingham risk score revisited. Clin J Am Soc Nephrol. 2008 May;3(3):822-8. X-8,(28%)
1569. Kiechl S, Willeit J, Mayr M, et al. Oxidized phospholipids, lipoprotein(a), lipoprotein-associated phospholipase A2 activity, and 10-year cardiovascular outcomes: prospective results from the Bruneck study. Arterioscler Thromb Vasc Biol. 2007 Aug;27(8):1788-95. X-1F,X-2,X-8(8%)
1570. Kieltyka L, Urbina EM, Tang R, et al. Framingham risk score is related to carotid artery intima-media thickness in both white and black young adults: the Bogalusa Heart Study. Atherosclerosis. 2003 Sep;170(1):125-30. X-1F,X-2,X-5,X-6
1571. Kikuya M, Ohkubo T, Asayama K, et al. Ambulatory blood pressure and 10-year risk of cardiovascular and noncardiovascular mortality: the Ohasama study. Hypertension. 2005 Feb;45(2):240-5. X-1E,X-1F,X-2,X-8(5.6%)
1572. Kilic T, Ural D, Ural E, et al. Relation between proinflammatory to anti-inflammatory cytokine ratios and long-term prognosis in patients with non-ST elevation acute coronary syndrome. Heart. 2006 Aug;92(8):1041-6. X-1,X-7,X-8
1573. Kilkkinen A, Erlund I, Virtanen MJ, et al. Serum enterolactone concentration and the risk of coronary heart disease in a case-cohort study of Finnish male smokers. Am J Epidemiol. 2006 Apr 15;163(8):687-93. X-1,X-5
1574. Kim DW, Park SA, Kim CG, et al. Reversible defects on myocardial perfusion imaging early after coronary stent implantation: a predictor of late restenosis. Int J Cardiovasc Imaging. 2008 Jun;24(5):503-10. X-1,X-2,X-5,X-6X-7,X-8
1575. Kim EY, Yoo E, Choi HY, et al. Thrombus volume comparison between patients with and without hyperattenuated artery sign on CT. AJNR Am J Neuroradiol. 2008 Feb;29(2):359-62. X-1,X-2,X-5,X-6,X-7,X-8
1576. Kim H, Yang DH, Park Y, et al. Incremental prognostic value of C-reactive protein and N-terminal proB-type natriuretic peptide in acute coronary syndrome. Circ J. 2006 Nov;70(11):1379-84. X-1,X-2,X-8
1577. Kim JS, Lee BH, Ko YG, et al. Comparison of sirolimus-eluting stent and paclitaxel-eluting stent for long-term cardiac adverse events in diabetic patients: the Korean Multicenter Angioplasty Team (KOMATE) Registry. Catheter Cardiovasc Interv. 2008 Nov 1;72(5):601-7. X-1,X-2,X-8
1578. Kim SB, Kwon S, Lee SK, et al. Association of atherosclerotic coronary artery disease and pulse pressure with renal disease progression. Ren Fail. 2003 Nov;25(6):1019-27. X-1,X-7
1579. Kim SH, Chunawala L, Linde R, et al. Comparison of the 1997 and 2003 American Diabetes Association classification of impaired fasting glucose: impact on prevalence of impaired fasting glucose, coronary heart disease risk factors, and coronary heart disease in a community-based medical practice. J Am Coll Cardiol. 2006 Jul 18;48(2):293-7. X-1,X-2,X-5,X-6
1580. Kim WS, Lee J, Lee YT, et al. Total arterial revascularization in triple-vessel disease with off-pump and aortic no-touch technique. Ann Thorac Surg. 2008 Dec;86(6):1861-5. X-1,X-2,X-8
1581. Kim YH, Ahn JM, Park DW, et al. EuroSCORE as a predictor of death and myocardial infarction after unprotected left main coronary stenting. Am J Cardiol. 2006 Dec 15;98(12):1567-70. X-1,X-2,X-8

1582. Kim YH, Lee KH, Chang HJ, et al. Depressed heart rate response to vasodilator stress for myocardial SPECT predicts mortality in patients after myocardial infarction. Int J Cardiovasc Imaging. 2006 Oct;22(5):663-70. X-1,X-7,X-8
1583. Kini AS, Lee PC, Mitre CA, et al. Prediction of outcome after percutaneous coronary intervention for the acute coronary syndrome. Am J Med. 2003 Dec 15;115(9):708-14. X-1,X-6,X-8
1584. Kirton A, Deveber G, Pontigon AM, et al. Presumed perinatal ischemic stroke: vascular classification predicts outcomes. Ann Neurol. 2008 Apr;63(4):436-43. X-1,X-6,X-7
1585. Kistorp C, Raymond I, Pedersen F, et al. N-terminal pro-brain natriuretic peptide, C-reactive protein, and urinary albumin levels as predictors of mortality and cardiovascular events in older adults. JAMA. 2005 Apr 6;293(13):1609-16. X-1F,X-2
1586. Kitagawa K, Hougaku H, Yamagami H, et al. Carotid intima-media thickness and risk of cardiovascular events in high-risk patients. Results of the Osaka Follow-Up Study for Carotid Atherosclerosis 2 (OSACA2 Study). Cerebrovasc Dis. 2007;24(1):35-42. X-1
1587. Kittleson MM, Bead V, Fradley M, et al. Elevated uric acid levels predict allograft vasculopathy in cardiac transplant recipients. J Heart Lung Transplant. 2007 May;26(5):498-503. X-1,X-6,X-7
1588. Kivimaki M, Ferrie JE, Brunner E, et al. Justice at work and reduced risk of coronary heart disease among employees: the Whitehall II Study. Arch Intern Med. 2005 Oct 24;165(19):2245-51. X-1F,X-2,X-6
1589. Kizer JR, Muttrej MR, Matthai WH, et al. Role of cardiac troponin T in the long-term risk stratification of patients undergoing percutaneous coronary intervention. Eur Heart J. 2003 Jul;24(14):1314-22. X-1,X-2,X-8
1590. Klatsky AL, Friedman GD, Sidney S, et al. Risk of hemorrhagic stroke in Asian American ethnic groups. Neuroepidemiology. 2005;25(1):26-31. X-1E,X-1F,X-2,X-8
1591. Klausen KP, Scharling H, Jensen G, et al. New definition of microalbuminuria in hypertensive subjects: association with incident coronary heart disease and death. Hypertension. 2005 Jul;46(1):33-7. X-1F,X-2
1592. Kleikamp G, Maleszka A, Reiss N, et al. Determinants of mid- and long-term results in patients after surgical revascularization for ischemic cardiomyopathy. Ann Thorac Surg. 2003 May;75(5):1406-12; discussion 1412-3. X-1,X-6
1593. Kleiman NS, Lakkis N, Cannon CP, et al. Prospective analysis of creatine kinase muscle-brain fraction and comparison with troponin T to predict cardiac risk and benefit of an invasive strategy in patients with non-ST-elevation acute coronary syndromes. J Am Coll Cardiol. 2002 Sep 18;40(6):1044-50. X-1,X-8
1594. Klein HU and Reek S. The MUSTT study: evaluating testing and treatment. J Interv Card Electrophysiol. 2000 Jan;4 Suppl 1:45-50. X-1,X-6,X-8
1595. Klein JH, Hegele RA, Hackam DG, et al. Lipoprotein(a) is associated differentially with carotid stenosis, occlusion, and total plaque area. Arterioscler Thromb Vasc Biol. 2008 Oct;28(10):1851-6. X-1,X-2,X-6,X-8
1596. Klein LW, Shaw RE, Krone RJ, et al. Mortality after emergent percutaneous coronary intervention in cardiogenic shock secondary to acute myocardial infarction and usefulness of a mortality prediction model. Am J Cardiol. 2005 Jul 1;96(1):35-41. X-1,X-8
1597. Klem I, Heitner JF, Shah DJ, et al. Improved detection of coronary artery disease by stress perfusion cardiovascular magnetic resonance with the use of delayed enhancement infarction imaging. J Am Coll Cardiol. 2006 Apr 18;47(8):1630-8. X-1,X-6,X-7,X-8

1598. Kline JA, Hernandez-Nino J, Newgard CD, et al. Use of pulse oximetry to predict in-hospital complications in normotensive patients with pulmonary embolism. Am J Med. 2003 Aug 15;115(3):203-8. X-1,X-5,X-6
1599. Klingenheben T and Hohnloser SH. Clinical value of T-wave alternans assessment. Card Electrophysiol Rev. 2002 Sep;6(3):323-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1600. Klingenheben T and Hohnloser SH. Usefulness of risk stratification for future cardiac events in infarct survivors with severely depressed versus near-normal left ventricular function: results from a prospective long-term follow-up study. Ann Noninvasive Electrocardiol. 2003 Jan;8(1):68-74. X-1,X-2,X-8
1601. Knobel H, Jerico C, Montero M, et al. Global cardiovascular risk in patients with HIV infection: concordance and differences in estimates according to three risk equations (Framingham, SCORE, and PROCAM). AIDS Patient Care STDS. 2007 Jul;21(7):452-7. X-2,X-5
1602. Knollmann FD, Helmig K, Kapell S, et al. Coronary artery calcium scoring: diagnostic accuracy of different software implementations. Invest Radiol. 2003 Dec;38(12):761-8. X-1,X-5,X-6,X-7
1603. Knopp RH, d'Emden M, Smilde JG, et al. Efficacy and safety of atorvastatin in the prevention of cardiovascular end points in subjects with type 2 diabetes: the Atorvastatin Study for Prevention of Coronary Heart Disease Endpoints in non-insulin-dependent diabetes mellitus (ASPEN). Diabetes Care. 2006 Jul;29(7):1478-85. X-1,X-2
1604. Knuiman MW, Divitini ML, Olynyk JK, et al. Serum ferritin and cardiovascular disease: a 17-year follow-up study in Busselton, Western Australia. Am J Epidemiol. 2003 Jul 15;158(2):144-9. X-1,X-2
1605. Knuiman MW, James AL, Divitini ML, et al. Lung function, respiratory symptoms, and mortality: results from the Busselton Health Study. Ann Epidemiol. 1999 Jul;9(5):297-306. X-1,X-2,X-8(~10%)
1606. Knuiman MW, Watts GF and Divitini ML. Is sialic acid an independent risk factor for cardiovascular disease? A 17-year follow-up study in Busselton, Western Australia. Ann Epidemiol. 2004 Oct;14(9):627-32. X-1F,X-2,X-5,X-8, (Australia)
1607. Ko GT and Tang JS. Waist circumference and BMI cut-off based on 10-year cardiovascular risk: evidence for "central pre-obesity". Obesity (Silver Spring). 2007 Nov;15(11):2832-9. X-1,X-2,X-5,X-6
1608. Kober L, Swedberg K, McMurray JJ, et al. Previously known and newly diagnosed atrial fibrillation: a major risk indicator after a myocardial infarction complicated by heart failure or left ventricular dysfunction. Eur J Heart Fail. 2006 Oct;8(6):591-8. X-1,X-8
1609. Koeijvoets KC, van der Net JB, van Rossum EF, et al. Two common haplotypes of the glucocorticoid receptor gene are associated with increased susceptibility to cardiovascular disease in men with familial hypercholesterolemia. J Clin Endocrinol Metab. 2008 Dec;93(12):4902-8. X-1,X-2
1610. Koek HL, Soedamah-Muthu SS, Kardaun JW, et al. Short- and long-term mortality after acute myocardial infarction: comparison of patients with and without diabetes mellitus. Eur J Epidemiol. 2007;22(12):883-8. X-1,X-6,X-8
1611. Koenig W. C-reactive protein: risk assessment in the primary prevention of atherosclerotic disease. Has the time come for including it in the risk profile? Ital Heart J. 2001 Mar;2(3):157-63. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9

Appendix O. List of Excluded Studies

1612. Koenig W. Predicting risk and treatment benefit in atherosclerosis: the role of C-reactive protein. Int J Cardiol. 2005 Feb 15;98(2):199-206. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1613. Koenig W, Khuseyinova N, Baumert J, et al. Prospective study of high-sensitivity C-reactive protein as a determinant of mortality: results from the MONICA/KORA Augsburg Cohort Study, 1984-1998. Clin Chem. 2008 Feb;54(2):335-42. X-1E,X-2
1614. Koenig W, Khuseyinova N, Lowel H, et al. Lipoprotein-associated phospholipase A2 adds to risk prediction of incident coronary events by C-reactive protein in apparently healthy middle-aged men from the general population: results from the 14-year follow-up of a large cohort from southern Germany. Circulation. 2004 Oct 5;110(14):1903-8. X-1E,X-1F,X-2
1615. Koga H, Takashima Y, Murakawa R, et al. Cognitive consequences of multiple lacunes and leukoaraiosis as vascular cognitive impairment in community-dwelling elderly individuals. J Stroke Cerebrovasc Dis. 2009 Jan;18(1):32-7. X-1,X-2,X-5,X-6
1616. Koganei H, Kasanuki H, Ogawa H, et al. Association of glomerular filtration rate with unsuccessful primary percutaneous coronary intervention and subsequent mortality in patients with acute myocardial infarction: from the HIJAMI registry. Circ J. 2008 Feb;72(2):179-85. X-1,X-5,X-8
1617. Koh KK, Quon MJ, Rosenson RS, et al. Vascular and metabolic effects of treatment of combined hyperlipidemia: focus on statins and fibrates. Int J Cardiol. 2008 Feb 29;124(2):149-59. X-1,X-2,X-6
1618. Kohsaka S, Goto M, Virani S, et al. Long-term clinical outcome of coronary artery stenting or coronary artery bypass grafting in patients with multiple-vessel disease. J Thorac Cardiovasc Surg. 2008 Aug;136(2):500-6. X-1,X-2,X-6,X-8
1619. Kohsaka S, Menon V, Lowe AM, et al. Systemic inflammatory response syndrome after acute myocardial infarction complicated by cardiogenic shock. Arch Intern Med. 2005 Jul 25;165(14):1643-50. X-1,X-5,X-6,X-8
1620. Kokkinos P, Pittaras A, Narayan P, et al. Exercise capacity and blood pressure associations with left ventricular mass in prehypertensive individuals. Hypertension. 2007 Jan;49(1):55-61. X-1,X-2,X-5,X-6
1621. Kolapo KO, Ogun SA, Danesi MA, et al. Validation study of the Siriraj Stroke score in African Nigerians and evaluation of the discriminant values of its parameters: a preliminary prospective CT scan study. Stroke. 2006 Aug;37(8):1997-2000. X-1,X-7,X-8
1622. Kollen B, Kwakkel G and Lindeman E. Hemiplegic gait after stroke: is measurement of maximum speed required? Arch Phys Med Rehabil. 2006 Mar;87(3):358-63. X-1,X-6,X-7,X-8
1623. Kollen B, Kwakkel G and Lindeman E. Longitudinal robustness of variables predicting independent gait following severe middle cerebral artery stroke: a prospective cohort study. Clin Rehabil. 2006 Mar;20(3):262-8. X-1,X-6,X-7,X-8
1624. Komorovsky R and Desideri A. Carotid ultrasound assessment of patients with coronary artery disease: a useful index for risk stratification. Vasc Health Risk Manag. 2005;1(2):131-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1625. Kon ZN, Brown EN, Tran R, et al. Simultaneous hybrid coronary revascularization reduces postoperative morbidity compared with results from conventional off-pump coronary artery bypass. J Thorac Cardiovasc Surg. 2008 Feb;135(2):367-75. X-1,X-2,X-6,X-7,X-8

Appendix O. List of Excluded Studies

1626. Kondos GT, Hoff JA, Sevrukov A, et al. Electron-beam tomography coronary artery calcium and cardiac events: a 37-month follow-up of 5635 initially asymptomatic low- to intermediate-risk adults. Circulation. 2003 May 27;107(20):2571-6. X-1F,X-2
1627. Koomen EM, Hutten BA, Kelder JC, et al. Morbidity and mortality in patients waiting for coronary artery bypass surgery. Eur J Cardiothorac Surg. 2001 Mar;19(3):260-5. X-1,X-2,X-8
1628. Kopp AF, Schroeder S, Baumbach A, et al. Non-invasive characterisation of coronary lesion morphology and composition by multislice CT: first results in comparison with intracoronary ultrasound. Eur Radiol. 2001;11(9):1607-11. X-1,X-2,X-5,X-6,X-7,X-8
1629. Koren-Morag N, Goldbourt U and Tanne D. Renal dysfunction and risk of ischemic stroke or TIA in patients with cardiovascular disease. Neurology. 2006 Jul 25;67(2):224-8. X-1,X-8
1630. Korhonen P, Husa T, Tierala I, et al. QRS duration in high-resolution methods and standard ECG in risk assessment after first and recurrent myocardial infarctions. Pacing Clin Electrophysiol. 2006 Aug;29(8):830-6. X-1,X-6,X-7,X-8
1631. Korhonen P, Tierala I, Simelius K, et al. Late QRS activity in signal-averaged magnetocardiography, body surface potential mapping, and orthogonal ECG in postinfarction ventricular tachycardia patients. Ann Noninvasive Electrocardiol. 2002 Oct;7(4):389-98. X-1,X-5,X-6,X-7,X-8
1632. Kornowski R, Fuchs S, Hong MK, et al. Prognostic value of recurrent episodes of creatine kinase-MB elevation following repeated catheter-based coronary interventions. Catheter Cardiovasc Interv. 2000 Oct;51(2):131-7. X-1,X-8
1633. Koro CE, Bowlin SJ, Stump TE, et al. The independent correlation between high-density lipoprotein cholesterol and subsequent major adverse coronary events. Am Heart J. 2006 Mar;151(3):755 e1-755 e6. X-2,X-8(MI, 9.2%)(CAD, 27%)
1634. Korosoglou G, Haars A, Humpert PM, et al. Evaluation of myocardial perfusion and deformation in patients with acute myocardial infarction treated with primary angioplasty and stent placement. Coron Artery Dis. 2008 Nov;19(7):497-506. X-1,X-6,X-7,X-8
1635. Koschack J, Scherer M, Luers C, et al. Natriuretic peptide vs. clinical information for diagnosis of left ventricular systolic dysfunction in primary care. BMC Fam Pract. 2008;9:14. X-1,X-5,X-6,X-8
1636. Kosiborod M. Blood glucose and its prognostic implications in patients hospitalised with acute myocardial infarction. Diab Vasc Dis Res. 2008 Nov;5(4):269-75. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1637. Kosiborod M, Krumholz HM, Jones PG, et al. The relationship between anemia, change in hematocrit over time and change in health status in patients with heart failure after myocardial infarction. J Card Fail. 2008 Feb;14(1):27-34. X-1,X-2,X-6,X-8
1638. Kosiborod M, Soto GE, Jones PG, et al. Identifying heart failure patients at high risk for near-term cardiovascular events with serial health status assessments. Circulation. 2007 Apr 17;115(15):1975-81. X-1,X-8
1639. Koski-Rahikkala H, Pouta A, Pietilainen K, et al. Does parity affect mortality among parous women? J Epidemiol Community Health. 2006 Nov;60(11):968-73. X-1,X-2
1640. Kosty T. Cerebral vasospasm after subarachnoid hemorrhage: an update. Crit Care Nurs Q. 2005 Apr-Jun;28(2):122-34. X-1,X-2,X-4,X-5,X-6,X-7

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1641. Koton S, Howard SC, Warlow CP, et al. Serum urate predicts long-term risk of acute coronary events in women after a transient ischaemic attack and stroke. Cerebrovasc Dis. 2008;26(5):517-24. X-1,X-2,X-8
1642. Kouakam C, Guedon-Moreau L, Lucas C, et al. Long-term evaluation of autonomic tone in patients below 50 years of age with unexplained cerebral infarction: relation to atrial vulnerability. Europace. 2000 Oct;2(4):297-303. X-1,X-2,X-6,X-7,X-8
1643. Kovar D, Cannon CP, Bentley JH, et al. Does initial and delayed heart rate predict mortality in patients with acute coronary syndromes? Clin Cardiol. 2004 Feb;27(2):80-6. X-1,X-6,X-8
1644. Kovari E, Gold G, Herrmann FR, et al. Cortical microinfarcts and demyelination significantly affect cognition in brain aging. Stroke. 2004 Feb;35(2):410-4. X-1,X-5,X-6
1645. Kovesdy CP, Trivedi BK, Kalantar-Zadeh K, et al. Association of low blood pressure with increased mortality in patients with moderate to severe chronic kidney disease. Nephrol Dial Transplant. 2006 May;21(5):1257-62. X-1,X-6
1646. Kowalczyk J, Lenarczyk R, Kowalski O, et al. Risk stratification according to the type of impaired renal function in patients with acute myocardial infarction treated with percutaneous coronary intervention. Kardiol Pol. 2007 Jun;65(6):635-43; discussion 644. X-1,X-8
1647. Kowdley GC, Maithal S, Ahmed S, et al. Non-dialysis-dependent renal dysfunction and cardiac surgery-an assessment of perioperative risk factors. Curr Surg. 2005 Jan-Feb;62(1):64-70. X-1,X-2,X-6,X-7,X-8
1648. Koz C, Baysan O, Hasimi A, et al. Conventional and non-conventional coronary risk factors in male premature coronary artery disease patients already having a low Framingham risk score. Acta Cardiol. 2008 Oct;63(5):623-8. X-1,X-7,X-8
1649. Kozdag G, Ciftci E, Ural D, et al. Silent cerebral infarction in chronic heart failure: ischemic and nonischemic dilated cardiomyopathy. Vasc Health Risk Manag. 2008;4(2):463-9. X-1,X-5,X-7,X-8
1650. Kozieradzka A, Kaminski K, Dobrzycki S, et al. TIMI Risk Score accurately predicts risk of death in 30-day and one-year follow-up in STEMI patients treated with primary percutaneous coronary interventions. Kardiol Pol. 2007 Jul;65(7):788-95; discussion 796-7. X-1,X-6,X-8
1651. Kramer H, Toto R, Peshock R, et al. Association between chronic kidney disease and coronary artery calcification: the Dallas Heart Study. J Am Soc Nephrol. 2005 Feb;16(2):507-13. X-1,X-5,X-6 ,
1652. Krantz DS, Olson MB, Francis JL, et al. Anger, hostility, and cardiac symptoms in women with suspected coronary artery disease: the Women's Ischemia Syndrome Evaluation (WISE) Study. J Womens Health (Larchmt). 2006 Dec;15(10):1214-23. X-1,X-5,X-6,X-8
1653. Krause KJ. C-reactive protein--a screening test for coronary disease? J Insur Med. 2001;33(1):4-11. X-2,X-4,X-5,X-7,X-8
1654. Krause KJ. Screening potential elderly preferred markers: exploratory analysis of Cardiovascular Health Study (CHS) data. J Insur Med. 2004;36(3):194-9. X-1F,X-2,X-6
1655. Krause KJ. Mortality and prescription drug use: an analysis using the CHS limited access data. J Insur Med. 2007;39(1):24-7. X-1,X-5,X-6
1656. Krauser DG and Devereux RB. Ventricular hypertrophy and hypertension: prognostic elements and implications for management. Herz. 2006 Jun;31(4):305-16. X-1,X-2,X-4,X-5,X-6,X-7,X-8

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1657. Kraywinkel K, Heidrich J, Heuschmann PU, et al. Stroke risk perception among participants of a stroke awareness campaign. BMC Public Health. 2007;7:39. X-1,X-2,X-5,X-6
1658. Krebs A, Krebs K and Keller F. Retrospective comparison of 5 different methods for long-term LDL-apheresis in 20 patients between 1986 and 2001. Int J Artif Organs. 2004 Feb;27(2):137-48. X-1,X-2,X-7
1659. Kremers HM, Crowson CS, Therneau TM, et al. High ten-year risk of cardiovascular disease in newly diagnosed rheumatoid arthritis patients: a population-based cohort study. Arthritis Rheum. 2008 Aug;58(8):2268-74. X-1F,X-2
1660. Krestan CR, Klein N, Fleischmann D, et al. Value of negative spiral CT angiography in patients with suspected acute PE: analysis of PE occurrence and outcome. Eur Radiol. 2004 Jan;14(1):93-8. X-1,X-6
1661. Kreuz J, Lickfett LM and Schwab JO. Modern noninvasive risk stratification in primary prevention of sudden cardiac death. J Interv Card Electrophysiol. 2008 Oct;23(1):23-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1662. Krishnan P, Balamurugan A, Urbina E, et al. Cardiovascular risk profile of asymptomatic healthy young adults with increased carotid artery intima-media thickness: the Bogalusa Heart Study. J La State Med Soc. 2003 May-Jun;155(3):165-9. X-1,X-2,X-6,X-8
1663. Kristal-Boneh E, Harari G, Melamed S, et al. Association of physical activity at work with mortality in Israeli industrial employees: the CORDIS study. J Occup Environ Med. 2000 Feb;42(2):127-35. X-1E,X-1F,X-2
1664. Kristen AV, Perz JB, Schonland SO, et al. Rapid progression of left ventricular wall thickness predicts mortality in cardiac light-chain amyloidosis. J Heart Lung Transplant. 2007 Dec;26(12):1313-9. X-1,X-5,X-6,X-7,X-8
1665. Kroll D, Farah W, McKendall GR, et al. Prognostic value of stress-gated Tc-99m sestamibi SPECT after acute myocardial infarction. Am J Cardiol. 2001 Feb 15;87(4):381-6. X-7,X-8
1666. Kronenberg F, Neyer U, Lhotta K, et al. The low molecular weight apo(a) phenotype is an independent predictor for coronary artery disease in hemodialysis patients: a prospective follow-up. J Am Soc Nephrol. 1999 May;10(5):1027-36. X-1,X-8
1667. Kronmal RA, Barzilay JI, Smith NL, et al. Mortality in pharmacologically treated older adults with diabetes: the Cardiovascular Health Study, 1989-2001. PLoS Med. 2006 Oct;3(10):e400. X-1,X-2
1668. Kruk M, Karcz M, Przyluski J, et al. White blood cell count adds prognostic information to the thrombolysis in myocardial infarction risk index in patients following primary percutaneous coronary intervention (ANIN Myocardial Infarction Registry). Int J Cardiol. 2007 Apr 4;116(3):376-82. X-1,X-5,X-8
1669. Krumholz HM, Brindis RG, Brush JE, et al. Standards for statistical models used for public reporting of health outcomes: an American Heart Association Scientific Statement from the Quality of Care and Outcomes Research Interdisciplinary Writing Group: cosponsored by the Council on Epidemiology and Prevention and the Stroke Council. Endorsed by the American College of Cardiology Foundation. Circulation. 2006 Jan 24;113(3):456-62. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1670. Krumholz HM, Chen J, Wang Y, et al. Comparing AMI mortality among hospitals in patients 65 years of age and older: evaluating methods of risk adjustment. Circulation. 1999 Jun 15;99(23):2986-92. X-1,X-6,X-8

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1671. Krumholz HM, Wang Y, Mattera JA, et al. An administrative claims model suitable for profiling hospital performance based on 30-day mortality rates among patients with an acute myocardial infarction. Circulation. 2006 Apr 4;113(13):1683-92. X-1,X-8
1672. Krzyzanowska K, Mittermayer F, Wolzt M, et al. Asymmetric dimethylarginine predicts cardiovascular events in patients with type 2 diabetes. Diabetes Care. 2007 Jul;30(7):1834-9. X-7
1673. Kshirsagar AV, Bang H, Bomback AS, et al. A simple algorithm to predict incident kidney disease. Arch Intern Med. 2008 Dec 8;168(22):2466-73. X-1,X-6
1674. Kubal C, Srinivasan AK, Grayson AD, et al. Effect of risk-adjusted diabetes on mortality and morbidity after coronary artery bypass surgery. Ann Thorac Surg. 2005 May;79(5):1570-6. X-1,X-8
1675. Kuch B, von Scheidt W, Kling B, et al. Differential impact of admission C-reactive protein levels on 28-day mortality risk in patients with ST-elevation versus non-ST-elevation myocardial infarction (from the Monitoring Trends and Determinants on Cardiovascular Diseases [MONICA]/Cooperative Health Research in the Region of Augsburg [KORA] Augsburg Myocardial Infarction Registry). Am J Cardiol. 2008 Nov 1;102(9):1125-30. X-1,X-2,X-8
1676. Kuettner A, Trabold T, Schroeder S, et al. Noninvasive detection of coronary lesions using 16-detector multislice spiral computed tomography technology: initial clinical results. J Am Coll Cardiol. 2004 Sep 15;44(6):1230-7. X-1,X-5,X-6,X-7
1677. Kuhan G, Gardiner ED, Abidia AF, et al. Risk modelling study for carotid endarterectomy. Br J Surg. 2001 Dec;88(12):1590-4. X-1,X-2,X-8
1678. Kuijpers D, van Dijkman PR, Janssen CH, et al. Dobutamine stress MRI. Part II. Risk stratification with dobutamine cardiovascular magnetic resonance in patients suspected of myocardial ischemia. Eur Radiol. 2004 Nov;14(11):2046-52. X-1
1679. Kuklinska AM, Sobkowicz B, Kaminski KA, et al. The benefits of repeated measurements of B-type natriuretic peptide in patients with first ST-elevation myocardial infarction treated with primary percutaneous coronary intervention. Int Heart J. 2006 Nov;47(6):843-54. X-1,X-2,X-7,X-8
1680. Kuklinska AM, Sobkowicz B, Mroczko B, et al. Prognostic significance of the admission plasma B-type natriuretic peptide measurement in patients with first ST-elevation myocardial infarction in comparison with C-reactive protein and TIMI risk score. Clin Chim Acta. 2007 Jul;382(1-2):106-11. X-1,X-7,X-8
1681. Kukulski T, Jamal F, Herbots L, et al. Identification of acutely ischemic myocardium using ultrasonic strain measurements. A clinical study in patients undergoing coronary angioplasty. J Am Coll Cardiol. 2003 Mar 5;41(5):810-9. X-1,X-5,X-6,X-7
1682. Kullo IJ, McConnell JP, Bailey KR, et al. Relation of C-reactive protein and fibrinogen to coronary artery calcium in subjects with systemic hypertension. Am J Cardiol. 2003 Jul 1;92(1):56-8. X-1
1683. Kumar A and Lloyd-Jones DM. Clinical significance of minor nonspecific ST-segment and T-wave abnormalities in asymptomatic subjects: a systematic review. Cardiol Rev. 2007 May-Jun;15(3):133-42. X-1,X-4,X-5
1684. Kumar SS, Negassa A, Monrad ES, et al. The Mayo Clinic Risk Score predicts in-hospital mortality following primary angioplasty. J Invasive Cardiol. 2005 Oct;17(10):522-6. X-1,X-8

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1685. Kumar V, Sachdev HP and Khalil A. Noninvasive evaluation of endothelial function and arterial mechanics in overweight adolescents. Indian Pediatr. 2004 Nov;41(11):1105-14. X-1,X-2,X-5,X-6,X-7
1686. Kumbhani DJ, Healey NA, Birjiniuk V, et al. Intraoperative regional myocardial acidosis predicts the need for inotropic support in cardiac surgery. Am J Surg. 2004 Nov;188(5):474-80. X-1,X-2,X-8
1687. Kummerow FA, Olinescu RM, Fleischer L, et al. The relationship of oxidized lipids to coronary artery stenosis. Atherosclerosis. 2000 Mar;149(1):181-90. X-1,X-2,X-5,X-6,X-8
1688. Kunadian B, Dunning J, Das R, et al. External validation of established risk adjustment models for procedural complications after percutaneous coronary intervention. Heart. 2008 Aug;94(8):1012-8. X-1,X-8
1689. Kunadian B, Dunning J, Roberts AP, et al. Cumulative funnel plots for the early detection of interoperator variation: retrospective database analysis of observed versus predicted results of percutaneous coronary intervention. BMJ. 2008 Apr 26;336(7650):931-4. X-1,X-8
1690. Kupchak P, Wu AH, Ghani F, et al. Influence of imprecision on ROC curve analysis for cardiac markers. Clin Chem. 2006 Apr;52(4):752-3. X-1,X-4,X-5,X-6,X-8
1691. Kuper H, Adami HO, Theorell T, et al. The socioeconomic gradient in the incidence of stroke: a prospective study in middle-aged women in Sweden. Stroke. 2007 Jan;38(1):27-33. X-1,X-2
1692. Kupferwasser LI, Amorn AM, Kapoor N, et al. Comparison of drug-eluting stents with bare metal stents in unselected patients with acute myocardial infarction. Catheter Cardiovasc Interv. 2007 Jul 1;70(1):1-8. X-1,X-8
1693. Kuppuswamy V and Gupta S. Coronary heart disease in South Asians. Practitioner. 2003 Mar;247(1644):181-2, 186-8, 190 passim. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
1694. Kurki TS, Jarvinen O, Kataja MJ, et al. Performance of three preoperative risk indices; CABDEAL, EuroSCORE and Cleveland models in a prospective coronary bypass database. Eur J Cardiothorac Surg. 2002 Mar;21(3):406-10. X-1,X-8
1695. Kurl S, Laukkanen JA, Rauramaa R, et al. Systolic blood pressure response to exercise stress test and risk of stroke. Stroke. 2001 Sep;32(9):2036-41. X-1F,X-2
1696. Kurl S, Laukkanen JA, Tuomainen TP, et al. Association of exercise-induced, silent ST-segment depression with the risk of stroke and cardiovascular diseases in men. Stroke. 2003 Jul;34(7):1760-5. X-1,X-6
1697. Kuroda S, Houkin K, Kamiyama H, et al. Long-term prognosis of medically treated patients with internal carotid or middle cerebral artery occlusion: can acetazolamide test predict it? Stroke. 2001 Sep;32(9):2110-6. X-1,X-2,X-7,X-8
1698. Kurpesa M, Trzos E, Rechcinski T, et al. The relationship between heart rate variability and heart rate turbulence dynamics after primary coronary angioplasty. Ann Noninvasive Electrocardiol. 2007 Jan;12(1):50-8. X-1,X-6,X-7,X-8
1699. Kurth T, Kase CS, Berger K, et al. Smoking and risk of hemorrhagic stroke in women. Stroke. 2003 Dec;34(12):2792-5. X-1,X-6
1700. Kuukasjarvi P, Nordhausen K and Malmivaara A. Reanalysis of systematic reviews: the case of invasive strategies for acute coronary syndromes. Int J Technol Assess Health Care. 2006 Fall;22(4):484-96. X-1,X-4,X-5,X-6,X-8

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1701. Kwakkel G, Kollen BJ, van der Grond J, et al. Probability of regaining dexterity in the flaccid upper limb: impact of severity of paresis and time since onset in acute stroke. Stroke. 2003 Sep;34(9):2181-6. X-1,X-2,X-6,X-7,X-8
1702. Kwakkel G, van Dijk GM and Wagenaar RC. Accuracy of physical and occupational therapists' early predictions of recovery after severe middle cerebral artery stroke. Clin Rehabil. 2000 Feb;14(1):28-41. X-1,X-2,X-6,X-8
1703. Kwiatkowski JL, Granger S, Brambilla DJ, et al. Elevated blood flow velocity in the anterior cerebral artery and stroke risk in sickle cell disease: extended analysis from the STOP trial. Br J Haematol. 2006 Aug;134(3):333-9. X-1,X-8
1704. Kwon S, Hartzema AG, Duncan PW, et al. Disability measures in stroke: relationship among the Barthel Index, the Functional Independence Measure, and the Modified Rankin Scale. Stroke. 2004 Apr;35(4):918-23. X-1,X-2,X-6,X-8
1705. Kwon SW, Yoon SJ, Kang TS, et al. Significance of small dense low-density lipoprotein as a risk factor for coronary artery disease and acute coronary syndrome. Yonsei Med J. 2006 Jun 30;47(3):405-14. X-1,X-2,X-5,X-6,X-8
1706. Kwong RY, Schussheim AE, Rekhraj S, et al. Detecting acute coronary syndrome in the emergency department with cardiac magnetic resonance imaging. Circulation. 2003 Feb 4;107(4):531-7. X-1,X-5,X-6,X-7
1707. La Rovere MT, Pinna GD, Maestri R, et al. Short-term heart rate variability strongly predicts sudden cardiac death in chronic heart failure patients. Circulation. 2003 Feb 4;107(4):565-70. X-1,X-6,X-8
1708. Laaksonen DE, Nyyssonen K, Niskanen L, et al. Prediction of cardiovascular mortality in middle-aged men by dietary and serum linoleic and polyunsaturated fatty acids. Arch Intern Med. 2005 Jan 24;165(2):193-9. X-1
1709. Labarre CA, Nelson DR, Pitts DE, et al. Immunohistochemical model to predict risk for coronary artery disease and failure in heart transplant patients. Am J Transplant. 2001 Sep;1(3):251-9. X-1,X-7,X-8
1710. LaClair BJ, Reker DM, Duncan PW, et al. Stroke care: a method for measuring compliance with AHCPR guidelines. Am J Phys Med Rehabil. 2001 Mar;80(3):235-42. X-1,X-6,X-8
1711. Ladwig KH, Marten-Mittag B, Lowel H, et al. C-reactive protein, depressed mood, and the prediction of coronary heart disease in initially healthy men: results from the MONICA-KORA Augsburg Cohort Study 1984-1998. Eur Heart J. 2005 Dec;26(23):2537-42. X-1E,X-2
1712. LaFemina J, Sokal SM, Chang Y, et al. Effect of medical or surgical admission on outcome of patients with gallstone pancreatitis and common bile duct stones. J Gastrointest Surg. 2008 Sep;12(9):1554-60. X-1,X-2,X-6
1713. Lagarde SM, Reitsma JB, Maris AK, et al. Preoperative prediction of the occurrence and severity of complications after esophagectomy for cancer with use of a nomogram. Ann Thorac Surg. 2008 Jun;85(6):1938-45. X-1,X-5,X-6
1714. Lagares A, Gomez PA, Alen JF, et al. A comparison of different grading scales for predicting outcome after subarachnoid haemorrhage. Acta Neurochir (Wien). 2005 Jan;147(1):5-16; discussion 16. X-1D,X-1G,X-6,X-8
1715. Laguna P, Martin A, Del Arco C, et al. Differences among clinical classification schemes for predicting stroke in atrial fibrillation: implications for therapy in daily practice. Acad

Emerg Med. 2005 Sep;12(9):828-34. X-1D,X-1F,X-2,X-8(CAD, 20%)(Stroke, 16%)(Hypertension, 60%)
1716. Lahtinen J, Biancari F, Ala-Kokko T, et al. Pulmonary artery blood temperature at admission to the intensive care unit is predictive of outcome after on-pump coronary artery bypass surgery. Scand Cardiovasc J. 2004 May;38(2):104-12. X-1,X-6,X-8
1717. Lai D and Hardy RJ. Potential gains in life expectancy or years of potential life lost: impact of competing risks of death. Int J Epidemiol. 1999 Oct;28(5):894-8. X-1,X-6
1718. Lai S, Kaykha A, Yamazaki T, et al. Treadmill scores in elderly men. J Am Coll Cardiol. 2004 Feb 18;43(4):606-15. X-1C,X-1D,X-1F,X-2
1719. Lakkireddy D, Vacek J, Harris W, et al. Modified Mid America Heart Institute Coronary Care Unit scoring system--a new comprehensive prognostic index for Coronary Care Unit patients. Med Sci Monit. 2005 Mar;11(3):CR95-9. X-1,X-7,X-8
1720. Lakkireddy DR, Bhakkad J, Korlakunta HL, et al. Prognostic value of the Duke Treadmill Score in diabetic patients. Am Heart J. 2005 Sep;150(3):516-21. X-1,X-2,X-5,X-8
1721. Lakkireddy DR, Gowda MS, Murray CW, et al. Death certificate completion: how well are physicians trained and are cardiovascular causes overstated? Am J Med. 2004 Oct 1;117(7):492-8. X-1,X-2,X-5,X-6,X-8
1722. Lakoski SG, Greenland P, Wong ND, et al. Coronary artery calcium scores and risk for cardiovascular events in women classified as "low risk" based on Framingham risk score: the multi-ethnic study of atherosclerosis (MESA). Arch Intern Med. 2007 Dec 10;167(22):2437-42. X-2
1723. Lakshminarayan K, Solid CA, Collins AJ, et al. Atrial fibrillation and stroke in the general medicare population: a 10-year perspective (1992 to 2002). Stroke. 2006 Aug;37(8):1969-74. X-1,X-2,X-8
1724. Lam CS, Burnett JC, Jr., Costello-Boerrigter L, et al. Alternate circulating pro-B-type natriuretic peptide and B-type natriuretic peptide forms in the general population. J Am Coll Cardiol. 2007 Mar 20;49(11):1193-202. X-1,X-2,X-5,X-6,X-8
1725. Lam TH, Liu LJ, Janus ED, et al. The relationship between fibrinogen and other coronary heart disease risk factors in a Chinese population. Atherosclerosis. 1999 Apr;143(2):405-13. X-1,X-5,X-6
1726. Lamarche B, St-Pierre AC, Ruel IL, et al. A prospective, population-based study of low density lipoprotein particle size as a risk factor for ischemic heart disease in men. Can J Cardiol. 2001 Aug;17(8):859-65. X-1F,X-2, (Canada)
1727. Lamb SE, Ferrucci L, Volapto S, et al. Risk factors for falling in home-dwelling older women with stroke: the Women's Health and Aging Study. Stroke. 2003 Feb;34(2):494-501. X-1,X-6,X-7
1728. Lamon-Fava S, Herrington DM, Reboussin DM, et al. Plasma levels of HDL subpopulations and remnant lipoproteins predict the extent of angiographically-defined coronary artery disease in postmenopausal women. Arterioscler Thromb Vasc Biol. 2008 Mar;28(3):575-9. X-1,X-2,X-5,X-6,X-8
1729. Lampinen KH, Ronnback M, Groop PH, et al. A relationship between insulin sensitivity and vasodilation in women with a history of preeclamptic pregnancy. Hypertension. 2008 Aug;52(2):394-401. X-1,X-6,X-7
1730. Lamy C, Domigo V, Semah F, et al. Early and late seizures after cryptogenic ischemic stroke in young adults. Neurology. 2003 Feb 11;60(3):400-4. X-1,X-6,X-8

Appendix O. List of Excluded Studies

1731. Lamy C, Giannesini C, Zuber M, et al. Clinical and imaging findings in cryptogenic stroke patients with and without patent foramen ovale: the PFO-ASA Study. Atrial Septal Aneurysm. Stroke. 2002 Mar;33(3):706-11. X-1,X-2,X-8
1732. Lan TY, Chiu HC, Chang HY, et al. Clinical and laboratory predictors of all-cause mortality in older population. Arch Gerontol Geriatr. 2007 Nov-Dec;45(3):327-34. X-1,X-6
1733. Lande MB, Pearson TA, Vermilion RP, et al. Elevated blood pressure, race/ethnicity, and C-reactive protein levels in children and adolescents. Pediatrics. 2008 Dec;122(6):1252-7. X-1,X-2,X-5,X-6
1734. Landim MB and Victor EG. Framingham score for public transportation drivers in the city of Teresina, Piaui. Arq Bras Cardiol. 2006 Sep;87(3):315-20. X-2,X-5,X-6,X-7
1735. Landoni C, Lucignani G, Paolini G, et al. Assessment of CABG-related risk in patients with CAD and LVD. Contribution of PET with [18F]FDG to the assessment of myocardial viability. J Cardiovasc Surg (Torino). 1999 Jun;40(3):363-72. X-1,X-6,X-8
1736. Landrum MB and Normand SL. Applying Bayesian ideas to the development of medical guidelines. Stat Med. 1999 Jan 30;18(2):117-37. X-1,X-4,X-5,X-6
1737. Langsted A, Freiberg JJ and Nordestgaard BG. Fasting and nonfasting lipid levels: influence of normal food intake on lipids, lipoproteins, apolipoproteins, and cardiovascular risk prediction. Circulation. 2008 Nov 11;118(20):2047-56. X-1,X-2,X-5,X-6
1738. Lanktree M, Oh J and Hegele RA. Genetic testing for atherosclerosis risk: inevitability or pipe dream? Can J Cardiol. 2008 Nov;24(11):851-4. X-1,X-2
1739. LaRosa JC. What do the statins tell us? Am Heart J. 2002 Dec;144(6 Suppl):S21-6. X-1,X-4,X-5
1740. Larose E, Ganz P, Reynolds HG, et al. Right ventricular dysfunction assessed by cardiovascular magnetic resonance imaging predicts poor prognosis late after myocardial infarction. J Am Coll Cardiol. 2007 Feb 27;49(8):855-62. X-1,X-7,X-8
1741. Larrue V, von Kummer RR, Muller A, et al. Risk factors for severe hemorrhagic transformation in ischemic stroke patients treated with recombinant tissue plasminogen activator: a secondary analysis of the European-Australasian Acute Stroke Study (ECASS II). Stroke. 2001 Feb;32(2):438-41. X-1,X-6,X-8
1742. Larson SL, Owens PL, Ford D, et al. Depressive disorder, dysthymia, and risk of stroke: thirteen-year follow-up from the Baltimore epidemiologic catchment area study. Stroke. 2001 Sep;32(9):1979-83. X-1F,X-2
1743. Lasala JM, Cox DA, Dobies D, et al. Usage patterns and 2-year outcomes with the TAXUS express stent: results of the US ARRIVE 1 registry. Catheter Cardiovasc Interv. 2008 Oct 1;72(4):433-45. X-1,X-2,X-6,X-8
1744. Lassus J, Harjola VP, Sund R, et al. Prognostic value of cystatin C in acute heart failure in relation to other markers of renal function and NT-proBNP. Eur Heart J. 2007 Aug;28(15):1841-7. X-1,X-6,X-8
1745. Laterza OF, Cameron SJ, Chappell D, et al. Evaluation of pregnancy-associated plasma protein A as a prognostic indicator in acute coronary syndrome patients. Clin Chim Acta. 2004 Oct;348(1-2):163-9. X-1D,X-1F,X-6,X-8
1746. Lau EW, Griffith MJ, Pathmanathan RK, et al. The Midlands Trial of Empirical Amiodarone versus Electrophysiology-guided Interventions and Implantable Cardioverter-defibrillators (MAVERIC): a multi-centre prospective randomised clinical trial on the secondary prevention of sudden cardiac death. Europace. 2004 Jul;6(4):257-66. X-1,X-2

Appendix O. List of Excluded Studies

1747. Lau GT, Ridley LJ, Schieb MC, et al. Coronary artery stenoses: detection with calcium scoring, CT angiography, and both methods combined. Radiology. 2005 May;235(2):415-22. X-1,X-5,X-6,X-7,X-8
1748. Lau HK, Segev A, Hegele RA, et al. Thrombin-activatable fibrinolysis inhibitor (TAFI): a novel predictor of angiographic coronary restenosis. Thromb Haemost. 2003 Dec;90(6):1187-91. X-1,X-2,X-6,X-7,X-8
1749. Lau KK, Chan YH, Yiu KH, et al. Incremental predictive value of vascular assessments combined with the Framingham Risk Score for prediction of coronary events in subjects of low-intermediate risk. Postgrad Med J. 2008 Mar;84(989):153-7. X-5,X-7,X-8
1750. Lauer MS. Exercise electrocardiogram testing and prognosis. Novel markers and predictive instruments. Cardiol Clin. 2001 Aug;19(3):401-14. X-1G,X-2,X-4,X-5,X-6,X-7X-8,X-9
1751. Lauer MS, Alexe S, Pothier Snader CE, et al. Use of the logical analysis of data method for assessing long-term mortality risk after exercise electrocardiography. Circulation. 2002 Aug 6;106(6):685-90. X-6
1752. Laukkanen JA, Kurl S, Rauramaa R, et al. Systolic blood pressure response to exercise testing is related to the risk of acute myocardial infarction in middle-aged men. Eur J Cardiovasc Prev Rehabil. 2006 Jun;13(3):421-8. X-1F,X-2
1753. Laukkanen JA, Kurl S, Salonen R, et al. The predictive value of cardiorespiratory fitness for cardiovascular events in men with various risk profiles: a prospective population-based cohort study. Eur Heart J. 2004 Aug;25(16):1428-37. X-1F,X-2
1754. Laukkanen JA, Rauramaa R and Kurl S. Exercise workload, coronary risk evaluation and the risk of cardiovascular and all-cause death in middle-aged men. Eur J Cardiovasc Prev Rehabil. 2008 Jun;15(3):285-92. X-2, (Finland)
1755. Laukkanen JA, Rauramaa R, Salonen JT, et al. The predictive value of cardiorespiratory fitness combined with coronary risk evaluation and the risk of cardiovascular and all-cause death. J Intern Med. 2007 Aug;262(2):263-72. X-1
1756. Lavi S, Rihal CS, Yang EH, et al. The effect of drug eluting stents on cardiovascular events in patients with intermediate lesions and borderline fractional flow reserve. Catheter Cardiovasc Interv. 2007 Oct 1;70(4):525-31. X-1,X-2,X-8
1757. Lavine SJ. Prediction of heart failure post myocardial infarction: comparison of ejection fraction, transmitral filling parameters, and the index of myocardial performance. Echocardiography. 2003 Nov;20(8):691-701. X-1,X-7,X-8
1758. Law MG, Friis-Moller N, El-Sadr WM, et al. The use of the Framingham equation to predict myocardial infarctions in HIV-infected patients: comparison with observed events in the D:A:D Study. HIV Med. 2006 May;7(4):218-30. X-2
1759. Lawes CM, Rodgers A, Bennett DA, et al. Blood pressure and cardiovascular disease in the Asia Pacific region. J Hypertens. 2003 Apr;21(4):707-16. X-1F,X-2,X-4,X-5,X-7,X-8
1760. Lawless CE and Best TM. Electrocardiograms in athletes: interpretation and diagnostic accuracy. Med Sci Sports Exerc. 2008 May;40(5):787-98. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1761. Lawlor DA and Leon DA. Association of body mass index and obesity measured in early childhood with risk of coronary heart disease and stroke in middle age: findings from the aberdeen children of the 1950s prospective cohort study. Circulation. 2005 Apr 19;111(15):1891-6. X-1F,X-2,X-6,X-9, (Scotland)

Appendix O. List of Excluded Studies

1762. Lawrance RA, Dorsch MF, Sapsford RJ, et al. Use of cumulative mortality data in patients with acute myocardial infarction for early detection of variation in clinical practice: observational study. BMJ. 2001 Aug 11;323(7308):324-7. X-1,X-2,X-5,X-6
1763. Le Grande MR, Elliott PC, Murphy BM, et al. Health related quality of life trajectories and predictors following coronary artery bypass surgery. Health Qual Life Outcomes. 2006;4:49. X-1
1764. Ledue TB and Rifai N. High sensitivity immunoassays for C-reactive protein: promises and pitfalls. Clin Chem Lab Med. 2001 Nov;39(11):1171-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1765. Lee AJ, Price JF, Russell MJ, et al. Improved prediction of fatal myocardial infarction using the ankle brachial index in addition to conventional risk factors: the Edinburgh Artery Study. Circulation. 2004 Nov 9;110(19):3075-80. X-1F
1766. Lee CH, van Domburg RT, Hoye A, et al. Predictors of survival after contemporary percutaneous coronary revascularization for acute myocardial infarction in the real world. J Invasive Cardiol. 2004 Nov;16(11):627-31. X-1,X-2,X-8
1767. Lee CR, North KE, Bray MS, et al. Cyclooxygenase polymorphisms and risk of cardiovascular events: the Atherosclerosis Risk in Communities (ARIC) study. Clin Pharmacol Ther. 2008 Jan;83(1):52-60. X-1,X-5,X-6,X-8
1768. Lee CW, Suh J, Lee SW, et al. Factors predictive of cardiac events and restenosis after sirolimus-eluting stent implantation in small coronary arteries. Catheter Cardiovasc Interv. 2007 May 1;69(6):821-5. X-1,X-2,X-8
1769. Lee CY, Pellikka PA, McCully RB, et al. Nonexercise stress transthoracic echocardiography: transesophageal atrial pacing versus dobutamine stress. J Am Coll Cardiol. 1999 Feb;33(2):506-11. X-1,X-5,X-6,X-7
1770. Lee KH, Cho SJ, Byun HS, et al. Triphasic perfusion computed tomography in acute middle cerebral artery stroke: a correlation with angiographic findings. Arch Neurol. 2000 Jul;57(7):990-9. X-1,X-2,X-6,X-7,X-8
1771. Lee KW, Blann AD and Lip GY. Plasma markers of endothelial damage/dysfunction, inflammation and thrombogenesis in relation to TIMI risk stratification in acute coronary syndromes. Thromb Haemost. 2005 Nov;94(5):1077-83. X-1,X-7,X-8
1772. Lee MS, Tseng CH, Barker CM, et al. Outcome after surgery and percutaneous intervention for cardiogenic shock and left main disease. Ann Thorac Surg. 2008 Jul;86(1):29-34. X-1,X-6,X-7,X-8
1773. Lee SS, Singh S, Magder LS, et al. Predictors of high sensitivity C-reactive protein levels in patients with systemic lupus erythematosus. Lupus. 2008;17(2):114-23. X-1,X-2,X-6
1774. Lee TC, O'Malley PG, Feuerstein I, et al. The prevalence and severity of coronary artery calcification on coronary artery computed tomography in black and white subjects. J Am Coll Cardiol. 2003 Jan 1;41(1):39-44. X-1,X-5,X-6
1775. Lee TH, Marcantonio ER, Mangione CM, et al. Derivation and prospective validation of a simple index for prediction of cardiac risk of major noncardiac surgery. Circulation. 1999 Sep 7;100(10):1043-9. X-1,X-6,X-8
1776. Lee YJ, Kim JK, Lee JH, et al. Association of serum gamma-glutamyltransferase with C-reactive protein levels and white blood cell count in Korean adults. Clin Chem Lab Med. 2008;46(10):1410-5. X-1,X-2,X-5,X-6
1777. Legare JF, Buth KJ, Sullivan JA, et al. Composite arterial grafts versus conventional grafting for coronary artery bypass grafting. J Thorac Cardiovasc Surg. 2004 Jan;127(1):160-6. X-1,X-2,X-6,X-8

Appendix O. List of Excluded Studies

1778. Lehrke S, Steen H, Sievers HH, et al. Cardiac troponin T for prediction of short- and long-term morbidity and mortality after elective open heart surgery. Clin Chem. 2004 Sep;50(9):1560-7. X-1,X-8
1779. Leitha T, Bailer H, Gwechenberger M, et al. ROC analysis of three perfusion display options for ECG-gated perfusion SPECT in severe CAD. Nuklearmedizin. 1999;38(6):172-7. X-1,X-5,X-6
1780. Lekakis JP, Papamichael C, Papaioannou TG, et al. Intima-media thickness score from carotid and femoral arteries predicts the extent of coronary artery disease: intima-media thickness and CAD. Int J Cardiovasc Imaging. 2005 Oct;21(5):495-501. X-1,X-5,X-6,X-8
1781. Lekatsas I, Kranidis A, Ioannidis G, et al. Comparison of the extent and severity of coronary artery disease in patients with acute myocardial infarction with and without microalbuminuria. Am J Cardiol. 2004 Aug 1;94(3):334-7. X-1,X-5,X-6,X-7,X-8
1782. Lemesle G, Sudre A, Modine T, et al. High incidence of recurrent in stent thrombosis after successful treatment of a first in stent thrombosis. Catheter Cardiovasc Interv. 2008 Oct 1;72(4):470-8. X-1X-2,X-6,X-8
1783. Lemmer JH, Jr., Metzdorff MT, Krause AH, Jr., et al. Emergency coronary artery bypass graft surgery in abciximab-treated patients. Ann Thorac Surg. 2000 Jan;69(1):90-5. X-1,X-2,X-5,X-6,X-7,X-8
1784. Lengele JP, Vinck WJ, De Plaen JF, et al. Cardiovascular risk assessment in hypertensive patients: major discrepancy according to ESH and SCORE strategies. J Hypertens. 2007 Apr;25(4):757-62. X-1,X-5,X-7
1785. Lentine KL, Brennan DC and Schnitzler MA. Incidence and predictors of myocardial infarction after kidney transplantation. J Am Soc Nephrol. 2005 Feb;16(2):496-506. X-1D,X-1E,X-1F,X-2,X-8
1786. Lentine KL, Rey LA, Kolli S, et al. Variations in the risk for cerebrovascular events after kidney transplant compared with experience on the waiting list and after graft failure. Clin J Am Soc Nephrol. 2008 Jul;3(4):1090-101. X-1F,X-2,X-8
1787. Lentine KL, Rocca Rey LA, Kolli S, et al. Variations in the risk for cerebrovascular events after kidney transplant compared with experience on the waiting list and after graft failure. Clin J Am Soc Nephrol. 2008 Jul;3(4):1090-101. X-1,X-2
1788. Leoncini G, Ratto E, Viazzi F, et al. Metabolic syndrome and ambulatory arterial stiffness index in non-diabetic patients with primary hypertension. J Hum Hypertens. 2007 Oct;21(10):802-7. X-1,X-2,X-6,X-7
1789. Leoncini M, Bellandi F, Sciagra R, et al. Use of 99mTc-sestamibi gated SPECT to assess the influence of anterograde flow before primary coronary angioplasty on tissue salvage and functional recovery in acute myocardial infarction. Eur J Nucl Med Mol Imaging. 2004 Oct;31(10):1378-85. X-1,X-6,X-7,X-8
1790. Leoncini M, Marcucci G, Sciagra R, et al. Usefulness of distinct activity thresholds according to baseline regional asynergy for predicting functional recovery in patients with chronic coronary artery disease and left ventricular dysfunction: a study with nitrate-enhanced sestamibi gated SPECT. J Nucl Cardiol. 2001 Sep-Oct;8(5):555-60. X-1,X-6,X-7,X-8
1791. Leone N, Ducimetiere P, Gariepy J, et al. Distension of the carotid artery and risk of coronary events: the three-city study. Arterioscler Thromb Vasc Biol. 2008 Jul;28(7):1392-7. X-1F,X-2,X-8(12%)

Appendix O. List of Excluded Studies

1792. Leong T, Zylberstein D, Graham I, et al. Asymmetric dimethylarginine independently predicts fatal and nonfatal myocardial infarction and stroke in women: 24-year follow-up of the population study of women in Gothenburg. Arterioscler Thromb Vasc Biol. 2008 May;28(5):961-7. X-1
1793. Leopold JA and Jacobs AK. Catheter-based revascularization strategies for acute coronary syndromes in women. Rev Cardiovasc Med. 2001 Fall;2(4):181-9. X-1,X-2,X-4,X-5,X-6
1794. Lepper PM, Schumann C, Triantafilou K, et al. Association of lipopolysaccharide-binding protein and coronary artery disease in men. J Am Coll Cardiol. 2007 Jul 3;50(1):25-31. X-1,X-5
1795. Lerakis S, Kalogeropoulos AP, El-Chami MF, et al. Transthoracic dobutamine stress echocardiography in patients undergoing bariatric surgery. Obes Surg. 2007 Nov;17(11):1475-81.X-1,X-2
1796. Lesage A, Ramakers M, Daubin C, et al. Complicated acute myocardial infarction requiring mechanical ventilation in the intensive care unit: prognostic factors of clinical outcome in a series of 157 patients. Crit Care Med. 2004 Jan;32(1):100-5. X-1,X-6,X-7,X-8
1797. Leschka S, Scheffel H, Desbiolles L, et al. Combining dual-source computed tomography coronary angiography and calcium scoring: added value for the assessment of coronary artery disease. Heart. 2008 Sep;94(9):1154-61. X-1,X-5,X-6,X-7,X-8
1798. Leslie WD, Tully SA, Yogendran MS, et al. Prognostic value of automated quantification of 99mTc-sestamibi myocardial perfusion imaging. J Nucl Med. 2005 Feb;46(2):204-11. X-1C,X-1F,X-2,X-8(26%)
1799. Lesperance F, Frasure-Smith N, Talajic M, et al. Five-year risk of cardiac mortality in relation to initial severity and one-year changes in depression symptoms after myocardial infarction. Circulation. 2002 Mar 5;105(9):1049-53. X-1,X-2,X-8
1800. Leung S, Gallup D, Mahaffey KW, et al. Smoking status and antithrombin therapy in patients with non-ST-segment elevation acute coronary syndrome. Am Heart J. 2008 Jul;156(1):177-84. X-1D,X-1F,X-2,X-8
1801. Lev EI, Kornowski R, Vaknin-Assa H, et al. Comparison of the predictive value of four different risk scores for outcomes of patients with ST-elevation acute myocardial infarction undergoing primary percutaneous coronary intervention. Am J Cardiol. 2008 Jul 1;102(1):6-11. X-1,X-6,X-8
1802. Leviev I, Poirier O, Nicaud V, et al. High expressor paraoxonase PON1 gene promoter polymorphisms are associated with reduced risk of vascular disease in younger coronary patients. Atherosclerosis. 2002 Apr;161(2):463-7. X-1,X-5,X-8
1803. Levine SK, Sachs GA, Jin L, et al. A prognostic model for 1-year mortality in older adults after hospital discharge. Am J Med. 2007 May;120(5):455-60. X-5,X-6
1804. Levinson SS. Brief review and critical examination of the use of hs-CRP for cardiac risk assessment with the conclusion that it is premature to use this test. Clin Chim Acta. 2005 Jun;356(1-2):1-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1805. Levitzky YS, Cupples LA, Murabito JM, et al. Prediction of intermittent claudication, ischemic stroke, and other cardiovascular disease by detection of abdominal aortic calcific deposits by plain lumbar radiographs. Am J Cardiol. 2008 Feb 1;101(3):326-31. X-1
1806. Lewis EF, Moye LA, Rouleau JL, et al. Predictors of late development of heart failure in stable survivors of myocardial infarction: the CARE study. J Am Coll Cardiol. 2003 Oct 15;42(8):1446-53. X-1,X-6

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1807. Lewis EF, Velazquez EJ, Solomon SD, et al. Predictors of the first heart failure hospitalization in patients who are stable survivors of myocardial infarction complicated by pulmonary congestion and/or left ventricular dysfunction: a VALIANT study. Eur Heart J. 2008 Mar;29(6):748-56. X-1,X-2,X-6,X-8
1808. Lewis JD, Schinnar R, Bilker WB, et al. Validation studies of the health improvement network (THIN) database for pharmacoepidemiology research. Pharmacoepidemiol Drug Saf. 2007 Apr;16(4):393-401. X-1,X-5,X-6
1809. Lewis MS, Wilson RA, Walker K, et al. Factors in cardiac risk stratification of candidates for renal transplant. J Cardiovasc Risk. 1999 Aug;6(4):251-5. X-1,X-6
1810. Lewis MS, Wilson RA, Walker KW, et al. Validation of an algorithm for predicting cardiac events in renal transplant candidates. Am J Cardiol. 2002 Apr 1;89(7):847-50. X-1F,X-7(196),X-8
1811. Lewis SL. After menopause: novel marker helps to identify women at risk for heart disease. J Fam Pract. 2004 Jul;Suppl:S18-24. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,X-1
1812. Lewis WR. Echocardiography in the evaluation of patients in chest pain units. Cardiol Clin. 2005 Nov;23(4):531-9, vii. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1813. Li B, Evans D, Faris P, et al. Risk adjustment performance of Charlson and Elixhauser comorbidities in ICD-9 and ICD-10 administrative databases. BMC Health Serv Res. 2008;8:12. X-1,X-6
1814. Li C, Engstrom G, Berglund G, et al. Incidence of ischemic stroke in relation to asymptomatic carotid artery atherosclerosis in subjects with normal blood pressure. A prospective cohort study. Cerebrovasc Dis. 2008;26(3):297-303. X-1,X-2
1815. Li CM, Zhang XH, Ma XJ, et al. Relation of corrected thrombolysis in myocardial infarction frame count and ST-segment resolution to myocardial tissue perfusion after acute myocardial infarction. Catheter Cardiovasc Interv. 2008 Feb 15;71(3):312-7. X-1,X-2,X-5,X-6,X-7,X-8
1816. Li J, Hansen D, Mortensen PB, et al. Myocardial infarction in parents who lost a child: a nationwide prospective cohort study in Denmark. Circulation. 2002 Sep 24;106(13):1634-9. X-1
1817. Li R, Boerwinkle E, Olshan AF, et al. Glutathione S-transferase genotype as a susceptibility factor in smoking-related coronary heart disease. Atherosclerosis. 2000 Apr;149(2):451-62. X-1,X-6
1818. Li WW and Froelicher ES. Predictors of smoking relapse in women with cardiovascular disease in a 30-month study: extended analysis. Heart Lung. 2008 Nov-Dec;37(6):455-65. X-1,X-2,X-6,X-8
1819. Li Y, Glance LG, Cai X, et al. Are patients with coexisting mental disorders more likely to receive CABG surgery from low-quality cardiac surgeons? The experience in New York State. Med Care. 2007 Jul;45(7):587-93. X-1,X-8
1820. Li YH, Teng JK, Tsai WC, et al. Prognostic significance of elevated hemostatic markers in patients with acute myocardial infarction. J Am Coll Cardiol. 1999 May;33(6):1543-8. X-1,X-6,X-7,X-8
1821. Liao L, Smith WTt, Tuttle RH, et al. Prediction of death and nonfatal myocardial infarction in high-risk patients: a comparison between the Duke treadmill score, peak exercise radionuclide angiography, and SPECT perfusion imaging. J Nucl Med. 2005 Jan;46(1):5-11. X-1,X-2,X-8

1822. Liao T and Park KW. Noninvasive tests of myocardial perfusion: stress tests and their values. Int Anesthesiol Clin. 2001 Fall;39(4):1-10. X-1G,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1823. Liapis CD, Kakisis JD and Kostakis AG. Carotid stenosis: factors affecting symptomatology. Stroke. 2001 Dec 1;32(12):2782-6. X-1,X-8
1824. Lichtman JH, Krumholz HM, Wang Y, et al. Risk and predictors of stroke after myocardial infarction among the elderly: results from the Cooperative Cardiovascular Project. Circulation. 2002 Mar 5;105(9):1082-7. X-1,X-8
1825. Licker MJ, Widikker I, Robert J, et al. Operative mortality and respiratory complications after lung resection for cancer: impact of chronic obstructive pulmonary disease and time trends. Ann Thorac Surg. 2006 May;81(5):1830-7. X-1
1826. Liese AD, Hense HW, Brenner H, et al. Assessing the impact of classical risk factors on myocardial infarction by rate advancement periods. Am J Epidemiol. 2000 Nov 1;152(9):884-8. X-2
1827. Lietz K, John R, Kocher A, et al. Increased prevalence of autoimmune phenomena and greater risk for alloreactivity in female heart transplant recipients. Circulation. 2001 Sep 18;104(12 Suppl 1):I177-83. X-1,X-2,X-6,X-8
1828. Lievers KJ, Kluijtmans LA, Boers GH, et al. Influence of a glutamate carboxypeptidase II (GCPII) polymorphism (1561C-->T) on plasma homocysteine, folate and vitamin B(12) levels and its relationship to cardiovascular disease risk. Atherosclerosis. 2002 Oct;164(2):269-73. X-1,X-2,X-5,X-6,X-8
1829. Liew D, McNeil JJ, Peeters A, et al. Epidemiological modelling (including economic modelling) and its role in preventive drug therapy. Med J Aust. 2002 Oct 7;177(7):364-7. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1830. Likosky DS, Dacey LJ, Baribeau YR, et al. Long-term survival of the very elderly undergoing coronary artery bypass grafting. Ann Thorac Surg. 2008 Apr;85(4):1233-7. X-1,X-2,X-8
1831. Likosky DS, Leavitt BJ, Marrin CA, et al. Intra- and postoperative predictors of stroke after coronary artery bypass grafting. Ann Thorac Surg. 2003 Aug;76(2):428-34; discussion 435. X-1,X-2,X-8
1832. Lim E, Ali ZA, Barlow CW, et al. A simple model to predict coronary disease in patients undergoing operation for mitral regurgitation. Ann Thorac Surg. 2003 Jun;75(6):1820-5. X-1,X-6
1833. Lim HK, Chung N, Kim K, et al. Can magnetocardiography detect patients with non-ST-segment elevation myocardial infarction? Ann Med. 2007;39(8):617-27. X-1,X-5,X-6,X-8
1834. Lim J, Hawkins RC, Ng K, et al. A preliminary study of the utility of combined cardiac markers in the evaluation of patients presenting early with suspected acute coronary syndrome. Ann Acad Med Singapore. 2002 Nov;31(6):772-6. X-1,X-2,X-7,X-8
1835. Lim P, Collet JP, Moutereau S, et al. Fetuin-A is an independent predictor of death after ST-elevation myocardial infarction. Clin Chem. 2007 Oct;53(10):1835-40. X-1,X-2,X-6,X-8
1836. Lima RS, De Lorenzo A, Pantoja MR, et al. Incremental prognostic value of myocardial perfusion 99m-technetium-sestamibi SPECT in the elderly. Int J Cardiol. 2004 Feb;93(2-3):137-43. X-1
1837. Limkakeng A, Jr., Gibler WB, Pollack C, et al. Combination of Goldman risk and initial cardiac troponin I for emergency department chest pain patient risk stratification. Acad Emerg Med. 2001 Jul;8(7):696-702. X-1D,X-8

Appendix O. List of Excluded Studies

1838. Limnell V, Pasternack R, Karjalainen J, et al. Seropositivity for Helicobacter pylori antibodies is associated with lower occurrence of venous bypass graft occlusion. Scand J Infect Dis. 2004;36(8):601-3. X-1,X-2,X-5,X-6,X-7
1839. Lin F, Shaw LJ, Berman DS, et al. Multidetector computed tomography coronary artery plaque predictors of stress-induced myocardial ischemia by SPECT. Atherosclerosis. 2008 Apr;197(2):700-9. X-1,X-2,X-5,X-6,X-7,X-8
1840. Lin J, Lee IM, Cook NR, et al. Plasma folate, vitamin B-6, vitamin B-12, and risk of breast cancer in women. Am J Clin Nutr. 2008 Mar;87(3):734-43. X-1,X-2,X-5,X-6
1841. Lin J, Zhang SM, Cook NR, et al. Intakes of calcium and vitamin D and risk of colorectal cancer in women. Am J Epidemiol. 2005 Apr 15;161(8):755-64. X-1,X-6,X-8
1842. Lin K, Stewart D, Cooper S, et al. Pre-transplant cardiac testing for kidney-pancreas transplant candidates and association with cardiac outcomes. Clin Transplant. 2001 Aug;15(4):269-75. X-7
1843. Lin KB, Shofer FS, McCusker C, et al. Predictive value of T-wave abnormalities at the time of emergency department presentation in patients with potential acute coronary syndromes. Acad Emerg Med. 2008 Jun;15(6):537-43. X-1
1844. Lin PH, Bush RL and Lumsden AB. Carotid artery stenting: current status and future directions. Vasc Endovascular Surg. 2003 Sep-Oct;37(5):315-22. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1845. Lin YH, Juang JM, Jeng JS, et al. Symptomatic ostial vertebral artery stenosis treated with tubular coronary stents: clinical results and restenosis analysis. J Endovasc Ther. 2004 Dec;11(6):719-26. X-1,X-2,X-7,X-8
1846. Lindberg G, Rastam L, Nilsson-Ehle P, et al. Serum sialic acid and sialoglycoproteins in asymptomatic carotid artery atherosclerosis. ARIC Investigators. Atherosclerosis Risk in Communities. Atherosclerosis. 1999 Sep;146(1):65-9. X-1,X-6,X-8
1847. Linden PA, Bueno R, Colson YL, et al. Lung resection in patients with preoperative FEV1 < 35% predicted. Chest. 2005 Jun;127(6):1984-90. X-1,X-6,X-7
1848. Lindholt JS. Relatively high pulmonary and cardiovascular mortality rates in screening-detected aneurysmal patients without previous hospital admissions. Eur J Vasc Endovasc Surg. 2007 Jan;33(1):94-9. X-1,X-6
1849. Lindholt JS, Juul S and Henneberg EW. High-risk and low-risk screening for abdominal aortic aneurysm both reduce aneurysm-related mortality. A stratified analysis from a single-centre randomised screening trial. Eur J Vasc Endovasc Surg. 2007 Jul;34(1):53-8. X-1,X-6
1850. Lindman AS, Selmer R, Tverdal A, et al. The SCORE risk model applied to recent population surveys in Norway compared to observed mortality in the general population. Eur J Cardiovasc Prev Rehabil. 2006 Oct;13(5):731-7. X-2,X-5,X-6,X-8(~10%)
1851. Lindsay J, Apple S, Pinnow EE, et al. Percutaneous coronary intervention-associated nephropathy foreshadows increased risk of late adverse events in patients with normal baseline serum creatinine. Catheter Cardiovasc Interv. 2003 Jul;59(3):338-43. X-1,X-6,X-8
1852. Lindsay J, Jr., Pinnow EE and Pichard AD. Frequency of major adverse cardiac events within one month of coronary angioplasty: a useful measure of operator performance. J Am Coll Cardiol. 1999 Dec;34(7):1916-23. X-1,X-8
1853. Lip GY and Beevers DG. ACE inhibitors in vascular disease: some PROGRESS, more HOPE. J Hum Hypertens. 2001 Dec;15(12):833-5. X-1

1854. Lisabeth LD, Smith MA, Sanchez BN, et al. Ethnic disparities in stroke and hypertension among women: the BASIC project. Am J Hypertens. 2008 Jul;21(7):778-83. X-1,X-2
1855. Listi F, Candore G, Grimaldi MP, et al. Alpha1-antitrypsin heterozygosity plays a positive role in attainment of longevity. Biogerontology. 2007 Apr;8(2):139-45. X-1,X-2,X-5,X-6,X-8
1856. L'Italien G, Ford I, Norrie J, et al. The cardiovascular event reduction tool (CERT)--a simplified cardiac risk prediction model developed from the West of Scotland Coronary Prevention Study (WOSCOPS). Am J Cardiol. 2000 Mar 15;85(6):720-4. X-2
1857. Little MP. Absence of evidence for differences in the dose-response for cancer and non-cancer endpoints by acute injury status in the Japanese atomic-bomb survivors. Int J Radiat Biol. 2002 Nov;78(11):1001-10. X-1,X-2,X-6
1858. Liu J, Sempos CT, Donahue RP, et al. Non-high-density lipoprotein and very-low-density lipoprotein cholesterol and their risk predictive values in coronary heart disease. Am J Cardiol. 2006 Nov 15;98(10):1363-8. X-1F,X-2,X-5C
1859. Liu JF, Lin CH, Chua CH, et al. Outcome of off-pump coronary artery bypass in renal dialysis patients. Thorac Cardiovasc Surg. 2008 Oct;56(7):412-7. X-1,X-2,X-7,X-8
1860. Liu S, Ma J, Ridker PM, et al. A prospective study of the association between APOE genotype and the risk of myocardial infarction among apparently healthy men. Atherosclerosis. 2003 Feb;166(2):323-9. X-1,X-2
1861. Liu Y, Berthier-Schaad Y, Fallin MD, et al. IL-6 haplotypes, inflammation, and risk for cardiovascular disease in a multiethnic dialysis cohort. J Am Soc Nephrol. 2006 Mar;17(3):863-70. X-1D,X-2,X-8(49%)(32%)
1862. Liu Y, Yuan Z, Zhang J, et al. PPARgamma gene C161T substitution is associated with reduced risk of coronary artery disease and decreased proinflammatory cytokine expression. Am Heart J. 2007 Oct;154(4):718-24. X-1,X-2,X-5
1863. Liukkonen T, Silvennoinen-Kassinen S, Jokelainen J, et al. The association between C-reactive protein levels and depression: Results from the northern Finland 1966 birth cohort study. Biol Psychiatry. 2006 Oct 15;60(8):825-30. X-1,X-2,X-5,X-6
1864. Liuzzo G, Biasucci LM, Trotta G, et al. Unusual CD4+CD28null T lymphocytes and recurrence of acute coronary events. J Am Coll Cardiol. 2007 Oct 9;50(15):1450-8. X-1,X-2,X-7,X-8
1865. Livingston EH, Chandalia M and Abate N. Do current body mass index criteria for obesity surgery reflect cardiovascular risk? Surg Obes Relat Dis. 2007 Nov-Dec;3(6):577-85. X-5,X-6
1866. Lloyd-Jones DM, Evans JC and Levy D. Hypertension in adults across the age spectrum: current outcomes and control in the community. JAMA. 2005 Jul 27;294(4):466-72. X-1F,X-2,X-6
1867. Lok CE, Allon M, Moist L, et al. Risk equation determining unsuccessful cannulation events and failure to maturation in arteriovenous fistulas (REDUCE FTM I). J Am Soc Nephrol. 2006 Nov;17(11):3204-12. X-1,X-6,X-8
1868. Lokkegaard E, Jovanovic Z, Heitmann BL, et al. Increased risk of stroke in hypertensive women using hormone therapy: analyses based on the Danish Nurse Study. Arch Neurol. 2003 Oct;60(10):1379-84. X-1F,X-2
1869. Lonn E. Use of carotid ultrasound to stratify risk. Can J Cardiol. 2001 May;17 Suppl A:22A-5A. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,

1870. Lopez de Sa E, Lopez-Sendon J, Anguera I, et al. Prognostic value of clinical variables at presentation in patients with non-ST-segment elevation acute coronary syndromes: results of the Proyecto de Estudio del Pronostico de la Angina (PEPA). Medicine (Baltimore). 2002 Nov;81(6):434-42. X-1,X-2,X-8
1871. Loponen P, Luther M, Nissinen J, et al. EuroSCORE predicts health-related quality of life after coronary artery bypass grafting. Interact Cardiovasc Thorac Surg. 2008 Aug;7(4):564-8. X-1,X-6,X-8
1872. Loponen P, Taskinen P, Laakkonen E, et al. Peripheral vascular disease as predictor of outcome after coronary artery bypass grafting. Scand J Surg. 2002;91(2):160-5. X-1,X-7,X-8
1873. Lorenzo C, Williams K, Hunt KJ, et al. The National Cholesterol Education Program - Adult Treatment Panel III, International Diabetes Federation, and World Health Organization definitions of the metabolic syndrome as predictors of incident cardiovascular disease and diabetes. Diabetes Care. 2007 Jan;30(1):8-13. X-1
1874. Low AF, Ng WL, Lim YT, et al. The impact of diabetes mellitus on the prognostic value of a normal dobutamine stress echocardiogram in patients with intermediate to high cardiovascular risk. Singapore Med J. 2004 Apr;45(4):161-5. X-1,X-2,X-7
1875. Low AF, Seow SC, Yeoh KG, et al. High-sensitivity C-reactive protein is predictive of medium-term cardiac outcome in high-risk Asian patients presenting with chest pain syndrome without myocardial infarction. Ann Acad Med Singapore. 2004 Jul;33(4):407-12. X-1
1876. Lowel H, Doring A, Schneider A, et al. The MONICA Augsburg surveys--basis for prospective cohort studies. Gesundheitswesen. 2005 Aug;67 Suppl 1:S13-8. X-1,X-2,X-5,X-6
1877. Lu M, Lyden PD, Brott TG, et al. Beyond subgroup analysis: improving the clinical interpretation of treatment effects in stroke research. J Neurosci Methods. 2005 Apr 30;143(2):209-16. X-1,X-2,X-4,X-5,X-7,X-8
1878. Lubinski A, Kornacewicz-Jach Z, Wnuk-Wojnar AM, et al. The terminal portion of the T wave: a new electrocardiographic marker of risk of ventricular arrhythmias. Pacing Clin Electrophysiol. 2000 Nov;23(11 Pt 2):1957-9. X-5,X-6,X-7,X-8
1879. Ludman PF, Lazem F, Barbir M, et al. Incidence and clinical relevance of coronary calcification detected by electron beam computed tomography in heart transplant recipients. Eur Heart J. 1999 Feb;20(4):303-8. X-1,X-6,X-7
1880. Lumley T, Kronmal RA, Cushman M, et al. A stroke prediction score in the elderly: validation and Web-based application. J Clin Epidemiol. 2002 Feb;55(2):129-36. X-2
1881. Lumley T, Kronmal RA, Cushman M, et al. A stroke prediction score in the elderly: validation and Web-based application. J Clin Epidemiol. 2002 Feb;55(2):129-36. X-8
1882. Lund J, Qin QP, Ilva T, et al. Circulating pregnancy-associated plasma protein a predicts outcome in patients with acute coronary syndrome but no troponin I elevation. Circulation. 2003 Oct 21;108(16):1924-6. X-1,X-8
1883. Lundgren-Nilsson A, Tennant A, Grimby G, et al. Cross-diagnostic validity in a generic instrument: an example from the Functional Independence Measure in Scandinavia. Health Qual Life Outcomes. 2006;4:55. X-1,X-6
1884. Lupi-Herrera E, Chuquiure-Valenzuela E, Gonzalez-Pacheco H, et al. A proposed functional clinical classification predicts in-hospital and long-term survival in the setting of acute right ventricular infarction. Arch Cardiol Mex. 2008 Oct-Dec;78(4):369-78. X-1,X-8

Appendix O. List of Excluded Studies

1885. Lykouras L, Rontos I, Rontos K, et al. Detecting alcohol-related problems among general hospital patients with heart disease. Psychother Psychosom. 2001 Jan-Feb;70(1):25-9. X-1,X-6,X-8
1886. Lynch J and Smith GD. A life course approach to chronic disease epidemiology. Annu Rev Public Health. 2005;26:1-35. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1887. Ma T, Jong GP, Ueng KC, et al. Establishing a prediction model for coronary angiography based on coronary risk factors. Int Heart J. 2005 Jan;46(1):57-68. X-1,X-6,X-8
1888. Ma Y, Griffith JA, Chasan-Taber L, et al. Association between dietary fiber and serum C-reactive protein. Am J Clin Nutr. 2006 Apr;83(4):760-6. X-1,X-6
1889. Maas R, Dentz L, Schwedhelm E, et al. Elevated plasma concentrations of the endogenous nitric oxide synthase inhibitor asymmetric dimethylarginine predict adverse events in patients undergoing noncardiac surgery. Crit Care Med. 2007 Aug;35(8):1876-81. X-1,X-6
1890. Maas R, Wenske S, Zabel M, et al. Elevation of asymmetrical dimethylarginine (ADMA) and coronary artery disease in men with erectile dysfunction. Eur Urol. 2005 Dec;48(6):1004-11; discussion 1011-2. X-1,X-5,X-6,X-7,X-8
1891. Maatz W, Kohler J, Botsios S, et al. Risk of stroke for carotid endarterectomy patients with contralateral carotid occlusion. Ann Vasc Surg. 2008 Jan;22(1):45-51. X-1,X-2,X-4,X-5,X-6
1892. Mabuchi M, Kubo N, Morita K, et al. Prediction of functional recovery after coronary bypass surgery using quantitative gated myocardial perfusion SPECT. Nucl Med Commun. 2003 Jun;24(6):625-31. X-1,X-5,X-6
1893. Macchi C, Lova RM, Miniati B, et al. Is the percentage of stenosis of the internal carotid artery a reliable measure of the risk of ischemic stroke? A morphometric study by duplex ultrasound of aortic arch branches in 500 normal adults. J Cardiovasc Surg (Torino). 2002 Feb;43(1):71-6. X-1,X-2,X-5,X-6
1894. Mack M, Bachand D, Acuff T, et al. Improved outcomes in coronary artery bypass grafting with beating-heart techniques. J Thorac Cardiovasc Surg. 2002 Sep;124(3):598-607. X-1,X-2,X-8
1895. Mack MJ, Pfister A, Bachand D, et al. Comparison of coronary bypass surgery with and without cardiopulmonary bypass in patients with multivessel disease. J Thorac Cardiovasc Surg. 2004 Jan;127(1):167-73. X-1,X-2,X-6,X-8
1896. MacKenzie TA, Malenka DJ, Olmstead EM, et al. Prediction of survival after coronary revascularization: modeling short-term, mid-term, and long-term survival. Ann Thorac Surg. 2009 Feb;87(2):463-72. X-1,X-2,X-8
1897. Mackey RH, Kuller LH, Sutton-Tyrrell K, et al. Lipoprotein subclasses and coronary artery calcium in postmenopausal women from the healthy women study. Am J Cardiol. 2002 Oct 17;90(8A):71i-76i. X-1,X-5,X-6
1898. Mackness B, Durrington P, McElduff P, et al. Low paraoxonase activity predicts coronary events in the Caerphilly Prospective Study. Circulation. 2003 Jun 10;107(22):2775-9. X-1,X-5,X-6,X-7
1899. Macleod J, Metcalfe C, Smith GD, et al. Does consideration of either psychological or material disadvantage improve coronary risk prediction? Prospective observational study of Scottish men. J Epidemiol Community Health. 2007 Sep;61(9):833-7. X-1, (Scotland)
1900. Madan M, Labinaz M, Cohen EA, et al. A comparison of clinical outcomes between Canadian and American patients after nonurgent coronary stenting. Can J Cardiol. 2004 Nov;20(13):1343-9. X-1,X-2,X-8

Appendix O. List of Excluded Studies

1901. Madan P, Elayda MA, Lee VV, et al. Predicting major adverse cardiac events after percutaneous coronary intervention: the Texas Heart Institute risk score. Am Heart J. 2008 Jun;155(6):1068-74. X-1,X-8
1902. Madans J, Reuben C, Rothwell S, et al. Differences in morbidity measures and risk factor identification using multiple data sources: the case of stroke. J Epidemiol Biostat. 1999;4(1):37-43. X-1
1903. Madden E, Lee G, Kotler DP, et al. Association of antiretroviral therapy with fibrinogen levels in HIV-infection. AIDS. 2008 Mar 30;22(6):707-15. X-1,X-2,X-6
1904. Maddox TM. Preoperative cardiovascular evaluation for noncardiac surgery. Mt Sinai J Med. 2005 May;72(3):185-92. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1905. Madjid M, Awan I, Willerson JT, et al. Leukocyte count and coronary heart disease: implications for risk assessment. J Am Coll Cardiol. 2004 Nov 16;44(10):1945-56. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1906. Madsen TE, Bledsoe J and Bossart P. Appropriately screened geriatric chest pain patients in an observation unit are not admitted at a higher rate than nongeriatric patients. Crit Pathw Cardiol. 2008 Dec;7(4):245-7. X-1,X-2,X-8
1907. Magee MJ, Alexander JH, Hafley G, et al. Coronary artery bypass graft failure after on-pump and off-pump coronary artery bypass: findings from PREVENT IV. Ann Thorac Surg. 2008 Feb;85(2):494-9; discussion 499-500. X-1,X-6,X-8
1908. Magee MJ, Herbert MA, Dewey TM, et al. Atrial fibrillation after coronary artery bypass grafting surgery: development of a predictive risk algorithm. Ann Thorac Surg. 2007 May;83(5):1707-12; discussion 1712. X-1,X-2,X-5,X-6,X-8
1909. Mahaffey KW, Harrington RA, Simoons ML, et al. Stroke in patients with acute coronary syndromes: incidence and outcomes in the platelet glycoprotein IIb/IIIa in unstable angina. Receptor suppression using integrilin therapy (PURSUIT) trial. The PURSUIT Investigators. Circulation. 1999 May 11;99(18):2371-7. X-1,X-6,X-8
1910. Mahaffey KW, Yang Q, Pieper KS, et al. Prediction of one-year survival in high-risk patients with acute coronary syndromes: results from the SYNERGY trial. J Gen Intern Med. 2008 Mar;23(3):310-6. X-8
1911. Mahenthiran J, Das MK, Bhakta D, et al. Prognostic importance of wall motion abnormalities in patients with ischemic cardiomyopathy and an implantable cardioverter-defibrillator. Am J Cardiol. 2006 Nov 15;98(10):1301-6. X-1,X-2,X-7,X-8
1912. Mahle WT, Campbell RM and Favaloro-Sabatier J. Myocardial infarction in adolescents. J Pediatr. 2007 Aug;151(2):150-4. X-5,X-8
1913. Mahmarian JJ. Combining myocardial perfusion imaging with computed tomography for diagnosis of coronary artery disease. Curr Opin Cardiol. 2007 Sep;22(5):413-21. X-1,X-2
1914. Mahmarian JJ, Shaw LJ, Olszewski GH, et al. Adenosine sestamibi SPECT post-infarction evaluation (INSPIRE) trial: A randomized, prospective multicenter trial evaluating the role of adenosine Tc-99m sestamibi SPECT for assessing risk and therapeutic outcomes in survivors of acute myocardial infarction. J Nucl Cardiol. 2004 Jul-Aug;11(4):458-69. X-1,X-8
1915. Mahmud E, Shaw KD and Penny WF. Patients at low risk for periprocedural myocardial infarction can be identified by assessment immediately following percutaneous coronary intervention. J Invasive Cardiol. 2003 Jun;15(6):343-7. X-1,X-6,X-8

Appendix O. List of Excluded Studies

1916. Mahoney LT, Burns TL, Stanford W, et al. Usefulness of the Framingham risk score and body mass index to predict early coronary artery calcium in young adults (Muscatine Study). Am J Cardiol. 2001 Sep 1;88(5):509-15. X-6
1917. Main ML, Magalski A, Kusnetzky LL, et al. Usefulness of myocardial contrast echocardiography in predicting global left ventricular functional recovery after anterior wall acute myocardial infarction. Am J Cardiol. 2004 Aug 1;94(3):340-2. X-1,X-6,X-7,X-8
1918. Mainous AG, 3rd, Diaz VA and Everett CJ. Assessing risk for development of diabetes in young adults. Ann Fam Med. 2007 Sep-Oct;5(5):425-9. X-1G,X-6
1919. Maitland-van der Zee AH, Boerwinkle E, Arnett DK, et al. Absence of an interaction between the angiotensin-converting enzyme insertion-deletion polymorphism and pravastatin on cardiovascular disease in high-risk hypertensive patients: the Genetics of Hypertension-Associated Treatment (GenHAT) study. Am Heart J. 2007 Jan;153(1):54-8. X-1,X-2
1920. Majeed F and Miller M. Low high-density lipoprotein cholesterol: an important consideration in coronary heart disease risk assessment. Curr Opin Endocrinol Diabetes Obes. 2008 Apr;15(2):175-81. X-1,X-2,X-4,X-5
1921. Majumdar SR, Gurwitz JH and Soumerai SB. Undertreatment of hyperlipidemia in the secondary prevention of coronary artery disease. J Gen Intern Med. 1999 Dec;14(12):711-7. X-1,X-5,X-6,X-8
1922. Mak KH, Eisenberg MJ and Shaw J. Cost-efficacy modeling of functional testing with perfusion imaging to detect asymptomatic restenosis following percutaneous transluminal coronary angioplasty. Catheter Cardiovasc Interv. 1999 Dec;48(4):352-6. X-1,X-6
1923. Makikallio AM, Makikallio TH, Korpelainen JT, et al. Heart rate dynamics predict poststroke mortality. Neurology. 2004 May 25;62(10):1822-6. X-1,X-6,X-7
1924. Malarcher AM, Giles WH, Croft JB, et al. Alcohol intake, type of beverage, and the risk of cerebral infarction in young women. Stroke. 2001 Jan;32(1):77-83. X-5,X-8
1925. Malarstig A, Eriksson P, Hamsten A, et al. Raised interleukin-10 is an indicator of poor outcome and enhanced systemic inflammation in patients with acute coronary syndrome. Heart. 2008 Jun;94(6):724-9. X-5,X-8
1926. Maleszka A, Kleikamp G, Zittermann A, et al. Simultaneous aortic and mitral valve replacement in octogenarians: a viable option? Ann Thorac Surg. 2008 Dec;86(6):1804-8. X-1,X-2,X-7,X-8
1927. Malik M, Hnatkova K and Batchvarov VN. Post infarction risk stratification using the 3-D angle between QRS complex and T-wave vectors. J Electrocardiol. 2004;37 Suppl:201-8. X-1,X-8
1928. Mamode N, Docherty G, Lowe GD, et al. The role of myocardial perfusion scanning, heart rate variability and D-dimers in predicting the risk of perioperative cardiac complications after peripheral vascular surgery. Eur J Vasc Endovasc Surg. 2001 Dec;22(6):499-508. X-1,X-8
1929. Manari A, Tomasi C, Guiducci V, et al. Time to treatment and ST-segment resolution in high-risk patients with acute myocardial infarction transferred from community hospitals for coronary angioplasty after pharmacological treatment. J Cardiovasc Med (Hagerstown). 2008 Jan;9(1):32-8. X-1,X-2,X-5,X-6,X-8
1930. Mandegar MH, Yousefnia MA, Roshanali F, et al. Interaction between two predictors of functional outcome after revascularization in ischemic cardiomyopathy: left ventricular

volume and amount of viable myocardium. J Thorac Cardiovasc Surg. 2008 Oct;136(4):930-6. X-1,X-2,X-6,X-7,X-8
1931. Mandolini C, Tornini A and Borgia MC. About cardiovascular risk in non-cardiac surgery. Ann Ital Med Int. 2004 Oct-Dec;19(4):262-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
1932. Manenti ER, Bodanese LC, Camey SA, et al. Prognostic value of serum biomarkers in association with TIMI risk score for acute coronary syndromes. Clin Cardiol. 2006 Sep;29(9):405-10. X-1D,X-7(172),X-8
1933. Maniar HS, Barner HB, Bailey MS, et al. Radial artery patency: are aortocoronary conduits superior to composite grafting? Ann Thorac Surg. 2003 Nov;76(5):1498-503; discussion 1503-4. X-1,X-5,X-6,X-8
1934. Maor Y, Cohen Y, Olmer L, et al. Factors associated with health indicators in patients undergoing coronary artery bypass surgery. Chest. 1999 Dec;116(6):1570-4. X-1,X-8
1935. Marcassa C, Galli M, Paino A, et al. Electrocardiographic evolution after Q-wave anterior myocardial infarction: correlations between QRS score and changes in left ventricular perfusion and function. J Nucl Cardiol. 2001 Sep-Oct;8(5):561-7. X-1,X-2,X-6,X-7,X-8
1936. Marcheix B, Vanden Eynden F, Demers P, et al. Influence of diabetes mellitus on long-term survival in systematic off-pump coronary artery bypass surgery. Ann Thorac Surg. 2008 Oct;86(4):1181-8. X-1,X-2,X-8
1937. Marchioli R, Avanzini F, Barzi F, et al. Assessment of absolute risk of death after myocardial infarction by use of multiple-risk-factor assessment equations: GISSI-Prevenzione mortality risk chart. Eur Heart J. 2001 Nov;22(22):2085-103. X-1,X-6,X-8
1938. Marcin JP, Li Z, Kravitz RL, et al. The CABG surgery volume-outcome relationship: temporal trends and selection effects in California, 1998-2004. Health Serv Res. 2008 Feb;43(1 Pt 1):174-92. X-1,X-2,X-5,X-6,X-8
1939. Marenzi G, Moltrasio M, Assanelli E, et al. Impact of cardiac and renal dysfunction on inhospital morbidity and mortality of patients with acute myocardial infarction undergoing primary angioplasty. Am Heart J. 2007 May;153(5):755-62. X-1,X-6,X-8
1940. Marin A, Medrano MJ, Gonzalez J, et al. Risk of ischaemic heart disease and acute myocardial infarction in a Spanish population: observational prospective study in a primary-care setting. BMC Public Health. 2006;6:38. X-2,X-8
1941. Mark DB. Risk stratification in patients with chest pain. Prim Care. 2001 Mar;28(1):99-118 ,vii. X-2,X-4,X-5,X-7,X-8
1942. Marmur JD, Poludasu S, Agarwal A, et al. Bolus-only platelet glycoprotein IIb-IIIa inhibition during percutaneous coronary intervention. J Invasive Cardiol. 2006 Nov;18(11):521-6. X-1,X-2,X-8
1943. Marques-Vidal P, Rodondi N, Bochud M, et al. Predictive accuracy and usefulness of calibration of the ESC SCORE in Switzerland. Eur J Cardiovasc Prev Rehabil. 2008 Aug;15(4):402-8. X-1,X-5,X-6
1944. Marquezine GF, Pereira AC, Sousa AG, et al. TCF7L2 variant genotypes and type 2 diabetes risk in Brazil: significant association, but not a significant tool for risk stratification in the general population. BMC Med Genet. 2008;9:106. X-1,X-6,X-8
1945. Marrugat J, D'Agostino R, Sullivan L, et al. An adaptation of the Framingham coronary heart disease risk function to European Mediterranean areas. J Epidemiol Community Health. 2003 Aug;57(8):634-8. X-1,X-5, (Spain)

Appendix O. List of Excluded Studies

1946. Marsboom G and Janssens S. Endothelial progenitor cells: new perspectives and applications in cardiovascular therapies. Expert Rev Cardiovasc Ther. 2008 Jun;6(5):687-701. X-1,X-2
1947. Marschke LM, Allen GJ, Coble DA, et al. Cardiovascular health status and health risk assessment method of p among worksite employees. J Prim Prev. 2006 Jan;27(1):67-79. X-7
1948. Marschner IC, Simes RJ and Keech A. Biases in the identification of risk factor thresholds and J-curves. Am J Epidemiol. 2007 Oct 1;166(7):824-31. X-1,X-2,X-5
1949. Marshall NS, Wong KK, Liu PY, et al. Sleep apnea as an independent risk factor for all-cause mortality: the Busselton Health Study. Sleep. 2008 Aug 1;31(8):1079-85. X-1,X-2,X-6
1950. Marshall T. Identification of patients for clinical risk assessment by prediction of cardiovascular risk using default risk factor values. BMC Public Health. 2008;8:25. X-1G,X-5,X-6
1951. Marshall T and Rouse A. Resource implications and health benefits of primary prevention strategies for cardiovascular disease in people aged 30 to 74: mathematical modelling study. BMJ. 2002 Jul 27;325(7357):197. X-1,X-4,X-5,X-7,X-8
1952. Marte T, Saely CH, Schmid F, et al. Effectiveness of atrial fibrillation as an independent predictor of death and coronary events in patients having coronary angiography. Am J Cardiol. 2009 Jan 1;103(1):36-40. X-2
1953. Marti-Fabregas J, Bravo Y, Cocho D, et al. Frequency and predictors of symptomatic intracerebral hemorrhage in patients with ischemic stroke treated with recombinant tissue plasminogen activator outside clinical trials. Cerebrovasc Dis. 2007;23(2-3):85-90. X-1,X-2,X-8
1954. Martin C, Vanderpump M and French J. Description and validation of a Markov model of survival for individuals free of cardiovascular disease that uses Framingham risk factors. BMC Med Inform Decis Mak. 2004 May 24;4:6. X-5,X-6
1955. Martin RM, Smith GD, Frankel S, et al. Parents' growth in childhood and the birth weight of their offspring. Epidemiology. 2004 May;15(3):308-16. X-1,X-2,X-6
1956. Martinelli N, Trabetti E, Bassi A, et al. The -1131 T>C and S19W APOA5 gene polymorphisms are associated with high levels of triglycerides and apolipoprotein C-III, but not with coronary artery disease: an angiographic study. Atherosclerosis. 2007 Apr;191(2):409-17. X-1,X-2,X-5,X-6,X-8
1957. Martinez A, Taeusch HW, Yu V, et al. Variation in mortality and intraventricular haemorrhage in occupants of Pacific Rim nurseries. J Paediatr Child Health. 2002 Jun;38(3):235-40. X-1,X-2,X-8
1958. Martinez-Selles M, Barrio JM, Hortal J, et al. Prevalence of peripheral arterial disease and prior stroke in octogenarians with symptomatic severe aortic stenosis or severe coronary artery disease: influence in management and outcome. Int Angiol. 2007 Mar;26(1):33-7. X-1,X-6,X-7,X-8
1959. Maruyama K, Shin M, Tago M, et al. Radiosurgery to reduce the risk of first hemorrhage from brain arteriovenous malformations. Neurosurgery. 2007 Mar;60(3):453-8; discussion 458-9. X-1,X-6,X-8
1960. Marwick TH. Cost-effectiveness of stress echocardiography for assessment of coronary artery disease: what we know and what we need to know. Eur J Echocardiogr. 2000 Mar;1(1):22-31. X-1,X-2,X-4,X-5,X-6,X-7,X-8

Appendix O. List of Excluded Studies

1961. Marwick TH, Case C, Leano R, et al. Use of tissue Doppler imaging to facilitate the prediction of events in patients with abnormal left ventricular function by dobutamine echocardiography. Am J Cardiol. 2004 Jan 15;93(2):142-6. X-1,X-8
1962. Marwick TH, Case C, Poldermans D, et al. A clinical and echocardiographic score for assigning risk of major events after dobutamine echocardiograms. J Am Coll Cardiol. 2004 Jun 2;43(11):2102-7. X-1
1963. Marwick TH, Case C, Sawada S, et al. Prediction of mortality using dobutamine echocardiography. J Am Coll Cardiol. 2001 Mar 1;37(3):754-60. X-1F,X-1G,X-2,X-8
1964. Marwick TH, Case C, Sawada S, et al. Use of stress echocardiography to predict mortality in patients with diabetes and known or suspected coronary artery disease. Diabetes Care. 2002 Jun;25(6):1042-8. X-1,X-8
1965. Mas JL, Trinquart L, Leys D, et al. Endarterectomy Versus Angioplasty in Patients with Symptomatic Severe Carotid Stenosis (EVA-3S) trial: results up to 4 years from a randomised, multicentre trial. Lancet Neurol. 2008 Oct;7(10):885-92. X-1,X-2,X-8
1966. Maseri A. C-reactive protein in cardiovascular risk prediction. Zooming in and zooming out. Ital Heart J. 2001 Mar;2(3):155-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1967. Masip J, Paez J, Merino M, et al. Risk factors for intubation as a guide for noninvasive ventilation in patients with severe acute cardiogenic pulmonary edema. Intensive Care Med. 2003 Nov;29(11):1921-8. X-1,X-6,X-7
1968. Masley SC, Phillips SE and Schocken DD. Blood pressure as a predictor of cardiovascular events in the elderly: the William Hale Research Program. J Hum Hypertens. 2006 Jun;20(6):392-7. X-1E,X-1F,X-2
1969. Mason NA, Bailie GR, Satayathum S, et al. HMG-coenzyme a reductase inhibitor use is associated with mortality reduction in hemodialysis patients. Am J Kidney Dis. 2005 Jan;45(1):119-26. X-1,X-2
1970. Massy ZA, Taupin P, Jungers P, et al. Prediction model of coronary heart disease in patients with chronic kidney disease: role of plasma fibrinogen as a new prognostic variable. Prilozi. 2005 Dec;26(2):63-77. X-7
1971. Matanoski GM and Tao XG. Styrene exposure and ischemic heart disease: a case-cohort study. Am J Epidemiol. 2003 Nov 15;158(10):988-95. X-1,X-6,X-8
1972. Matheny ME, Ohno-Machado L and Resnic FS. Discrimination and calibration of mortality risk prediction models in interventional cardiology. J Biomed Inform. 2005 Oct;38(5):367-75. X-1,X-8
1973. Mathew JP, Fontes ML, Tudor IC, et al. A multicenter risk index for atrial fibrillation after cardiac surgery. JAMA. 2004 Apr 14;291(14):1720-9. X-1,X-8
1974. Mathew JP, Grocott HP, Phillips-Bute B, et al. Lower endotoxin immunity predicts increased cognitive dysfunction in elderly patients after cardiac surgery. Stroke. 2003 Feb;34(2):508-13. X-1,X-6,X-8
1975. Mathew V, Farkouh M, Grill DE, et al. Clinical risk stratification correlates with the angiographic extent of coronary artery disease in unstable angina. J Am Coll Cardiol. 2001 Jun 15;37(8):2053-8. X-1,X-2,X-5
1976. Mathisen L, Andersen MH, Hol PK, et al. Preoperative cerebral ischemic lesions predict physical health status after on-pump coronary artery bypass surgery. J Thorac Cardiovasc Surg. 2005 Dec;130(6):1691-7. X-1,X-6,X-7,X-8
1977. Matsumoto N, Sato Y, Suzuki Y, et al. Prognostic value of myocardial perfusion single-photon emission computed tomography for the prediction of future cardiac events in a

Japanese population: a middle-term follow-up study. Circ J. 2007 Oct;71(10):1580-5. X-1,X-2,X-8
1978. Matsunari I, Kanayama S, Yoneyama T, et al. Electrocardiographic-gated dual-isotope simultaneous acquisition SPECT using 18F-FDG and 99mTc-sestamibi to assess myocardial viability and function in a single study. Eur J Nucl Med Mol Imaging. 2005 Feb;32(2):195-202. X-1,X-2,X-5,X-6,X-7,X-8
1979. Matsushita K, Yatsuya H, Tamakoshi K, et al. High-sensitivity C-reactive protein is quite low in Japanese men at high coronary risk. Circ J. 2007 Jun;71(6):820-5. X-5
1980. Matthews KA and Gump BB. Chronic work stress and marital dissolution increase risk of posttrial mortality in men from the Multiple Risk Factor Intervention Trial. Arch Intern Med. 2002 Feb 11;162(3):309-15. X-1F,X-2
1981. Matthews KA, Kuller LH, Sutton-Tyrrell K, et al. Changes in cardiovascular risk factors during the perimenopause and postmenopause and carotid artery atherosclerosis in healthy women. Stroke. 2001 May;32(5):1104-11. X-1,X-6
1982. Maury P, Zimmermann M, Metzger J, et al. Amiodarone therapy for sustained ventricular tachycardia after myocardial infarction: long-term follow-up, risk assessment and predictive value of programmed ventricular stimulation. Int J Cardiol. 2000 Nov-Dec;76(2-3):199-210. X-1,X-7,X-8
1983. May A and Wang TJ. Evaluating the role of biomarkers for cardiovascular risk prediction: focus on CRP, BNP and urinary microalbumin. Expert Rev Mol Diagn. 2007 Nov;7(6):793-804. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1984. May M, Sterne JA, Shipley M, et al. A coronary heart disease risk model for predicting the effect of potent antiretroviral therapy in HIV-1 infected men. Int J Epidemiol. 2007 Dec;36(6):1309-18. X-2, (Various Countries)
1985. Mazur W, Rivera JM, Khoury AF, et al. Prognostic value of exercise echocardiography: validation of a new risk index combining echocardiographic, treadmill, and exercise electrocardiographic parameters. J Am Soc Echocardiogr. 2003 Apr;16(4):318-25. X-1,X-6
1986. McAvoy NC, Kochar N, McKillop G, et al. Prevalence of coronary artery calcification in patients undergoing assessment for orthotopic liver transplantation. Liver Transpl. 2008 Dec;14(12):1725-31. X-1,X-2,X-6,X-7
1987. McBane RD, Hodge DO and Wysokinski WE. Clinical and echocardiographic measures governing thromboembolism destination in atrial fibrillation. Thromb Haemost. 2008 May;99(5):951-5. X-1,X-6,X-7,X-8
1988. McCarron P, Smith GD, Okasha M, et al. Smoking in adolescence and young adulthood and mortality in later life: prospective observational study. J Epidemiol Community Health. 2001 May;55(5):334-5. X-1F,X-2
1989. McClelland RL, Nasir K, Budoff M, et al. Arterial age as a function of coronary artery calcium (from the Multi-Ethnic Study of Atherosclerosis [MESA]). Am J Cardiol. 2009 Jan 1;103(1):59-63. X-1
1990. McConnell MV. Imaging techniques to predict cardiovascular risk. Curr Cardiol Rep. 2000 Jul;2(4):300-7. X-1C,X-2,X-4,X-5,X-6,X-7,X-8,X-9
1991. McCrath DJ, Cerboni E, Frumento RJ, et al. Thromboelastography maximum amplitude predicts postoperative thrombotic complications including myocardial infarction. Anesth Analg. 2005 Jun;100(6):1576-83. X-1F,X-1G,X-2,X-8

Appendix O. List of Excluded Studies

1992. McCullough PA, Henry TD, Kennard ED, et al. Residual high-grade angina after enhanced external counterpulsation therapy. Cardiovasc Revasc Med. 2007 Jul-Sep;8(3):161-5. X-1F,X-2,X-8(Unstable Angina)(Stable Angina)
1993. McCullough PA, Sandberg KR, Borzak S, et al. Benefits of aspirin and beta-blockade after myocardial infarction in patients with chronic kidney disease. Am Heart J. 2002 Aug;144(2):226-32. X-1,X-2,X-8
1994. McDermott S, Moran R, Platt T, et al. Depression in adults with disabilities, in primary care. Disabil Rehabil. 2005 Feb 4;27(3):117-23. X-1,X-5,X-6
1995. McGeechan K, Liew G, Macaskill P, et al. Risk prediction of coronary heart disease based on retinal vascular caliber (from the Atherosclerosis Risk In Communities [ARIC] Study). Am J Cardiol. 2008 Jul 1;102(1):58-63. X-1
1996. McGeechan K, Macaskill P, Irwig L, et al. Assessing new biomarkers and predictive models for use in clinical practice: a clinician's guide. Arch Intern Med. 2008 Nov 24;168(21):2304-10. X-2,X-4,X-5,X-6,X-7,X-8
1997. McKhann GM, Selnes OA, Grega MA, et al. Subjective memory symptoms in surgical and nonsurgical coronary artery patients: 6-year follow-up. Ann Thorac Surg. 2009 Jan;87(1):27-34. X-1,X-2,X-6,X-8
1998. McLaughlin T, Reaven G, Abbasi F, et al. Is there a simple way to identify insulin-resistant individuals at increased risk of cardiovascular disease? Am J Cardiol. 2005 Aug 1;96(3):399-404. X-1,X-6
1999. McMahan CA, Gidding SS, Fayad ZA, et al. Risk scores predict atherosclerotic lesions in young people. Arch Intern Med. 2005 Apr 25;165(8):883-90. X-1,X-5,X-6
2000. McMahan CA, Gidding SS, Viikari JS, et al. Association of Pathobiologic Determinants of Atherosclerosis in Youth risk score and 15-year change in risk score with carotid artery intima-media thickness in young adults (from the Cardiovascular Risk in Young Finns Study). Am J Cardiol. 2007 Oct 1;100(7):1124-9. X-2,X-6,X-9
2001. McMurtray A, Nakamoto B, Shikuma C, et al. Small-vessel vascular disease in human immunodeficiency virus infection: the Hawaii aging with HIV cohort study. Cerebrovasc Dis. 2007;24(2-3):236-41. X-1,X-2,X-5,X-6,X-7
2002. McNeil JJ, Peeters A, Liew D, et al. A model for predicting the future incidence of coronary heart disease within percentiles of coronary heart disease risk. J Cardiovasc Risk. 2001 Feb;8(1):31-7. X-2,X-5
2003. McPhee JT, Hill JS, Ciocca RG, et al. Carotid endarterectomy was performed with lower stroke and death rates than carotid artery stenting in the United States in 2003 and 2004. J Vasc Surg. 2007 Dec;46(6):1112-1118. X-1,X-2,X-5,X-6,X-8
2004. McPherson K. Where are we now with hormone replacement therapy? Reprod Health Matters. 2004 Nov;12(24):200-3. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2005. McQueen MJ, Gerstein HC, Pogue J, et al. Reevaluation by high-performance liquid chromatography: clinical significance of microalbuminuria in individuals at high risk of cardiovascular disease in the Heart Outcomes Prevention Evaluation (HOPE) Study. Am J Kidney Dis. 2006 Dec;48(6):889-96. X-1
2006. McTigue K, Larson JC, Valoski A, et al. Mortality and cardiac and vascular outcomes in extremely obese women. JAMA. 2006 Jul 5;296(1):79-86. X-1F,X-2,X-8
2007. McWhorter VC, Ford LC and Butch AW. Analytical performance of the Synchron LX20 Pro, BN trade mark II and IMMAGE high sensitivity C-reactive protein assays and

concordance in cardiovascular risk stratification. Clin Chim Acta. 2004 Sep;347(1-2):71-9. X-1,X-5,X-6
2008. Meaume S, Benetos A, Henry OF, et al. Aortic pulse wave velocity predicts cardiovascular mortality in subjects >70 years of age. Arterioscler Thromb Vasc Biol. 2001 Dec;21(12):2046-50. X-7
2009. Meco M, Biraghi T, Panisi P, et al. Aortocoronary bypass grafting in high-risk patients over 75 years. Propensity score analysis of on versus off-pump, early and midterm results. J Cardiovasc Surg (Torino). 2007 Jun;48(3):339-47. X-1,X-6,X-7,X-8
2010. Meco M, Gramegna G, Yassini A, et al. Mortality and morbidity from intra-aortic balloon pumps. Risk analysis. J Cardiovasc Surg (Torino). 2002 Feb;43(1):17-23. X-1,X-6,X-7,X-8
2011. Meerwaldt R, Hartog JW, Graaff R, et al. Skin autofluorescence, a measure of cumulative metabolic stress and advanced glycation end products, predicts mortality in hemodialysis patients. J Am Soc Nephrol. 2005 Dec;16(12):3687-93. X-1,X-7,X-8
2012. Meerwaldt R, Lutgers HL, Links TP, et al. Skin autofluorescence is a strong predictor of cardiac mortality in diabetes. Diabetes Care. 2007 Jan;30(1):107-12. X-1,X-2,X-7
2013. Mega JL, Morrow DA, de Lemos JA, et al. Thrombus precursor protein and clinical outcomes in patients with acute coronary syndromes. J Am Coll Cardiol. 2008 Jun 24;51(25):2422-9. X-6,X-8
2014. Mega JL, Morrow DA, De Lemos JA, et al. B-type natriuretic peptide at presentation and prognosis in patients with ST-segment elevation myocardial infarction: an ENTIRE-TIMI-23 substudy. J Am Coll Cardiol. 2004 Jul 21;44(2):335-9. X-1,X-7,X-8
2015. Mega JL, Morrow DA, Sabatine MS, et al. Correlation between the TIMI risk score and high-risk angiographic findings in non-ST-elevation acute coronary syndromes: observations from the Platelet Receptor Inhibition in Ischemic Syndrome Management in Patients Limited by Unstable Signs and Symptoms (PRISM-PLUS) trial. Am Heart J. 2005 May;149(5):846-50. X-1,X-8
2016. Megnien JL, Denarie N, Cocaul M, et al. Predictive value of waist-to-hip ratio on cardiovascular risk events. Int J Obes Relat Metab Disord. 1999 Jan;23(1):90-7. X-1,X-5
2017. Mehran R, Aymong ED, Nikolsky E, et al. A simple risk score for prediction of contrast-induced nephropathy after percutaneous coronary intervention: development and initial validation. J Am Coll Cardiol. 2004 Oct 6;44(7):1393-9. X-1,X-6
2018. Mehta RH, Grab JD, O'Brien SM, et al. Bedside tool for predicting the risk of postoperative dialysis in patients undergoing cardiac surgery. Circulation. 2006 Nov 21;114(21):2208-16; quiz 2208. X-1,X-2,X-6,X-8
2019. Mehta RH, Grab JD, O'Brien SM, et al. Clinical characteristics and in-hospital outcomes of patients with cardiogenic shock undergoing coronary artery bypass surgery: insights from the Society of Thoracic Surgeons National Cardiac Database. Circulation. 2008 Feb 19;117(7):876-85. X-1,X-6,X-8
2020. Mehta RH, Honeycutt E, Shaw LK, et al. Clinical characteristics associated with poor long-term survival among patients with diabetes mellitus undergoing saphenous vein graft interventions. Am Heart J. 2008 Oct;156(4):728-35. X-1,X-2,X-6,X-8
2021. Meijboom WB, van Mieghem CA, Mollet NR, et al. 64-slice computed tomography coronary angiography in patients with high, intermediate, or low pretest probability of significant coronary artery disease. J Am Coll Cardiol. 2007 Oct 9;50(15):1469-75. X-1,X-5,X-6,X-8

Appendix O. List of Excluded Studies

2022. Meisinger C, Doring A, Thorand B, et al. Body fat distribution and risk of type 2 diabetes in the general population: are there differences between men and women? The MONICA/KORA Augsburg cohort study. Am J Clin Nutr. 2006 Sep;84(3):483-9. X-1G,X-2,X-6,X-8
2023. Melchior M, Berkman LF, Kawachi I, et al. Lifelong socioeconomic trajectory and premature mortality (35-65 years) in France: findings from the GAZEL Cohort Study. J Epidemiol Community Health. 2006 Nov;60(11):937-44. X-1,X-2,X-6
2024. Melchior T, Kober L, Madsen CR, et al. Accelerating impact of diabetes mellitus on mortality in the years following an acute myocardial infarction. TRACE Study Group. Trandolapril Cardiac Evaluation. Eur Heart J. 1999 Jul;20(13):973-8. X-1,X-8
2025. Melikian N, Kearney MT, Thomas MR, et al. A simple thermodilution technique to assess coronary endothelium-dependent microvascular function in humans: validation and comparison with coronary flow reserve. Eur Heart J. 2007 Sep;28(18):2188-94. X-1,X-6
2026. Mendes LA, Picard MH, Sleeper LA, et al. Cardiogenic shock: predictors of outcome based on right and left ventricular size and function at presentation. Coron Artery Dis. 2005 Jun;16(4):209-15. X-1,X-6,X-7,X-8
2027. Menotti A, Kromhout D, Blackburn H, et al. Forty-year mortality from cardiovascular diseases and all causes of death in the US Railroad cohort of the Seven Countries Study. Eur J Epidemiol. 2004;19(5):417-24. X-1
2028. Menotti A, Lanti M, Agabiti-Rosei E, et al. Riskard 2005. New tools for prediction of cardiovascular disease risk derived from Italian population studies. Nutr Metab Cardiovasc Dis. 2005 Dec;15(6):426-40. X-4,X-5
2029. Menotti A, Lanti M, Kromhout D, et al. Short and long term association of a single serum cholesterol measurement in middle-aged men in prediction of fatal coronary and other cardiovascular events: a cross-cultural comparison through Europe. Eur J Epidemiol. 2005;20(7):597-604. X-1D,X-1F,X-2
2030. Menotti A, Lanti M, Maiani G, et al. Forty-year mortality from cardiovascular diseases and their risk factors in men of the Italian rural areas of the Seven Countries Study. Acta Cardiol. 2005 Oct;60(5):521-31. X-1F,X-2
2031. Menotti A, Lanti M, Nedeljkovic S, et al. The relationship of age, blood pressure, serum cholesterol and smoking habits with the risk of typical and atypical coronary heart disease death in the European cohorts of the Seven Countries Study. Int J Cardiol. 2006 Jan 13;106(2):157-63. X-1F,X-2
2032. Menotti A, Lanti M, Puddu PE, et al. An Italian chart for cardiovascular risk prediction. Its scientific basis. Ann Ital Med Int. 2001 Oct-Dec;16(4):240-51. X-4,X-5
2033. Menotti A, Lanti M, Puddu PE, et al. The risk functions incorporated in Riscard 2002: a software for the prediction of cardiovascular risk in the general population based on Italian data. Ital Heart J. 2002 Feb;3(2):114-21. X-4,X-5
2034. Menotti A, Lanti M, Puddu PE, et al. Coronary heart disease incidence in northern and southern European populations: a reanalysis of the seven countries study for a European coronary risk chart. Heart. 2000 Sep;84(3):238-44. X-1
2035. Menotti A, Lanti M, Puddu PE, et al. First risk functions for prediction of coronary and cardiovascular disease incidence in the Gubbio Population Study. Ital Heart J. 2000 Jun;1(6):394-9. X-2

2036. Menotti A, Puddu PE and Lanti M. Comparison of the Framingham risk function-based coronary chart with risk function from an Italian population study. Eur Heart J. 2000 Mar;21(5):365-70. X-2
2037. Menotti A, Puddu PE and Lanti M. The estimate of cardiovascular risk. Theory, tools and problems. Ann Ital Med Int. 2002 Apr-Jun;17(2):81-94. X-2,X-4,X-5,X-6,X-7,X-8
2038. Menown IB, Allen J, Anderson JM, et al. ST depression only on the initial 12-lead ECG: early diagnosis of acute myocardial infarction. Eur Heart J. 2001 Feb;22(3):218-27. X-1,X-7,X-8
2039. Menown IB, Mackenzie G and Adgey AA. Optimizing the initial 12-lead electrocardiographic diagnosis of acute myocardial infarction. Eur Heart J. 2000 Feb;21(4):275-83. X-1,X-5,X-8
2040. Mercie P, Thiebaut R, Lavignolle V, et al. Evaluation of cardiovascular risk factors in HIV-1 infected patients using carotid intima-media thickness measurement. Ann Med. 2002;34(1):55-63. X-1,X-5,X-6
2041. Merello L, Riesle E, Alburquerque J, et al. Risk scores do not predict high mortality after coronary artery bypass surgery in the presence of diastolic dysfunction. Ann Thorac Surg. 2008 Apr;85(4):1247-55. X-1,X-7,X-8
2042. Merino J, Planas A, De Moner A, et al. The association of peripheral arterial occlusive disease with major coronary events in a mediterranean population with low coronary heart disease incidence. Eur J Vasc Endovasc Surg. 2008 Jul;36(1):71-6. X-1F,X-2,X-8(14%)
2043. Metcalf PA, Wells S, Scragg RK, et al. Comparison of three different methods of assessing cardiovascular disease risk in New Zealanders with Type 2 diabetes mellitus. N Z Med J. 2008 Sep 5;121(1281):49-57. X-2,X-5,X-6
2044. Metz LD, Beattie M, Hom R, et al. The prognostic value of normal exercise myocardial perfusion imaging and exercise echocardiography: a meta-analysis. J Am Coll Cardiol. 2007 Jan 16;49(2):227-37. X-1,X-4,X-5
2045. Meuwissen M, Chamuleau SA, Siebes M, et al. The prognostic value of combined intracoronary pressure and blood flow velocity measurements after deferral of percutaneous coronary intervention. Catheter Cardiovasc Interv. 2008 Feb 15;71(3):291-7. X-1,X-2,X-5X-7,X-8
2046. Meyer A, Bunzemeier H, Hausberg M, et al. Impact of different stages of chronic kidney disease on in-hospital costs in patients with coronary heart disease. Nephrol Dial Transplant. 2008 Jun;23(6):1955-60. X-1,X-5,X-6,X-8
2047. Meyer JW, Schultz JS, O'Donnell JC, et al. Patterns and effectiveness of lipid-lowering therapies in a managed care environment. Value Health. 2005 Sep-Oct;8(5):601-12. X-1,X-6,X-8
2048. Michaelides AP, Aigyprladou MN, Andrikopoulos GK, et al. The prognostic value of a QRS score during exercise testing. Clin Cardiol. 2005 Aug;28(8):375-80. X-1,X-8
2049. Michel P, Roques F and Nashef SA. Logistic or additive EuroSCORE for high-risk patients? Eur J Cardiothorac Surg. 2003 May;23(5):684-7; discussion 687. X-1,X-6,X-8
2050. Michelucci A, Mortara D, Lazzeri C, et al. Simultaneous assessment of electrocardiographic parameters for risk stratification: validation in healthy subjects. Ital Heart J. 2002 May;3(5):308-17. X-1F,X-2,X-5,X-6,X-7, (Italy)
2051. Michielon G, Di Carlo D, Brancaccio G, et al. Anomalous coronary artery origin from the pulmonary artery: correlation between surgical timing and left ventricular function recovery. Ann Thorac Surg. 2003 Aug;76(2):581-8; discussion 588. X-1,X-2,X-6,X-7,X-8

Appendix O. List of Excluded Studies

2052. Mieszczanska H, Pietrasik G, Piotrowicz K, et al. Gender-related differences in electrocardiographic parameters and their association with cardiac events in patients after myocardial infarction. Am J Cardiol. 2008 Jan 1;101(1):20-4. X-1,X-2,X-8
2053. Migliaresi P, Celentano A, Palmieri V, et al. Knowledge of cardiovascular risk factors and awareness of non-pharmacological approach for risk prevention in young survivors of acute myocardial infarction. The cardiovascular risk prevention project "Help Your Heart Stay Young". Nutr Metab Cardiovasc Dis. 2007 Jul;17(6):468-72. X-1,X-2,X-5,X-6,X-8
2054. Migliorini A, Moschi G, Giurlani L, et al. Drug-eluting stent supported percutaneous coronary intervention for unprotected left main disease. Catheter Cardiovasc Interv. 2006 Aug;68(2):225-30. X-1,X-7,X-8
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2074. Miyahara K, Matsuura A, Takemura H, et al. On-pump beating-heart coronary artery bypass grafting after acute myocardial infarction has lower mortality and morbidity. J Thorac Cardiovasc Surg. 2008 Mar;135(3):521-6. X-1,X-2,X-6,X-7,X-8
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2089. Molon G, Targher G, Costa A, et al. Measurement of microvolt T-wave alternans, a new arrhythmic risk stratification test, in Type 2 diabetic patients without clinical cardiovascular disease. Diabet Med. 2006 Feb;23(2):207-10. X-5,X-6,X-7
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2092. Monnig G, Eckardt L, Wedekind H, et al. Electrocardiographic risk stratification in families with congenital long QT syndrome. Eur Heart J. 2006 Sep;27(17):2074-80. X-1,X-5,X-6
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2094. Montaner J, Alvarez-Sabin J, Molina CA, et al. Matrix metalloproteinase expression is related to hemorrhagic transformation after cardioembolic stroke. Stroke. 2001 Dec 1;32(12):2762-7. X-1,X-2,X-6,X-7,X-8
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2099. Mora S, Redberg RF, Cui Y, et al. Ability of exercise testing to predict cardiovascular and all-cause death in asymptomatic women: a 20-year follow-up of the lipid research clinics prevalence study. JAMA. 2003 Sep 24;290(12):1600-7. X-1F,X-2
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2102. Mora S, Yanek LR, Moy TF, et al. Interaction of body mass index and framingham risk score in predicting incident coronary disease in families. Circulation. 2005 Apr 19;111(15):1871-6. X-2
2103. Moran PJ, Ghidella T, Power G, et al. The use of Lee and co-workers' index to assist a risk adjusted audit of perioperative cardiac outcome. Anaesth Intensive Care. 2008 Mar;36(2):167-73. X-1
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2106. Morgenstern LB, Viscoli CM, Kernan WN, et al. Use of Ephedra-containing products and risk for hemorrhagic stroke. Neurology. 2003 Jan 14;60(1):132-5. X-1,X-2,X-5,X-7
2107. Morikawa Y, Ohashi Y, Harada K, et al. Coronary risks after high-dose gamma-globulin in children with Kawasaki disease. Pediatr Int. 2000 Oct;42(5):464-9. X-1
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2111. Morris RW, Whincup PH, Papacosta O, et al. Inequalities in coronary revascularisation during the 1990s: evidence from the British regional heart study. Heart. 2005 May;91(5):635-40. X-1,X-8
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2115. Morrow DA, Antman EM, Parsons L, et al. Application of the TIMI risk score for ST-elevation MI in the National Registry of Myocardial Infarction 3. JAMA. 2001 Sep 19;286(11):1356-9. X-1,X-8
2116. Morrow DA, Antman EM, Snapinn SM, et al. An integrated clinical approach to predicting the benefit of tirofiban in non-ST elevation acute coronary syndromes. Application of the TIMI Risk Score for UA/NSTEMI in PRISM-PLUS. Eur Heart J. 2002 Feb;23(3):223-9. X-1,X-8
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2123. Moscucci M, Muller DW, Watts CM, et al. Reducing costs and improving outcomes of percutaneous coronary interventions. Am J Manag Care. 2003 May;9(5):365-72. X-1,X-8
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2126. Mosley WJ, 2nd, Greenland P, Garside DB, et al. Predictive utility of pulse pressure and other blood pressure measures for cardiovascular outcomes. Hypertension. 2007 Jun;49(6):1256-64. X-1F
2127. Moss AJ. MADIT-I and MADIT-II. J Cardiovasc Electrophysiol. 2003 Sep;14(9 Suppl):S96-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2128. Moss AJ, Daubert J and Zareba W. MADIT-II: clinical implications. Card Electrophysiol Rev. 2002 Dec;6(4):463-5. X-1,X-2,X-4,X-5,X-6

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2130. Moss AJ, Ryan D, Oakes D, et al. Atherosclerotic risk genotypes and recurrent coronary events after myocardial infarction. Am J Cardiol. 2005 Jul 15;96(2):177-82. X-1,X-8
2131. Moss SE, Klein R and Klein BE. Association of cigarette smoking with diabetic retinopathy. Diabetes Care. 1991 Feb;14(2):119-26. X-1
2132. Motomura N, Miyata H, Tsukihara H, et al. First report on 30-day and operative mortality in risk model of isolated coronary artery bypass grafting in Japan. Ann Thorac Surg. 2008 Dec;86(6):1866-72. X-1,X-8
2133. Motomura N, Miyata H, Tsukihara H, et al. Risk model of thoracic aortic surgery in 4707 cases from a nationwide single-race population through a web-based data entry system: the first report of 30-day and 30-day operative outcome risk models for thoracic aortic surgery. Circulation. 2008 Sep 30;118(14 Suppl):S153-9. X-1,X-8
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2135. Mouzopoulos G, Kouvaris C, Antonopoulos D, et al. Perioperative creatine phosphokinase (CPK) and troponin I trends after elective hip surgery. J Trauma. 2007 Aug;63(2):388-93. X-1,X-6
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2137. Mozaffarian D, Anker SD, Anand I, et al. Prediction of mode of death in heart failure: the Seattle Heart Failure Model. Circulation. 2007 Jul 24;116(4):392-8. X-1,X-8
2138. Mozaffarian D, Kamineni A, Prineas RJ, et al. Metabolic syndrome and mortality in older adults: the Cardiovascular Health Study. Arch Intern Med. 2008 May 12;168(9):969-78. X-1F,X-2
2139. Mozaffarian D, Longstreth WT, Jr., Lemaitre RN, et al. Fish consumption and stroke risk in elderly individuals: the cardiovascular health study. Arch Intern Med. 2005 Jan 24;165(2):200-6. X-1,X-2
2140. Mozumdar A and Roy SK. Validity of an alternative anthropometric trait as cardiovascular diseases risk factor: example from individuals with traumatic lower extremity amputation. Eur J Clin Nutr. 2006 Oct;60(10):1180-8. X-1,X-6
2141. Mrowka R, Persson PB, Theres H, et al. Blunted arterial baroreflex causes "pathological" heart rate turbulence. Am J Physiol Regul Integr Comp Physiol. 2000 Oct;279(4):R1171-5. X-1
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2143. Muhlestein JB, Horne BD, Carlquist JF, et al. Cytomegalovirus seropositivity and C-reactive protein have independent and combined predictive value for mortality in patients with angiographically demonstrated coronary artery disease. Circulation. 2000 Oct 17;102(16):1917-23. X-1,X-7,X-8

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2144. Mujahid MS, Diez Roux AV, Morenoff JD, et al. Assessing the measurement properties of neighborhood scales: from psychometrics to ecometrics. Am J Epidemiol. 2007 Apr 15;165(8):858-67. X-1,X-5,X-7
2145. Mukaddirov M, Frapier JM, Demaria RG, et al. Surgical treatment of postinfarction anterior left ventricular aneurysms: linear vs. patch plasty repair. Interact Cardiovasc Thorac Surg. 2008 Apr;7(2):256-61. X-1,X-2,X-6,X-7,X-8
2146. Mukamal KJ, Cushman M, Mittleman MA, et al. Alcohol consumption and inflammatory markers in older adults: the Cardiovascular Health Study. Atherosclerosis. 2004 Mar;173(1):79-87. X-1,X-5,X-6
2147. Mukamal KJ, Kronmal RA, Tracy RP, et al. Traditional and novel risk factors in older adults: cardiovascular risk assessment late in life. Am J Geriatr Cardiol. 2004 Mar-Apr;13(2):69-80. X-1,X-5,X-6
2148. Mukamal KJ, Maclure M, Muller JE, et al. Caffeinated coffee consumption and mortality after acute myocardial infarction. Am Heart J. 2004 Jun;147(6):999-1004. X-1,X-2,X-6,X-8
2149. Mule G and Cerasola G. The metabolic syndrome and its relationship to hypertensive target organ damage. J Clin Hypertens (Greenwich). 2006 Mar;8(3):195-201. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2150. Mullenix PS, Steele SR, Martin MJ, et al. C-reactive protein level and traditional vascular risk factors in the prediction of carotid stenosis. Arch Surg. 2007 Nov;142(11):1066-71. X-2,X-5,X-6,X-7
2151. Mulvihill NT, Foley JB, Murphy RT, et al. Risk stratification in unstable angina and non-Q wave myocardial infarction using soluble cell adhesion molecules. Heart. 2001 Jun;85(6):623-7. X-7,X-8
2152. Muneretto C, Bisleri G, Negri A, et al. Left internal thoracic artery-radial artery composite grafts as the technique of choice for myocardial revascularization in elderly patients: a prospective randomized evaluation. J Thorac Cardiovasc Surg. 2004 Jan;127(1):179-84. X-1,X-2,X-6,X-7,X-8
2153. Munoz MA, Vila J, Cabanero M, et al. Efficacy of an intensive prevention program in coronary patients in primary care, a randomised clinical trial. Int J Cardiol. 2007 Jun 12;118(3):312-20. X-1,X-8
2154. Munoz R, Duran-Cantolla J, Martinez-Vila E, et al. Severe sleep apnea and risk of ischemic stroke in the elderly. Stroke. 2006 Sep;37(9):2317-21. X-1F,X-2
2155. Muntner P, He J, Hamm L, et al. Renal insufficiency and subsequent death resulting from cardiovascular disease in the United States. J Am Soc Nephrol. 2002 Mar;13(3):745-53. X-1F,X-2,X-8
2156. Murcia AM, Hennekens CH, Lamas GA, et al. Impact of diabetes on mortality in patients with myocardial infarction and left ventricular dysfunction. Arch Intern Med. 2004 Nov 8;164(20):2273-9. X-1,X-2,X-8
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2160. Muscari A, De Pascalis S, Cenni A, et al. Determinants of mean platelet volume (MPV) in an elderly population: relevance of body fat, blood glucose and ischaemic electrocardiographic changes. Thromb Haemost. 2008 Jun;99(6):1079-84. X-1,X-5,X-6
2161. Musher DM, Rueda AM, Kaka AS, et al. The association between pneumococcal pneumonia and acute cardiac events. Clin Infect Dis. 2007 Jul 15;45(2):158-65. X-1,X-5,X-6,X-7,X-8
2162. Musicant SE, Taylor LM, Jr., Peters D, et al. Prospective evaluation of the relationship between C-reactive protein, D-dimer and progression of peripheral arterial disease. J Vasc Surg. 2006 Apr;43(4):772-80; discussion 780. X-1
2163. Musunuru K, Kral BG, Blumenthal RS, et al. The use of high-sensitivity assays for C-reactive protein in clinical practice. Nat Clin Pract Cardiovasc Med. 2008 Oct;5(10):621-35. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2164. Myers J. Optimizing the clinical exercise test: a commentary on the exercise protocol. Heart Fail Monit. 2004;4(3):82-9. X-1,X-2,X-4,X-5,X-7,X-8
2165. Myles RC, Jackson CE, Tsorlalis I, et al. Is microvolt T-wave alternans the answer to risk stratification in heart failure? Circulation. 2007 Dec 18;116(25):2984-91. X-1G,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2166. Mytton O, Gray A, Rayner M, et al. Could targeted food taxes improve health? J Epidemiol Community Health. 2007 Aug;61(8):689-94. X-1,X-2,X-5,X-6
2167. Nabar A, Rodriguez LM, Batra RK, et al. Echocardiographic predictors of survival in patients undergoing radiofrequency ablation of postinfarct clinical ventricular tachycardia. J Cardiovasc Electrophysiol. 2002 Jan;13(1 Suppl):S118-21. X-1,X-7,X-8
2168. Nagahara D, Nakata T, Hashimoto A, et al. Early positive biomarker in relation to myocardial necrosis and impaired fatty acid metabolism in patients presenting with acute chest pain at an emergency room. Circ J. 2006 Apr;70(4):419-25. X-1,X-6,X-7,X-8
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2170. Nagai Y, Kitagawa K, Sakaguchi M, et al. Significance of earlier carotid atherosclerosis for stroke subtypes. Stroke. 2001 Aug;32(8):1780-5. X-1F,X-2,X-5,X-8
2171. Nagai Y, Kitagawa K, Yamagami H, et al. Carotid artery intima-media thickness and plaque score for the risk assessment of stroke subtypes. Ultrasound Med Biol. 2002 Oct;28(10):1239-43. X-1,X-5,X-6
2172. Nagamachi S, Fujita S, Nishii R, et al. Prognostic value of cardiac I-123 metaiodobenzylguanidine imaging in patients with non-insulin-dependent diabetes mellitus. J Nucl Cardiol. 2006 Jan-Feb;13(1):34-42. X-7
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Appendix O. List of Excluded Studies

2175. Naidu SS, Vlachos H, Faxon D, et al. Usefulness of noncoronary vascular disease in predicting adverse events in the year following percutaneous coronary intervention. Am J Cardiol. 2005 Mar 1;95(5):575-80. X-1,X-8
2176. Nair GV, Chaput LA, Vittinghoff E, et al. Pulse pressure and cardiovascular events in postmenopausal women with coronary heart disease. Chest. 2005 May;127(5):1498-506. X-1,X-8
2177. Nakagawa S, Pedersen L, Olsen ML, et al. Antipsychotics and risk of first-time hospitalization for myocardial infarction: a population-based case-control study. J Intern Med. 2006 Nov;260(5):451-8. X-1,X-5
2178. Nakaguchi H and Teraoka A. Relationship between the occurrence of spontaneous intracerebral hemorrhage and holidays and traditionally unlucky days in Fukuyama City, Hiroshima Prefecture, Japan. J Stroke Cerebrovasc Dis. 2007 Sep-Oct;16(5):194-8. X-1,X-2,X-5,X-7,X-8
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2180. Nakamura Y, Moss AJ, Brown MW, et al. Ethnicity and long-term outcome after an acute coronary event. Multicenter Myocardial Ischemia Research Group. Am Heart J. 1999 Sep;138(3 Pt 1):500-6. X-1,X-6,X-8
2181. Nakamura Y, Moss AJ, Brown MW, et al. Long-term nitrate use may be deleterious in ischemic heart disease: A study using the databases from two large-scale postinfarction studies. Multicenter Myocardial Ischemia Research Group. Am Heart J. 1999 Sep;138(3 Pt 1):577-85. X-1,X-8
2182. Nakatani D, Sakata Y, Sato H, et al. Clinical impact of metabolic syndrome and its additive effect with smoking on subsequent cardiac events after acute myocardial infarction. Am J Cardiol. 2007 Apr 1;99(7):885-9. X-1F,X-2,X-8
2183. Nakatani D, Sato H, Sakata Y, et al. Effect of intracoronary thrombectomy on 30-day mortality in patients with acute myocardial infarction. Am J Cardiol. 2007 Oct 15;100(8):1212-7. X-1,X-6,X-8
2184. Nakazawa G, Tanabe K, Aoki J, et al. Impact of renal insufficiency on clinical and angiographic outcomes following percutaneous coronary intervention with sirolimus-eluting stents. Catheter Cardiovasc Interv. 2007 May 1;69(6):808-14. X-1,X-2,X-8
2185. Nambi V, Hoogeveen RC, Chambless L, et al. Lipoprotein-associated phospholipase A2 and high-sensitivity C-reactive protein improve the stratification of ischemic stroke risk in the Atherosclerosis Risk in Communities (ARIC) study. Stroke. 2009 Feb;40(2):376-81. X-5
2186. Nanasato M, Hirayama H, Ando A, et al. Incremental predictive value of myocardial scintigraphy with 123I-BMIPP in patients with acute myocardial infarction treated with primary percutaneous coronary intervention. Eur J Nucl Med Mol Imaging. 2004 Nov;31(11):1512-21. X-1,X-7,X-8
2187. Nanchahal K, Ashton WD and Wood DA. Alcohol consumption, metabolic cardiovascular risk factors and hypertension in women. Int J Epidemiol. 2000 Feb;29(1):57-64. X-1,X-2,X-5,X-6
2188. Nanchahal K, Duncan JR, Durrington PN, et al. Analysis of predicted coronary heart disease risk in England based on Framingham study risk appraisal models published in 1991 and 2000. BMJ. 2002 Jul 27;325(7357):194-5. X-1,X-2,X-5,X-6

2189. Naqvi TZ. Ultrasound vascular screening for cardiovascular risk assessment. Why, when and how? Minerva Cardioangiol. 2006 Feb;54(1):53-67. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2190. Narayan SM. T-wave alternans testing for ventricular arrhythmias. Prog Cardiovasc Dis. 2008 Sep-Oct;51(2):118-27. X-1,X-2,X-4,X-5,X-6
2191. Nashef SA, Roques F, Hammill BG, et al. Validation of European System for Cardiac Operative Risk Evaluation (EuroSCORE) in North American cardiac surgery. Eur J Cardiothorac Surg. 2002 Jul;22(1):101-5. X-1,X-8
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2193. Nasir K, Budoff MJ, Post WS, et al. Electron beam CT versus helical CT scans for assessing coronary calcification: current utility and future directions. Am Heart J. 2003 Dec;146(6):969-77. X-1,X-2,X-4,X-5,X-6
2194. Nasir K, Raggi P, Rumberger JA, et al. Electron beam tomography in women. Is it a valuable test? Cardiol Rev. 2005 Jul-Aug;13(4):174-83. X-1,X-2,X-4,X-5,X-7
2195. Nasser SA, Lai Z, O'Connor S, et al. Does earlier attainment of blood pressure goal translate into fewer cardiovascular events? Curr Hypertens Rep. 2008 Oct;10(5):398-404. X-1,X-2,X-4,X-5,X-6,X-7
2196. Natarajan S, Lipsitz SR and Rimm E. A simple method of determining confidence intervals for population attributable risk from complex surveys. Stat Med. 2007 Jul 30;26(17):3229-39. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2197. Nault P, Elkouri S, Daniel V, et al. Modification of outcomes by lowering ischemic events after reconstruction of extracranial vessels (MOLIERE): an internet-based prospective study to evaluate and improve the effectiveness of carotid endarterectomy. J Vasc Surg. 2008 Mar;47(3):530-6. X-1,X-2,X-5,X-8
2198. Navare SM, Katten D, Johnson LL, et al. Risk stratification with electrocardiographic-gated dobutamine stress technetium-99m sestamibi single-photon emission tomographic imaging: value of heart rate response and assessment of left ventricular function. J Am Coll Cardiol. 2006 Feb 21;47(4):781-8. X-1D,X-1F,X-2,X-8(95%)
2199. Ndrepepa G, Berger PB, Mehilli J, et al. Periprocedural bleeding and 1-year outcome after percutaneous coronary interventions: appropriateness of including bleeding as a component of a quadruple end point. J Am Coll Cardiol. 2008 Feb 19;51(7):690-7. X-1,X-8
2200. Ndrepepa G, Kastrati A, Braun S, et al. N-terminal probrain natriuretic peptide and C-reactive protein in stable coronary heart disease. Am J Med. 2006 Apr;119(4):355 e1-8. X-1,X-8
2201. Negassa A, Monrad ES, Bang JY, et al. Tree-structured risk stratification of in-hospital mortality after percutaneous coronary intervention for acute myocardial infarction: a report from the New York State percutaneous coronary intervention database. Am Heart J. 2007 Aug;154(2):322-9. X-1,X-8
2202. Nelson JC, Jiang XC, Tabas I, et al. Plasma sphingomyelin and subclinical atherosclerosis: findings from the multi-ethnic study of atherosclerosis. Am J Epidemiol. 2006 May 15;163(10):903-12. X-1,X-5,X-6
2203. Nelson MR, Liew D, Bertram M, et al. Epidemiological modelling of routine use of low dose aspirin for the primary prevention of coronary heart disease and stroke in those aged > or =70. BMJ. 2005 Jun 4;330(7503):1306. X-1F,X-2,X-5

Appendix O. List of Excluded Studies

2204. Nemes A, Forster T, Geleijnse ML, et al. Prognostic value of coronary flow reserve and aortic distensibility indices in patients with suspected coronary artery disease. Heart Vessels. 2008 May;23(3):167-73. X-1,X-2,X-5,X-7,X-8
2205. Neragi-Miandoab S, Weiner S and Sugarbaker DJ. Incidence of atrial fibrillation after extrapleural pneumonectomy vs. pleurectomy in patients with malignant pleural mesothelioma. Interact Cardiovasc Thorac Surg. 2008 Dec;7(6):1039-42. X-1,X-2,X-6,X-7
2206. Nettleton JA, Steffen LM, Ni H, et al. Dietary patterns and risk of incident type 2 diabetes in the Multi-Ethnic Study of Atherosclerosis (MESA). Diabetes Care. 2008 Sep;31(9):1777-82. X-1,X-2,X-6
2207. Neuhauser HK, Ellert U and Kurth BM. A comparison of Framingham and SCORE-based cardiovascular risk estimates in participants of the German National Health Interview and Examination Survey 1998. Eur J Cardiovasc Prev Rehabil. 2005 Oct;12(5):442-50. X-5,X-6
2208. Neumayer E. Recessions lower (some) mortality rates: evidence from Germany. Soc Sci Med. 2004 Mar;58(6):1037-47. X-1,X-2,X-5,X-6
2209. Newby LK, Hasselblad V, Armstrong PW, et al. Time-based risk assessment after myocardial infarction. Implications for timing of discharge and applications to medical decision-making. Eur Heart J. 2003 Jan;24(2):182-9. X-1,X-6
2210. Newsome BB, McClellan WM, Coffey CS, et al. Survival advantage of black patients with kidney disease after acute myocardial infarction. Clin J Am Soc Nephrol. 2006 Sep;1(5):993-9. X-1,X-8
2211. Ngaage DL, Zehr KJ, Daly RC, et al. Off-pump strategy in high-risk coronary artery bypass reoperations. Mayo Clin Proc. 2007 May;82(5):567-71. X-1,X-6,X-7,X-8
2212. Ngamtrairai P, Srimahachota S, Boonyaratavej S, et al. Initial and long-term results of coronary angioplasty: a report from King Chulalongkorn Memorial Hospital. J Med Assoc Thai. 2002 Jun;85 Suppl 1:S62-9. X-1,X-2,X-8
2213. Nguyen S, McCulloch C, Brakeman P, et al. Being overweight modifies the association between cardiovascular risk factors and microalbuminuria in adolescents. Pediatrics. 2008 Jan;121(1):37-45. X-1,X-2,X-5,X-6,X-8
2214. Niccoli G, Ferrante G, Mongiardo R, et al. Predictive value of preintervention C-reactive protein on clinical outcome after directional coronary atherectomy followed by stent implantation. Cardiovasc Revasc Med. 2007 Jul-Sep;8(3):156-60. X-1,X-2,X-6,X-7,X-8
2215. Niccoli G, Giubilato S, Russo E, et al. Plasma levels of thromboxane A2 on admission are associated with no-reflow after primary percutaneous coronary intervention. Eur Heart J. 2008 Aug;29(15):1843-50. X-1,X-2,X-6,X-7,X-8
2216. Nichols GA, Hillier TA and Brown JB. Normal fasting plasma glucose and risk of type 2 diabetes diagnosis. Am J Med. 2008 Jun;121(6):519-24. X-1,X-6,X-8
2217. Nicklas BJ, Penninx BW, Cesari M, et al. Association of visceral adipose tissue with incident myocardial infarction in older men and women: the Health, Aging and Body Composition Study. Am J Epidemiol. 2004 Oct 15;160(8):741-9. X-1,X-2
2218. Nicol ED, Stirrup J, Reyes E, et al. Sixty-four-slice computed tomography coronary angiography compared with myocardial perfusion scintigraphy for the diagnosis of functionally significant coronary stenoses in patients with a low to intermediate likelihood of coronary artery disease. J Nucl Cardiol. 2008 May-Jun;15(3):311-8. X-1,X-2,X-5,X-6,X-7,X-8

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2219. Nicolaides AN, Kakkos SK, Griffin M, et al. Severity of asymptomatic carotid stenosis and risk of ipsilateral hemispheric ischaemic events: results from the ACSRS study. Eur J Vasc Endovasc Surg. 2005 Sep;30(3):275-84. X-1D,X-1F,X-2,X-6,X-8
2220. Niebauer J, Sixt S, Zhang F, et al. Contemporary outcome of cardiac catheterizations in 1085 consecutive octogenarians. Int J Cardiol. 2004 Feb;93(2-3):225-30. X-1,X-2,X-6,X-8
2221. Nielson C and Fleming RM. Blood glucose and cerebrovascular disease in nondiabetic patients. Angiology. 2007 Oct-Nov;58(5):625-9. X-1E,X-1F,X-2,X-5
2222. Nienhuis MB, Ottervanger JP, Bilo HJ, et al. Prognostic value of troponin after elective percutaneous coronary intervention: A meta-analysis. Catheter Cardiovasc Interv. 2008 Feb 15;71(3):318-24. X-1,X-2,X-4,X-5,X-8
2223. Niessner A, Hofmann R, Kypta A, et al. Low high-density lipoprotein cholesterol predicts cardiovascular events after carotid stenting: a long-term survey. J Thromb Haemost. 2007 May;5(5):950-4. X-1,X-8
2224. Nieto FJ, Herrington DM, Redline S, et al. Sleep apnea and markers of vascular endothelial function in a large community sample of older adults. Am J Respir Crit Care Med. 2004 Feb 1;169(3):354-60. X-1,X-6,X-8
2225. Nigam A, Bourassa MG, Fortier A, et al. Fasting but not postprandial (postmeal) glycemia predicts the risk of death in subjects with coronary artery disease. Can J Cardiol. 2007 Sep;23(11):873-8. X-1E,X-1F,X-2,X-8
2226. Nighoghossian N, Hermier M, Adeleine P, et al. Old microbleeds are a potential risk factor for cerebral bleeding after ischemic stroke: a gradient-echo T2*-weighted brain MRI study. Stroke. 2002 Mar;33(3):735-42. X-1,X-2,X-6,X-7,X-8
2227. Nikolsky E, Holmes DR, Mehran R, et al. Impact of platelet glycoprotein IIb/IIIa receptor inhibitors on outcomes of diabetic patients undergoing percutaneous coronary interventions using sirolimus-eluting stents. Catheter Cardiovasc Interv. 2008 Jun 1;71(7):896-906. X-1,X-4,X-5,X-8
2228. Nilsson J, Algotsson L, Hoglund P, et al. Early mortality in coronary bypass surgery: the EuroSCORE versus The Society of Thoracic Surgeons risk algorithm. Ann Thorac Surg. 2004 Apr;77(4):1235-9; discussion 1239-40. X-1,X-6,X-8
2229. Nilsson J, Algotsson L, Hoglund P, et al. Comparison of 19 pre-operative risk stratification models in open-heart surgery. Eur Heart J. 2006 Apr;27(7):867-74. X-1,X-6,X-8
2230. Nilsson PM. Cardiovascular risk in the metabolic syndrome: fact or fiction? Curr Cardiol Rep. 2007 Nov;9(6):479-85. X-1E,X-1F,X-2,X-4,X-5,X-6,X-8,X-9
2231. Nishimura M, Tokoro T, Nishida M, et al. Myocardial fatty acid imaging identifies a group of hemodialysis patients at high risk for cardiac death after coronary revascularization. Kidney Int. 2008 Aug;74(4):513-20. X-1,X-2,X-7,X-8
2232. Nishimura M, Tsukamoto K, Hasebe N, et al. Prediction of cardiac death in hemodialysis patients by myocardial fatty acid imaging. J Am Coll Cardiol. 2008 Jan 15;51(2):139-45. X-1,X-2,X-8
2233. Nishizawa Y, Shoji T, Kakiya R, et al. Non-high-density lipoprotein cholesterol (non-HDL-C) as a predictor of cardiovascular mortality in patients with end-stage renal disease. Kidney Int Suppl. 2003 May(84):S117-20. X-1
2234. Noda M, Takagi A, Kuwatsuru R, et al. Prognostic significance of multiple-detector computed tomography in conjunction with TIMI risk score for patients with non-ST elevation acute coronary syndrome. Heart Vessels. 2008 May;23(3):161-6. X-1,X-2,X-7,X-8

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2235. Noordzij PG, Boersma E, Bax JJ, et al. Prognostic value of routine preoperative electrocardiography in patients undergoing noncardiac surgery. Am J Cardiol. 2006 Apr 1;97(7):1103-6. X-1,X-5
2236. Norata GD, Ongari M, Garlaschelli K, et al. Effect of the -420C/G variant of the resistin gene promoter on metabolic syndrome, obesity, myocardial infarction and kidney dysfunction. J Intern Med. 2007 Jul;262(1):104-12. X-1,X-5,X-6
2237. Nordenstrom E, Westerdahl J, Lindergard B, et al. Multifactorial risk profile for bone fractures in primary hyperparathyroidism. World J Surg. 2002 Dec;26(12):1463-7. X-1,X-5,X-6
2238. Norkiene I, Ringaitiene D, Misiuriene I, et al. Incidence and precipitating factors of delirium after coronary artery bypass grafting. Scand Cardiovasc J. 2007 Jun;41(3):180-5. X-1,X-6,X-7,X-8
2239. Norris CM, Saunders LD, Ghali WA, et al. Health-related quality of life outcomes of patients with coronary artery disease treated with cardiac surgery, percutaneous coronary intervention or medical management. Can J Cardiol. 2004 Oct;20(12):1259-66. X-1,X-2,X-8
2240. Norris K, Bourgoigne J, Gassman J, et al. Cardiovascular outcomes in the African American Study of Kidney Disease and Hypertension (AASK) Trial. Am J Kidney Dis. 2006 Nov;48(5):739-51. X-1,X-2
2241. Northrup KL, Cottrell LA and Wittberg RA. L.I.F.E.: a school-based heart-health screening and intervention program. J Sch Nurs. 2008 Feb;24(1):28-35. X-1,X-2,X-5,X-6
2242. Novick RJ, Fox SA, Stitt LW, et al. Direct comparison of risk-adjusted and non-risk-adjusted CUSUM analyses of coronary artery bypass surgery outcomes. J Thorac Cardiovasc Surg. 2006 Aug;132(2):386-91. X-1,X-8
2243. Novick RJ, Fox SA, Stitt LW, et al. Effect of off-pump coronary artery bypass grafting on risk-adjusted and cumulative sum failure outcomes after coronary artery surgery. J Card Surg. 2002 Nov-Dec;17(6):520-8. X-1,X-6,X-8
2244. Nowicki ER, Birkmeyer NJ, Weintraub RW, et al. Multivariable prediction of in-hospital mortality associated with aortic and mitral valve surgery in Northern New England. Ann Thorac Surg. 2004 Jun;77(6):1966-77. X-1
2245. Nunez-Gil IJ, Fernandez-Ortiz A, Perez-Isla L, et al. Clinical and prognostic comparison between left ventricular transient dyskinesia and a first non-ST-segment elevation acute coronary syndrome. Coron Artery Dis. 2008 Nov;19(7):449-53. X-1,X-2,X-7,X-8
2246. Nybo M, Johnsen SP, Dethlefsen C, et al. Lack of observed association between high plasma osteoprotegerin concentrations and ischemic stroke risk in a healthy population. Clin Chem. 2008 Dec;54(12):1969-74. X-1,X-2,X-5,X-8
2247. Nys GM, van Zandvoort MJ, de Kort PL, et al. Cognitive disorders in acute stroke: prevalence and clinical determinants. Cerebrovasc Dis. 2007;23(5-6):408-16. X-1,X-6,X-7
2248. Obias-Manno D and Wijetunga M. Risk stratification and primary prevention of sudden cardiac death: sudden death prevention. AACN Clin Issues. 2004 Jul-Sep;15(3):404-18. X-2,X-4,X-5,X-6,X-7,X-8
2249. O'Brien MM, Shroyer AL, Moritz TE, et al. Relationship between processes of care and coronary bypass operative mortality and morbidity. Med Care. 2004 Jan;42(1):59-70. X-1,X-8

2250. O'Connell DM and Watson ID. Definitive angiographic detection of subarachnoid haemorrhage compared with laboratory assessment of intracranial bleed in CT-negative patients. Ann Clin Biochem. 2003 May;40(Pt 3):269-73. X-1,X-4,X-5,X-6,X-7
2251. O'Connor CM, Gattis WA, Hellkamp AS, et al. Comparison of two aspirin doses on ischemic stroke in post-myocardial infarction patients in the warfarin (Coumadin) Aspirin Reinfarction Study (CARS). Am J Cardiol. 2001 Sep 1;88(5):541-6. X-1,X-8
2252. Odegaard K, Borg S, Persson U, et al. The Swedish cost burden of overweight and obesity--evaluated with the PAR approach and a statistical modelling approach. Int J Pediatr Obes. 2008;3 Suppl 1:51-7. X-1,X-2,X-5,X-6
2253. O'Donoghue M, de Lemos JA, Morrow DA, et al. Prognostic utility of heart-type fatty acid binding protein in patients with acute coronary syndromes. Circulation. 2006 Aug 8;114(6):550-7. X-1,X-6,X-8
2254. Ogasawara K, Mashiba S, Wada Y, et al. A serum amyloid A and LDL complex as a new prognostic marker in stable coronary artery disease. Atherosclerosis. 2004 Jun;174(2):349-56. X-1,X-2,X-7,X-8
2255. Ogasawara K, Ogawa A and Yoshimoto T. Cerebrovascular reactivity to acetazolamide and outcome in patients with symptomatic internal carotid or middle cerebral artery occlusion: a xenon-133 single-photon emission computed tomography study. Stroke. 2002 Jul;33(7):1857-62. X-1,X-7,X-8
2256. Ohayon J, Finet G, Gharib AM, et al. Necrotic core thickness and positive arterial remodeling index: emergent biomechanical factors for evaluating the risk of plaque rupture. Am J Physiol Heart Circ Physiol. 2008 Aug;295(2):H717-27. X-1,X-2,X-5,X-6
2257. Ohira T, Iso H, Imano H, et al. Prospective study of major and minor ST-T abnormalities and risk of stroke among Japanese. Stroke. 2003 Dec;34(12):e250-3. X-6
2258. Ohtani T, Ueda Y, Mizote I, et al. Number of yellow plaques detected in a coronary artery is associated with future risk of acute coronary syndrome: detection of vulnerable patients by angioscopy. J Am Coll Cardiol. 2006 Jun 6;47(11):2194-200. X-1,X-8
2259. Oikawa S, Kita T, Mabuchi H, et al. Risk of coronary events in Japanese patients with both hypercholesterolemia and type 2 diabetes mellitus on low-dose simvastatin therapy: implication from Japan Lipid Intervention Trial (J-LIT). Atherosclerosis. 2007 Apr;191(2):440-6. X-1F,X-2
2260. Okajima K, Abe Y, Suzuki K, et al. Impact of valvular thickness on stroke recurrence in medically treated patients with stroke. Cerebrovasc Dis. 2007;24(4):375-80. X-1D,X-1F,X-1G,X-2,X-6,X-8(Stroke)
2261. Okamoto K and Horisawa R. The joint effect of oxidative stress and antioxidants on the risk of an aneurysmal rupture subarachnoid hemorrhage: a case-control study in Japan. Ann Epidemiol. 2007 May;17(5):359-63. X-1,X-5,X-8
2262. Okamoto K and Horisawa R. Prediction of subarachnoid hemorrhage from a ruptured cerebral aneurysm by discriminant analysis in women. J Stroke Cerebrovasc Dis. 2007 Nov-Dec;16(6):245-50. X-1,X-6,X-7,X-8
2263. Okazaki S, Moriwaki H, Minematsu K, et al. Extremely early computed tomography signs in hyperacute ischemic stroke as a predictor of parenchymal hematoma. Cerebrovasc Dis. 2008;25(3):241-6. X-1,X-5,X-6,X-8
2264. Okin PM, Devereux RB, Fabsitz RR, et al. Principal component analysis of the T wave and prediction of cardiovascular mortality in American Indians: the Strong Heart Study. Circulation. 2002 Feb 12;105(6):714-9. X-1F,X-2

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2265. Okin PM, Devereux RB, Jern S, et al. Regression of electrocardiographic left ventricular hypertrophy during antihypertensive treatment and the prediction of major cardiovascular events. JAMA. 2004 Nov 17;292(19):2343-9. X-1E,X-1F,X-2,X-8
2266. Okin PM, Devereux RB, Nieminen MS, et al. Electrocardiographic strain pattern and prediction of cardiovascular morbidity and mortality in hypertensive patients. Hypertension. 2004 Jul;44(1):48-54. X-1
2267. Okosun IS, Choi S, Dent MM, et al. Abdominal obesity defined as a larger than expected waist girth is associated with racial/ethnic differences in risk of hypertension. J Hum Hypertens. 2001 May;15(5):307-12. X-1G,X-2,X-5,X-6
2268. Oksala NK, Oksala A, Erkinjuntti T, et al. Long-term survival after ischemic stroke in postmenopausal women is affected by an interaction between smoking and genetic variation in nitric oxide synthases. Cerebrovasc Dis. 2008;26(3):250-8. X-1,X-2,X-8
2269. Okuyama H, Hirono O, Tamura H, et al. Impact of aortic arch stiffness on recurrence of stroke in patients with acute ischemic stroke. Circ J. 2008 Aug;72(8):1296-302. X-1,X-2,X-8
2270. O'Leary CM, Knuiman MW and Divitini ML. Homocysteine and cardiovascular disease: a 17-year follow-up study in Busselton. Eur J Cardiovasc Prev Rehabil. 2004 Aug;11(4):350-1. X-1
2271. Olenchock BA, Wiviott SD, Murphy SA, et al. Lack of association between soluble CD40L and risk in a large cohort of patients with acute coronary syndrome in OPUS TIMI-16. J Thromb Thrombolysis. 2008 Oct;26(2):79-84. X-1,X-2,X-5,X-8
2272. Oliveira A, Barros H, Maciel MJ, et al. Tobacco smoking and acute myocardial infarction in young adults: a population-based case-control study. Prev Med. 2007 Apr;44(4):311-6. X-1,X-2,X-5,X-6,X-8
2273. Oliveira SF, Jatene AD, Solimene MC, et al. Coronary artery bypass graft surgery in patients with ischemic cardiomyopathy and severe left ventricular dysfunction: short and long-term results. Heart Surg Forum. 1999;2(1):47-53. X-1,X-2,X-6,X-7,X-8
2274. Oliveira-Filho J, Silva SC, Trabuco CC, et al. Detrimental effect of blood pressure reduction in the first 24 hours of acute stroke onset. Neurology. 2003 Oct 28;61(8):1047-51. X-1,X-5,X-6,X-7,X-8
2275. Olsen MH, Hansen TW, Christensen MK, et al. N-terminal pro-brain natriuretic peptide, but not high sensitivity C-reactive protein, improves cardiovascular risk prediction in the general population. Eur Heart J. 2007 Jun;28(11):1374-81. X-1F,X-2,X-8(5.1%)
2276. Olsen MH, Hansen TW, Christensen MK, et al. Cardiovascular risk prediction by N-terminal pro brain natriuretic peptide and high sensitivity C-reactive protein is affected by age and sex. J Hypertens. 2008 Jan;26(1):26-34. X-1,X-2
2277. Olsen MH, Wachtell K, Bella JN, et al. Albuminuria predicts cardiovascular events independently of left ventricular mass in hypertension: a LIFE substudy. J Hum Hypertens. 2004 Jun;18(6):453-9. X-1
2278. Olsen MH, Wachtell K, Bella JN, et al. Aortic valve sclerosis and albuminuria predict cardiovascular events independently in hypertension: a losartan intervention for endpoint-reduction in hypertension (LIFE) substudy. Am J Hypertens. 2005 Nov;18(11):1430-6. X-1,X-8
2279. Olsen MH, Wachtell K, Ibsen H, et al. Reductions in albuminuria and in electrocardiographic left ventricular hypertrophy independently improve prognosis in

hypertension: the LIFE study. J Hypertens. 2006 Apr;24(4):775-81. X-1D,X-2,X-8(~76.6%)
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2284. Onat A, Hergenc G, Turkmen S, et al. Discordance between insulin resistance and metabolic syndrome: features and associated cardiovascular risk in adults with normal glucose regulation. Metabolism. 2006 Apr;55(4):445-52. X-1F,X-2
2285. Onat A, Sari I, Yazici M, et al. Plasma triglycerides, an independent predictor of cardiovascular disease in men: a prospective study based on a population with prevalent metabolic syndrome. Int J Cardiol. 2006 Mar 22;108(1):89-95. X-1F,X-2
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2290. Orlowska-Baranowska E, Baranowski R, Michalek P, et al. Prediction of paroxysmal atrial fibrillation after aortic valve replacement in patients with aortic stenosis: identification of potential risk factors. J Heart Valve Dis. 2003 Mar;12(2):136-41. X-1,X-6
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2294. Osswald BR, Tochtermann U, Thomas G, et al. Influence of follow-up response on risk-factor analysis. Thorac Cardiovasc Surg. 1999 Feb;47(1):32-7. X-1,X-8
2295. Ostman-Smith I, Wettrell G, Keeton B, et al. Echocardiographic and electrocardiographic identification of those children with hypertrophic cardiomyopathy who should be

considered at high-risk of dying suddenly. Cardiol Young. 2005 Dec;15(6):632-42. X-1,X-7,X-8
2296. Ostrom MP, Gopal A, Ahmadi N, et al. Mortality incidence and the severity of coronary atherosclerosis assessed by computed tomography angiography. J Am Coll Cardiol. 2008 Oct 14;52(16):1335-43. X-1,X-2,X-8
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2300. Otsuka T, Kawada T, Katsumata M, et al. Utility of second derivative of the finger photoplethysmogram for the estimation of the risk of coronary heart disease in the general population. Circ J. 2006 Mar;70(3):304-10. X-1,X-5,X-6, (Japan)
2301. Otsuka T, Kawada T, Katsumata M, et al. High-sensitivity C-reactive protein is associated with the risk of coronary heart disease as estimated by the Framingham Risk Score in middle-aged Japanese men. Int J Cardiol. 2008 Sep 26;129(2):245-50. X-1,X-2,X-5,X-6
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2304. Ottesen MM, Dixen U, Torp-Pedersen C, et al. Prehospital behaviour of patients admitted with acute coronary syndrome or witnessed cardiac arrest. Scand Cardiovasc J. 2003 Jun;37(3):141-8. X-1,X-2,X-5,X-6,X-8
2305. Otto SJ, Schroder FH and de Koning HJ. Risk of cardiovascular mortality in prostate cancer patients in the Rotterdam randomized screening trial. J Clin Oncol. 2006 Sep 1;24(25):4184-9. X-1,X-2,X-5,X-8(~35%)
2306. Ouattara A, Niculescu M, Ghazouani S, et al. Predictive performance and variability of the cardiac anesthesia risk evaluation score. Anesthesiology. 2004 Jun;100(6):1405-10. X-1
2307. Oudin A, Bjork J and Stromberg U. Efficiency of two-phase methods with focus on a planned population-based case-control study on air pollution and stroke. Environ Health. 2007;6:34. X-1,X-2,X-5
2308. Ouzounian M, Lee DS, Gramolini AO, et al. Predict, prevent and personalize: Genomic and proteomic approaches to cardiovascular medicine. Can J Cardiol. 2007 Aug;23 Suppl A:28A-33A. X-4,X-5
2309. Ovbiagele B, Lynn MJ, Saver JL, et al. Leukocyte count and vascular risk in symptomatic intracranial atherosclerosis. Cerebrovasc Dis. 2007;24(2-3):283-8. X-1,X-2
2310. Overgaard CB, Ivanov J, Seidelin PH, et al. Thrombocytopenia at baseline is a predictor of inhospital mortality in patients undergoing percutaneous coronary intervention. Am Heart J. 2008 Jul;156(1):120-4. X-1,X-2,X-6,X-8

2311. Ozer N, Kilic H, Arslan U, et al. Echocardiographic predictors of left atrial appendage spontaneous echocontrast in patients with stroke and atrial fibrillation. J Am Soc Echocardiogr. 2005 Dec;18(12):1362-5. X-1,X-5,X-6,X-7,X-8
2312. Ozgun M, Rink M, Hoffmeier A, et al. Intraindividual comparison of 3D coronary MR angiography and coronary CT angiography. Acad Radiol. 2007 Aug;14(8):910-6. X-1,X-2,X-5,X-6,X-7
2313. Pacanowski MA, Gong Y, Cooper-Dehoff RM, et al. beta-adrenergic receptor gene polymorphisms and beta-blocker treatment outcomes in hypertension. Clin Pharmacol Ther. 2008 Dec;84(6):715-21. X-1,X-2,X-6,X-8
2314. Pacanowski MA, Zineh I, Li H, et al. Adrenergic gene polymorphisms and cardiovascular risk in the NHLBI-sponsored Women's Ischemia Syndrome Evaluation. J Transl Med. 2008;6:11. X-1,X-2
2315. Pacileo M, Cirillo P, De Rosa S, et al. The role of neopterin in cardiovascular disease. Monaldi Arch Chest Dis. 2007 Jun;68(2):68-73. X-1,X-2,X-4,X-5
2316. Pacini D, Ranocchi F, Angeli E, et al. Aortic root replacement with composite valve graft. Ann Thorac Surg. 2003 Jul;76(1):90-8. X-1,X-6,X-8
2317. Packard CJ, Ford I, Robertson M, et al. Plasma lipoproteins and apolipoproteins as predictors of cardiovascular risk and treatment benefit in the PROspective Study of Pravastatin in the Elderly at Risk (PROSPER). Circulation. 2005 Nov 15;112(20):3058-65. X-3,X-4,X-5
2318. Painter PL, Hector L, Ray K, et al. Effects of exercise training on coronary heart disease risk factors in renal transplant recipients. Am J Kidney Dis. 2003 Aug;42(2):362-9. X-1,X-2,X-6,X-7
2319. Palatini P. Exercise testing in asymptomatic subjects: from diagnostic test to prognostic tool? Eur Heart J. 2008 Aug;29(15):1803-6. X-2,X-4,X-5,X-6,X-7,X-8,X-9
2320. Palazzuoli A, Deckers J, Calabro A, et al. Brain natriuretic peptide and other risk markers for outcome assessment in patients with non-ST-elevation coronary syndromes and preserved systolic function. Am J Cardiol. 2006 Nov 15;98(10):1322-8. X-1,X-2,X-8
2321. Palazzuoli A, Iovine F, Gallotta M, et al. Emerging cardiac markers in coronary disease: role of brain natriuretic peptide and other biomarkers. Minerva Cardioangiol. 2007 Aug;55(4):491-6. X-1,X-2,X-4,X-5,X-6
2322. Palmas W, Pickering TG, Teresi J, et al. Ambulatory blood pressure monitoring and all-cause mortality in elderly people with diabetes mellitus. Hypertension. 2009 Feb;53(2):120-7. X-1,X-2
2323. Palmerini T, Marzocchi A, Marrozzini C, et al. Preoperative C-reactive protein levels predict 9-month mortality after coronary artery bypass grafting surgery for the treatment of left main coronary artery stenosis. Eur J Cardiothorac Surg. 2007 Apr;31(4):685-90. X-1,X-7,X-8
2324. Palombo D, Vola M, Lucertini G, et al. Cardiac risk assessment of asymptomatic patients by stress echocardiography before infrarenal aortic aneurysm surgery. J Cardiovasc Surg (Torino). 2005 Feb;46(1):31-6. X-1,X-5,X-7
2325. Panagiotakos DB, Fitzgerald AP, Pitsavos C, et al. Statistical modelling of 10-year fatal cardiovascular disease risk in Greece: the HellenicSCORE (a calibration of the ESC SCORE project). Hellenic J Cardiol. 2007 Mar-Apr;48(2):55-63. X-2,X-5,X-6
2326. Panagiotakos DB, Pitsavos C, Arvaniti F, et al. Adherence to the Mediterranean food pattern predicts the prevalence of hypertension, hypercholesterolemia, diabetes and obesity,

among healthy adults; the accuracy of the MedDietScore. Prev Med. 2007 Apr;44(4):335-40. X-1,X-5,X-6
2327. Panagiotakos DB and Stavrinos V. Methodological issues in cardiovascular epidemiology: the risk of determining absolute risk through statistical models. Vasc Health Risk Manag. 2006;2(3):309-15. X-2,X-4,X-5,X-6,X-7,X-8
2328. Paniagua R, Amato D, Mujais S, et al. Predictive value of brain natriuretic peptides in patients on peritoneal dialysis: results from the ADEMEX trial. Clin J Am Soc Nephrol. 2008 Mar;3(2):407-15. X-1,X-2,X-6
2329. Panico S, Palmieri L, Donfrancesco C, et al. Preventive potential of body mass reduction to lower cardiovascular risk: the Italian Progetto CUORE study. Prev Med. 2008 Jul;47(1):53-60. X-1,X-2
2330. Paolucci S, Bragoni M, Coiro P, et al. Quantification of the probability of reaching mobility independence at discharge from a rehabilitation hospital in nonwalking early ischemic stroke patients: a multivariate study. Cerebrovasc Dis. 2008;26(1):16-22. X-1,X-6,X-8
2331. Papa A, Emdin M, Passino C, et al. Predictive value of elevated neutrophil-lymphocyte ratio on cardiac mortality in patients with stable coronary artery disease. Clin Chim Acta. 2008 Sep;395(1-2):27-31. X-1,X-2,X-8
2332. Papademetriou V, Piller LB, Ford CE, et al. Characteristics and lipid distribution of a large, high-risk, hypertensive population: the lipid-lowering component of the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). J Clin Hypertens (Greenwich). 2003 Nov-Dec;5(6):377-84. X-1,X-6,X-8
2333. Papaioannou GI and Heller GV. Risk assessment by myocardial perfusion imaging for coronary revascularization, medical therapy, and noncardiac surgery. Cardiol Rev. 2003 Mar-Apr;11(2):60-72. X-1,X-4
2334. Papaioannou GI, Seip RL, Grey NJ, et al. Brachial artery reactivity in asymptomatic patients with type 2 diabetes mellitus and microalbuminuria (from the Detection of Ischemia in Asymptomatic Diabetics-brachial artery reactivity study). Am J Cardiol. 2004 Aug 1;94(3):294-9. X-1,X-5,X-6,X-7
2335. Papathanasiou A, Milionis H, Toumpoulis I, et al. Smoking cessation is associated with reduced long-term mortality and the need for repeat interventions after coronary artery bypass grafting. Eur J Cardiovasc Prev Rehabil. 2007 Jun;14(3):448-50. X-1,X-6,X-8
2336. Paramo JA, Beloqui O, Roncal C, et al. Validation of plasma fibrinogen as a marker of carotid atherosclerosis in subjects free of clinical cardiovascular disease. Haematologica. 2004 Oct;89(10):1226-31. X-1,X-2,X-5,X-6
2337. Paraskevaidis IA, Tsiapras DP, Karavolias GK, et al. Doppler-derived left ventricular end-diastolic pressure prediction model using the combined analysis of mitral and pulmonary A waves in patients with coronary artery disease and preserved left ventricular systolic function. Am J Cardiol. 2002 Oct 1;90(7):720-4. X-1,X-5,X-6,X-7
2338. Paraskevas KI, Bessias N, Papas TT, et al. Is high-sensitivity C-reactive protein associated with subclinical peripheral atherosclerosis? Angiology. 2009 Feb-Mar;60(1):8-11. X-1
2339. Paraskevas S, Huizinga JD and Loos BG. A systematic review and meta-analyses on C-reactive protein in relation to periodontitis. J Clin Periodontol. 2008 Apr;35(4):277-90. X-1,X-2,X-4,X-5,X-6

Appendix O. List of Excluded Studies

2340. Parikh NI, Hwang SJ, Larson MG, et al. Chronic kidney disease as a predictor of cardiovascular disease (from the Framingham Heart Study). Am J Cardiol. 2008 Jul 1;102(1):47-53. X-1F,X-2,X-8
2341. Park HK, Ahn HS, Yoon SJ, et al. Comparing risk-adjusted hospital mortality for CABG and AMI patients. J Int Med Res. 2005 Jul-Aug;33(4):425-33. X-1,X-8
2342. Park HK, Yoon SJ, Ahn HS, et al. Comparison of risk-adjustment models using administrative or clinical data for outcome prediction in patients after myocardial infarction or coronary bypass surgery in Korea. Int J Clin Pract. 2007 Jul;61(7):1086-90. X-1,X-6,X-8
2343. Park JW, Leithauser B, Hill P, et al. Resting magnetocardiography predicts 3-year mortality in patients presenting with acute chest pain without ST segment elevation. Ann Noninvasive Electrocardiol. 2008 Apr;13(2):171-9. X-1D,X-2,X-6,X-8, (Various Countries)
2344. Park KW. Tests of myocardial function: echocardiography and nuclear medicine studies. Int Anesthesiol Clin. 2001 Fall;39(4):11-9. X-1
2345. Parodi G, Carrabba N, Santoro GM, et al. Heart failure and left ventricular remodeling after reperfused acute myocardial infarction in patients with hypertension. Hypertension. 2006 Apr;47(4):706-10. X-1,X-6,X-8
2346. Parodi G, Memisha G, Carrabba N, et al. Prevalence, predictors, time course, and long-term clinical implications of left ventricular functional recovery after mechanical reperfusion for acute myocardial infarction. Am J Cardiol. 2007 Dec 15;100(12):1718-22. X-1,X-6,X-8
2347. Parra O, Arboix A, Montserrat JM, et al. Sleep-related breathing disorders: impact on mortality of cerebrovascular disease. Eur Respir J. 2004 Aug;24(2):267-72. X-1,X-2,X-7
2348. Partan G, Mayrhofer R, Urban M, et al. Diagnostic performance of liquid crystal and cathode-ray-tube monitors in brain computed tomography. Eur Radiol. 2003 Oct;13(10):2397-401. X-1,X-6,X-8
2349. Pasqualini L, Schillaci G, Pirro M, et al. Renal dysfunction predicts long-term mortality in patients with lower extremity arterial disease. J Intern Med. 2007 Dec;262(6):668-77. X-1E,X-1F,X-6
2350. Patel DA, Srinivasan SR, Xu JH, et al. Adiponectin and its correlates of cardiovascular risk in young adults: the Bogalusa Heart Study. Metabolism. 2006 Nov;55(11):1551-7. X-1,X-2,X-5,X-6
2351. Patel ND, Nwakanma LU, Weiss ES, et al. Impact of septal myocardial infarction on outcomes after surgical ventricular restoration. Ann Thorac Surg. 2008 Jan;85(1):135-45; discussion 145-6. X-1,X-2,X-5,X-6,X-7,X-8
2352. Paterson JM, Llewellyn-Thomas HA and Naylor CD. Using disease risk estimates to guide risk factor interventions: field test of a patient workbook for self-assessing coronary risk. Health Expect. 2002 Mar;5(1):3-15. X-2,X-6,X-7
2353. Patrono C and Rocca B. Aspirin: promise and resistance in the new millennium. Arterioscler Thromb Vasc Biol. 2008 Mar;28(3):s25-32. X-1,X-2,X-4,X-5
2354. Patterson RE, Frank LL, Kristal AR, et al. A comprehensive examination of health conditions associated with obesity in older adults. Am J Prev Med. 2004 Dec;27(5):385-90. X-1,X-2,X-5,X-8
2355. Paul M, Raz A, Leibovici L, et al. Sternal wound infection after coronary artery bypass graft surgery: validation of existing risk scores. J Thorac Cardiovasc Surg. 2007 Feb;133(2):397-403. X-1,X-2,X-6,X-8

Appendix O. List of Excluded Studies

2356. Pavlakis SG, Kingsley PB, Harper R, et al. Correlation of basal ganglia magnetic resonance spectroscopy with Apgar score in perinatal asphyxia. Arch Neurol. 1999 Dec;56(12):1476-81. X-1,X-6,X-7,X-8
2357. Pavlovic M, Corovic N, Gomzi M, et al. Smoking habits, signs of chronic diseases and survival in inland and coastal regions of Croatia: a follow-up study. Coll Antropol. 2004 Dec;28(2):689-700. X-1
2358. Payne JR, Dhamrait SS, Toor IS, et al. The -344T>C promoter variant of the gene for aldosterone synthase (CYP11B2) is not associated with cardiovascular risk in a prospective study of UK healthy men. Atherosclerosis. 2004 May;174(1):81-6. X-1,X-2
2359. Peacock F, Morris DL, Anwaruddin S, et al. Meta-analysis of ischemia-modified albumin to rule out acute coronary syndromes in the emergency department. Am Heart J. 2006 Aug;152(2):253-62. X-1,X-4
2360. Peacock WI, Emerman CL, McErlean ES, et al. Prediction of short- and long-term outcomes by troponin T levels in low-risk patients evaluated for acute coronary syndromes. Ann Emerg Med. 2000 Mar;35(3):213-20. X-1F,X-8
2361. Pearce DC, Cadilhac DA, Pierce RJ, et al. Estimating the prevalence of sleep-disordered breathing in community-based, long-term stroke survivors using a validated predictive model. Cerebrovasc Dis. 2008;26(4):441-6. X-1,X-2,X-6,X-8
2362. Pearce LA, Hart RG and Halperin JL. Assessment of three schemes for stratifying stroke risk in patients with nonvalvular atrial fibrillation. Am J Med. 2000 Jul;109(1):45-51. X-2
2363. Pearson TA. New tools for coronary risk assessment: what are their advantages and limitations? Circulation. 2002 Feb 19;105(7):886-92. X-2,X-4,X-5,X-6,X-7,X-8
2364. Pearson TA, Blair SN, Daniels SR, et al. AHA Guidelines for Primary Prevention of Cardiovascular Disease and Stroke: 2002 Update: Consensus Panel Guide to Comprehensive Risk Reduction for Adult Patients Without Coronary or Other Atherosclerotic Vascular Diseases. American Heart Association Science Advisory and Coordinating Committee. Circulation. 2002 Jul 16;106(3):388-91. X-4
2365. Pedersen PM, Vinter K and Olsen TS. Aphasia after stroke: type, severity and prognosis. The Copenhagen aphasia study. Cerebrovasc Dis. 2004;17(1):35-43. X-1,X-8
2366. Pedersen SS and Denollet J. Validity of the Type D personality construct in Danish post-MI patients and healthy controls. J Psychosom Res. 2004 Sep;57(3):265-72. X-1,X-2,X-5,X-6,X-8
2367. Pedersen SS, Denollet J, Ong AT, et al. Adverse clinical events in patients treated with sirolimus-eluting stents: the impact of Type D personality. Eur J Cardiovasc Prev Rehabil. 2007 Feb;14(1):135-40. X-1,X-8
2368. Pedone C, Bax JJ, van Domburg RT, et al. Long-term prognostic value of ejection fraction changes during dobutamine-atropine stress echocardiography. Coron Artery Dis. 2005 Aug;16(5):309-13. X-1,X-7,X-8
2369. Pedone C, Elhendy A, Biagini E, et al. Prognostic significance of myocardial ischemia by dobutamine stress echocardiography in patients without angina pectoris after coronary revascularization. Am J Cardiol. 2008 Nov 1;102(9):1156-8. X-1,X-2,X-8
2370. Pedone C, Schinkel AF, Elhendy A, et al. Incremental prognostic value of dobutamine-atropine stress 99mTc-tetrofosmin myocardial perfusion imaging for predicting outcome in diabetic patients with limited exercise capacity. Eur J Nucl Med Mol Imaging. 2005 Sep;32(9):1057-63. X-1,X-7

Appendix O. List of Excluded Studies

2371. Pedreno J, Fernandez R, Ballester A, et al. Lack of association of serum lipoprotein (a) levels with type-2 diabetes mellitus in patients with angiographically defined coronary artery disease. Int J Cardiol. 2000 Jul 31;74(2-3):159-67. X-5,X-6,X-8
2372. Pelfrene E, Leynen F, Mak RP, et al. Relationship of perceived job stress to total coronary risk in a cohort of working men and women in Belgium. Eur J Cardiovasc Prev Rehabil. 2003 Oct;10(5):345-54. X-5
2373. Pelter MM, Adams MG and Drew BJ. Transient myocardial ischemia is an independent predictor of adverse in-hospital outcomes in patients with acute coronary syndromes treated in the telemetry unit. Heart Lung. 2003 Mar-Apr;32(2):71-8. X-1,X-5,X-6,X-8
2374. Pencina MJ, D'Agostino RB, Sr., D'Agostino RB, Jr., et al. Evaluating the added predictive ability of a new marker: from area under the ROC curve to reclassification and beyond. Stat Med. 2008 Jan 30;27(2):157-72; discussion 207-12. X-1
2375. Penckofer S, Filliung DR and Labropoulos N. Non-invasive cardiovascular risk assessment in women with type 2 diabetes. J Vasc Nurs. 2005 Mar;23(1):2-7; quiz 8-9. X-1,X-5,X-7
2376. Pepine CJ. An ischemia-guided approach for risk stratification in patients with acute coronary syndromes. Am J Cardiol. 2000 Dec 28;86(12B):27M-35M. X-8
2377. Pepys MB and Hirschfield GM. C-reactive protein and atherothrombosis. Ital Heart J. 2001 Mar;2(3):196-9. X-1
2378. Perers E, From Attebring M, Caidahl K, et al. Low risk is associated with poorer quality of life than high risk following acute coronary syndrome. Coron Artery Dis. 2006 Sep;17(6):501-10. X-1,X-6,X-8
2379. Perez M, Casas JP, Cubillos-Garzon LA, et al. Using waist circumference as a screening tool to identify Colombian subjects at cardiovascular risk. Eur J Cardiovasc Prev Rehabil. 2003 Oct;10(5):328-35. X-1,X-5,X-7
2380. Perez MV, Yaw TS, Myers J, et al. Prognostic value of the computerized ECG in Hispanics. Clin Cardiol. 2007 Apr;30(4):189-94. X-1,X-2
2381. Perkiomaki JS, Jokinen V, Tapanainen J, et al. Autonomic markers as predictors of nonfatal acute coronary events after myocardial infarction. Ann Noninvasive Electrocardiol. 2008 Apr;13(2):120-9. X-1,X-8
2382. Perry JJ, Stiell IG, Wells GA, et al. Attitudes and judgment of emergency physicians in the management of patients with acute headache. Acad Emerg Med. 2005 Jan;12(1):33-7. X-1,X-6
2383. Persson GR, Persson RE, MacEntee CI, et al. Periodontitis and perceived risk for periodontitis in elders with evidence of depression. J Clin Periodontol. 2003 Aug;30(8):691-6. X-1,X-2,X-5,X-6
2384. Persson M, Carlberg B, Weinehall L, et al. Risk stratification by guidelines compared with risk assessment by risk equations applied to a MONICA sample. J Hypertens. 2003 Jun;21(6):1089-95. X-2
2385. Persson M, Hedblad B, Nelson JJ, et al. Elevated Lp-PLA2 levels add prognostic information to the metabolic syndrome on incidence of cardiovascular events among middle-aged nondiabetic subjects. Arterioscler Thromb Vasc Biol. 2007 Jun;27(6):1411-6. X-1E,X-1F,X-2
2386. Perticone F, Ceravolo R, Pujia A, et al. Prognostic significance of endothelial dysfunction in hypertensive patients. Circulation. 2001 Jul 10;104(2):191-6. X-1F,X-2

Appendix O. List of Excluded Studies

2387. Peters A, Dockery DW, Muller JE, et al. Increased particulate air pollution and the triggering of myocardial infarction. Circulation. 2001 Jun 12;103(23):2810-5. X-1,X-2,X-5,X-8
2388. Peterson MD, Borger MA, Rao V, et al. Skeletonization of bilateral internal thoracic artery grafts lowers the risk of sternal infection in patients with diabetes. J Thorac Cardiovasc Surg. 2003 Nov;126(5):1314-9. X-1,X-6,X-7,X-8
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2500. Rajakaruna C, Rogers CA, Suranimala C, et al. The effect of diabetes mellitus on patients undergoing coronary surgery: a risk-adjusted analysis. J Thorac Cardiovasc Surg. 2006 Oct;132(4):802-10. X-1,X-8
2501. Rajappan K, Murphy E, Amber V, et al. Usage of troponin in the real world: a lesson for the introduction of biochemical assays. QJM. 2005 May;98(5):337-42. X-1,X-2,X-5,X-6,X-7,X-8
2502. Rajasekhar D, Srinivasa Rao PV, Latheef SA, et al. Association of serum antioxidants and risk of coronary heart disease in South Indian population. Indian J Med Sci. 2004 Nov;58(11):465-71. X-1,X-5,X-8
2503. Rakhit DJ, Armstrong KA, Beller E, et al. Risk stratification of patients with chronic kidney disease: results of screening strategies incorporating clinical risk scoring and dobutamine stress echocardiography. Am Heart J. 2006 Aug;152(2):363-70. X-8(31%)
2504. Ramachandran S, French JM, Vanderpump MP, et al. Using the Framingham model to predict heart disease in the United Kingdom: retrospective study. BMJ. 2000 Mar 11;320(7236):676-7. X-2
2505. Ramachandran S and Labib MH. Hyperlipidaemia and primary prevention of coronary heart disease: are the right patients being treated? J Cardiovasc Risk. 2000 Aug;7(4):245-9. X-1,X-6
2506. Ramadan MM, Mahfouz EM, Gomaa GF, et al. Evaluation of coronary calcium score by multidetector computed tomography in relation to endothelial function and inflammatory markers in asymptomatic individuals. Circ J. 2008 May;72(5):778-85. X-1,X-2,X-5,X-6,X-7
2507. Ramakrishna G, Miller TD, Breen JF, et al. Relationship and prognostic value of coronary artery calcification by electron beam computed tomography to stress-induced ischemia by single photon emission computed tomography. Am Heart J. 2007 May;153(5):807-14. X-1,X-8

Appendix O. List of Excluded Studies

2508. Raman J, Ishikawa S, Storer MM, et al. Surgical radiofrequency ablation of both atria for atrial fibrillation: results of a multicenter trial. J Thorac Cardiovasc Surg. 2003 Nov;126(5):1357-66. X-1,X-6,X-7
2509. Ramsay G, Podogrodzka M, McClure C, et al. Risk prediction in patients presenting with suspected cardiac pain: the GRACE and TIMI risk scores versus clinical evaluation. QJM. 2007 Jan;100(1):11-8. X-1C,X-1D,X-8,7-49%)
2510. Ramsey SD, Clarke LD, Roberts CS, et al. An economic evaluation of atorvastatin for primary prevention of cardiovascular events in type 2 diabetes. Pharmacoeconomics. 2008;26(4):329-39. X-1,X-2,X-4,X-5,X-6,X-7
2511. Rankin JS, Hammill BG, Ferguson TB, Jr., et al. Determinants of operative mortality in valvular heart surgery. J Thorac Cardiovasc Surg. 2006 Mar;131(3):547-57. X-1,X-2,X-5,X-6,X-8
2512. Rantanen T, Volpato S, Ferrucci L, et al. Handgrip strength and cause-specific and total mortality in older disabled women: exploring the mechanism. J Am Geriatr Soc. 2003 May;51(5):636-41. X-1,X-5,X-6
2513. Rao C, Stanbridge Rde L, Chikwe J, et al. Does previous percutaneous coronary stenting compromise the long-term efficacy of subsequent coronary artery bypass surgery? A microsimulation study. Ann Thorac Surg. 2008 Feb;85(2):501-7. X-1,X-2,X-4,X-5,X-6,X-7
2514. Rao SV, Schulman KA, Curtis LH, et al. Socioeconomic status and outcome following acute myocardial infarction in elderly patients. Arch Intern Med. 2004 May 24;164(10):1128-33. X-1,X-2,X-6,X-8
2515. Rathore SS, Mehta RH, Wang Y, et al. Effects of age on the quality of care provided to older patients with acute myocardial infarction. Am J Med. 2003 Mar;114(4):307-15. X-1,X-6,X-8
2516. Rathore SS, Weinfurt KP, Gross CP, et al. Validity of a simple ST-elevation acute myocardial infarction risk index: are randomized trial prognostic estimates generalizable to elderly patients? Circulation. 2003 Feb 18;107(6):811-6. X-1,X-6,X-8
2517. Rautaharju PM, Kooperberg C, Larson JC, et al. Electrocardiographic abnormalities that predict coronary heart disease events and mortality in postmenopausal women: the Women's Health Initiative. Circulation. 2006 Jan 31;113(4):473-80. X-1D,X-2,X-8(6.7%)
2518. Rautaharju PM, Prineas RJ, Wood J, et al. Electrocardiographic predictors of new-onset heart failure in men and in women free of coronary heart disease (from the Atherosclerosis in Communities [ARIC] Study). Am J Cardiol. 2007 Nov 1;100(9):1437-41. X-1D,X-1F,X-2,X-6
2519. Ravera M, Ratto E, Vettoretti S, et al. Microalbuminuria and subclinical cerebrovascular damage in essential hypertension. J Nephrol. 2002 Sep-Oct;15(5):519-24. X-1,X-5,X-6,X-7
2520. Ray JA, Boye KS, Yurgin N, et al. Exenatide versus insulin glargine in patients with type 2 diabetes in the UK: a model of long-term clinical and cost outcomes. Curr Med Res Opin. 2007 Mar;23(3):609-22. X-1,X-5,X-6
2521. Rea TD, Heckbert SR, Kaplan RC, et al. Body mass index and the risk of recurrent coronary events following acute myocardial infarction. Am J Cardiol. 2001 Sep 1;88(5):467-72. X-1,X-8
2522. Redberg RF and Shaw LJ. A review of electron beam computed tomography: implications for coronary artery disease screening. Prev Cardiol. 2002 Spring;5(2):71-8. X-1,X-2,X-4,X-5,X-6,X-7,X-8

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2523. Redgrave JN, Coutts SB, Schulz UG, et al. Systematic review of associations between the presence of acute ischemic lesions on diffusion-weighted imaging and clinical predictors of early stroke risk after transient ischemic attack. Stroke. 2007 May;38(5):1482-8. X-1,X-2,X-4,X-5
2524. Redgrave JN, Schulz UG, Briley D, et al. Presence of acute ischaemic lesions on diffusion-weighted imaging is associated with clinical predictors of early risk of stroke after transient ischaemic attack. Cerebrovasc Dis. 2007;24(1):86-90. X-1,X-5,X-6
2525. Reed JF, 3rd and Olenchock SA, Jr. Comparative analysis of risk-adjusted bypass surgery stratification models in a community hospital. Heart Lung. 2003 Nov-Dec;32(6):383-90. X-1,X-8
2526. Reeves SW, Tielsch JM, Katz J, et al. A self-administered health questionnaire for the preoperative risk stratification of patients undergoing cataract surgery. Am J Ophthalmol. 2003 May;135(5):599-606. X-1,X-6
2527. Reilly MP, Wolfe ML, Localio AR, et al. Coronary artery calcification and cardiovascular risk factors: impact of the analytic approach. Atherosclerosis. 2004 Mar;173(1):69-78. X-1,X-6
2528. Reinecke H, Regetmeier A, Matzkies F, et al. Even moderate chronic renal failure is associated with impaired acute and long-term outcome after coronary angioplasty. Nephrology (Carlton). 2003 Jun;8(3):110-5. X-1,X-5,X-6,X-7,X-8
2529. Reinhard W, Holmer SR, Fischer M, et al. Association of the metabolic syndrome with early coronary disease in families with frequent myocardial infarction. Am J Cardiol. 2006 Apr 1;97(7):964-7. X-1F,X-2, (Germany)
2530. Reiter M, Effenberger I, Sabeti S, et al. Increasing carotid plaque echolucency is predictive of cardiovascular events in high-risk patients. Radiology. 2008 Sep;248(3):1050-5. X-6
2531. Reiter M, Wirth S, Pourazim A, et al. Skin cholesterol: test performance, evaluation of potential determinants and correlation analysis with cardiovascular risk factors and circulating markers of inflammation. Vasa. 2006 Aug;35(3):167-73. X-1,X-5,X-6
2532. Rejeski WJ, Foy CG, Brawley LR, et al. Older adults in cardiac rehabilitation: a new strategy for enhancing physical function. Med Sci Sports Exerc. 2002 Nov;34(11):1705-13. X-1,X-2,X-6,X-7
2533. Reker DM, Rosen AK, Hoenig H, et al. The hazards of stroke case selection using administrative data. Med Care. 2002 Feb;40(2):96-104. X-1,X-5,X-8
2534. Renew DC, Cook RF and Ball MC. A method for assessing occupational exposure to power-frequency magnetic fields for electricity generation and transmission workers. J Radiol Prot. 2003 Sep;23(3):279-303. X-1,X-5,X-6
2535. Renvert S, Ohlsson O, Persson S, et al. Analysis of periodontal risk profiles in adults with or without a history of myocardial infarction. J Clin Periodontol. 2004 Jan;31(1):19-24. X-1,X-2,X-5,X-6,X-7,X-8
2536. Resnic FS, Ohno-Machado L, Selwyn A, et al. Simplified risk score models accurately predict the risk of major in-hospital complications following percutaneous coronary intervention. Am J Cardiol. 2001 Jul 1;88(1):5-9. X-1,X-6,X-8
2537. Resnic FS, Popma JJ and Ohno-Machado L. Development and evaluation of models to predict death and myocardial infarction following coronary angioplasty and stenting. Proc AMIA Symp. 2000:690-3. X-8
2538. Reuter NP, Charette SD and Sticca RP. Cerebral protection during carotid endarterectomy. Am J Surg. 2004 Dec;188(6):772-7. X-1,X-2,X-8

2539. Reuveni H, Greenberg-Dotan S, Simon-Tuval T, et al. Elevated healthcare utilisation in young adult males with obstructive sleep apnoea. Eur Respir J. 2008 Feb;31(2):273-9. X-1,X-2,X-5,X-6
2540. Rexius H, Brandrup-Wognsen G, Oden A, et al. Gender and mortality risk on the waiting list for coronary artery bypass grafting. Eur J Cardiothorac Surg. 2004 Sep;26(3):521-7. X-1,X-6,X-8
2541. Reynolds TM, Twomey P and Wierzbicki AS. Accuracy of cardiovascular risk estimation for primary prevention in patients without diabetes. J Cardiovasc Risk. 2002 Aug;9(4):183-90. X-1,X-5,X-6,X-7,X-8
2542. Reynolds TM, Twomey PJ and Wierzbicki AS. Concordance evaluation of coronary risk scores: implications for cardiovascular risk screening. Curr Med Res Opin. 2004 Jun;20(6):811-8. X-5,X-6
2543. Ribeiro JC, Guerra S, Oliveira J, et al. Body fatness and clustering of cardiovascular disease risk factors in Portuguese children and adolescents. Am J Hum Biol. 2004 Sep-Oct;16(5):556-62. X-1,X-5,X-6
2544. Ribeiro JC, Guerra S, Oliveira J, et al. Physical activity and biological risk factors clustering in pediatric population. Prev Med. 2004 Sep;39(3):596-601. X-1,X-5,X-6
2545. Ribera A, Ferreira-Gonzalez I, Cascant P, et al. The EuroSCORE and a local model consistently predicted coronary surgery mortality and showed complementary properties. J Clin Epidemiol. 2008 Jul;61(7):663-70. X-1,X-5,X-6,X-8
2546. Ribera A, Permanyer-Miralda G, Alonso J, et al. Is psychometric scoring of the McNew Quality of Life after Myocardial Infarction questionnaire superior to the clinimetric scoring? A comparison of the two approaches. Qual Life Res. 2006 Apr;15(3):357-65. X-1,X-6,X-8
2547. Richards AM, Nicholls MG, Espiner EA, et al. B-type natriuretic peptides and ejection fraction for prognosis after myocardial infarction. Circulation. 2003 Jun 10;107(22):2786-92. X-1,X-6,X-8
2548. Richardson CR, Kriska AM, Lantz PM, et al. Physical activity and mortality across cardiovascular disease risk groups. Med Sci Sports Exerc. 2004 Nov;36(11):1923-9. X-1,X-2
2549. Richardson K, Engel G, Yamazaki T, et al. Electrocardiographic damage scores and cardiovascular mortality. Am Heart J. 2005 Mar;149(3):458-63. X-1,X-8
2550. Rich-Edwards JW, Kleinman K, Michels KB, et al. Longitudinal study of birth weight and adult body mass index in predicting risk of coronary heart disease and stroke in women. BMJ. 2005 May 14;330(7500):1115. X-1E,X-1F,X-2
2551. Richie RC. Non-invasive assessment of the risk of coronary heart disease. J Insur Med. 2002;34(1):31-42. X-1,X-2,X-4,X-5
2552. Riddell T, Lindsay G, Kenealy T, et al. The accuracy of ethnicity data in primary care and its impact on cardiovascular risk assessment and management--PREDICT CVD-8. N Z Med J. 2008 Sep 5;121(1281):40-8. X-1,X-2,X-5,X-6
2553. Ridker PM. High-sensitivity C-reactive protein: potential adjunct for global risk assessment in the primary prevention of cardiovascular disease. Circulation. 2001 Apr 3;103(13):1813-8. X-4
2554. Ridker PM. Cardiology Patient Page. C-reactive protein: a simple test to help predict risk of heart attack and stroke. Circulation. 2003 Sep 23;108(12):e81-5. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,

2555. Ridker PM and Cook N. Clinical usefulness of very high and very low levels of C-reactive protein across the full range of Framingham Risk Scores. Circulation. 2004 Apr 27;109(16):1955-9. X-1F,X-2
2556. Ridker PM, Rifai N, Rose L, et al. Comparison of C-reactive protein and low-density lipoprotein cholesterol levels in the prediction of first cardiovascular events. N Engl J Med. 2002 Nov 14;347(20):1557-65. X-1F,X-2
2557. Ridker PM, Wilson PW and Grundy SM. Should C-reactive protein be added to metabolic syndrome and to assessment of global cardiovascular risk? Circulation. 2004 Jun 15;109(23):2818-25. X-2,X-4,X-5,X-6
2558. Ridley S. Cardiac scoring systems--what is their value? Anaesthesia. 2003 Oct;58(10):985-91. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2559. Riebel T, Kebelmann-Betzing C, Gotze R, et al. Transcranial Doppler ultrasonography in neurologically asymptomatic children and young adults with sickle cell disease. Eur Radiol. 2003 Mar;13(3):563-70. X-1,X-6,X-7,X-8
2560. Rieber J, Jung P, Koenig A, et al. Five-year follow-up in patients after therapy stratification based on intracoronary pressure measurement. Am Heart J. 2007 Mar;153(3):403-9. X-1,X-7,X-8
2561. Rieck M and Moreland J. The Orpington Prognostic Scale for patients with stroke: reliability and pilot predictive data for discharge destination and therapeutic services. Disabil Rehabil. 2005 Dec 15;27(23):1425-33. X-1,X-6,X-7,X-8
2562. Riedel BJ, Grattan A, Martin CB, et al. Long-term outcome of patients with perioperative myocardial infarction as diagnosed by troponin I after routine surgical coronary artery revascularization. J Cardiothorac Vasc Anesth. 2006 Dec;20(6):781-7. X-1,X-2,X-7,X-8
2563. Rietbrock S, Heeley E, Plumb J, et al. Chronic atrial fibrillation: Incidence, prevalence, and prediction of stroke using the Congestive heart failure, Hypertension, Age >75, Diabetes mellitus, and prior Stroke or transient ischemic attack (CHADS2) risk stratification scheme. Am Heart J. 2008 Jul;156(1):57-64. X-1
2564. Riezebos RK, Ronner E, de Boer BA, et al. Dynamics in N-terminal pro-brain natriuretic peptide concentration in patients with non-ST-elevation acute coronary syndrome. Am Heart J. 2005 Dec;150(6):1255-9. X-1,X-2,X-6,X-7,X-8
2565. Rifai N. C-reactive protein and coronary heart disease: diagnostic and therapeutic implications for primary prevention. Cardiovasc Toxicol. 2001;1(2):153-7. X-2,X-4,X-5,X-6
2566. Rifai N and Ridker PM. High-sensitivity C-reactive protein: a novel and promising marker of coronary heart disease. Clin Chem. 2001 Mar;47(3):403-11. X-2,X-4,X-5,X-6,X-7,X-8
2567. Rigatelli G. Assessing the appropriateness and increasing the yield of renal angiography in patients undergoing coronary angiography: a scoring system. Int J Cardiovasc Imaging. 2006 Apr;22(2):135-9. X-1,X-5,X-6,X-8
2568. Rigatelli G, Cardaioli P, Dell'Avvocata F, et al. Peculiar angiographic predictors of impending left ventricular rupture after primary coronary angioplasty. Cardiovasc Revasc Med. 2008 Oct-Dec;9(4):235-7. X-1X-2,,X-8
2569. Rihal CS, Grill DE, Bell MR, et al. Prediction of death after percutaneous coronary interventional procedures. Am Heart J. 2000 Jun;139(6):1032-8. X-1,X-5,X-8
2570. Riley WA. Cardiovascular risk assessment in individual patients from carotid intimal-medial thickness measurements. Curr Atheroscler Rep. 2004 May;6(3):225-31. X-1,X-2,X-4,X-5,X-6

Appendix O. List of Excluded Studies

2571. Riordan CJ, Engoren M, Zacharias A, et al. Resource utilization in coronary artery bypass operation: does surgical risk predict cost? Ann Thorac Surg. 2000 Apr;69(4):1092-7. X-1,X-6,X-8
2572. Ristow B, Ahmed S, Wang L, et al. Pulmonary regurgitation end-diastolic gradient is a Doppler marker of cardiac status: data from the Heart and Soul Study. J Am Soc Echocardiogr. 2005 Sep;18(9):885-91. X-1,X-5,X-6,X-7,X-8
2573. Roberts EB, Ramnath R, Fallows S, et al. "First-hit" heart attack risk calculators on the world wide web: implications for laypersons and healthcare practitioners. Int J Med Inform. 2008 Jun;77(6):405-12. X-1,X-2,X-5,X-6,X-7,X-8
2574. Roberts MA, MacMillan N, Hare DL, et al. Cardiac troponin levels in asymptomatic patients on the renal transplant waiting list. Nephrology (Carlton). 2006 Oct;11(5):471-6. X-1,X-2,X-5,X-6
2575. Robinson JG, Wallace R, Limacher M, et al. Elderly women diagnosed with nonspecific chest pain may be at increased cardiovascular risk. J Womens Health (Larchmt). 2006 Dec;15(10):1151-60. X-1,X-2,X-8
2576. Rockx MA, Fox SA, Stitt LW, et al. Is obesity a predictor of mortality, morbidity and readmission after cardiac surgery? Can J Surg. 2004 Feb;47(1):34-8. X-1,X-6,X-8
2577. Rodriguez BL, Lau N, Burchfiel CM, et al. Glucose intolerance and 23-year risk of coronary heart disease and total mortality: the Honolulu Heart Program. Diabetes Care. 1999 Aug;22(8):1262-5. X-1F,X-2
2578. Rogowski O, Shapira I, Toker S, et al. Obesity-related correlation between C-reactive protein and the calculated 10-y Framingham Coronary Heart Disease Risk Score. Int J Obes (Lond). 2005 Jul;29(7):772-7. X-1,X-5
2579. Rohde LE, Polanczyk CA, Goldman L, et al. Usefulness of transthoracic echocardiography as a tool for risk stratification of patients undergoing major noncardiac surgery. Am J Cardiol. 2001 Mar 1;87(5):505-9. X-1
2580. Rohrig R, Hartmann B, Junger A, et al. Corrected incidences of co-morbidities - a statistical approach for risk-assessment in anesthesia using an AIMS. J Clin Monit Comput. 2007 Jun;21(3):159-66. X-1,X-6
2581. Rohrig R, Junger A, Hartmann B, et al. The incidence and prediction of automatically detected intraoperative cardiovascular events in noncardiac surgery. Anesth Analg. 2004 Mar;98(3):569-77, table of contents. X-1
2582. Romagnoli E, Burzotta F, Trani C, et al. EuroSCORE as predictor of in-hospital mortality after percutaneous coronary intervention. Heart. 2009 Jan;95(1):43-8. X-1,X-8
2583. Romano PS and Chan BK. Risk-adjusting acute myocardial infarction mortality: are APR-DRGs the right tool? Health Serv Res. 2000 Mar;34(7):1469-89. X-1,X-5,X-6,X-8
2584. Roquer J, Ois A, Rodriguez Campello A, et al. Clustering of vascular risk factors and in-hospital death after acute ischemic stroke. J Neurol. 2007 Dec;254(12):1636-41. X-1,X-6,X-8
2585. Roquer J, Rodriguez Campello A, Gomis M, et al. Previous antiplatelet therapy is an independent predictor of 30-day mortality after spontaneous supratentorial intracerebral hemorrhage. J Neurol. 2005 Apr;252(4):412-6. X-1,X-7
2586. Roques F, Nashef SA, Michel P, et al. Does EuroSCORE work in individual European countries? Eur J Cardiothorac Surg. 2000 Jul;18(1):27-30. X-1,X-6,X-8

2587. Rosamond W, Flegal K, Furie K, et al. Heart disease and stroke statistics--2008 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Circulation. 2008 Jan 29;117(4):e25-146. X-1
2588. Rosato R, Ciccone G, Bo S, et al. Evaluating cardiovascular mortality in type 2 diabetes patients: an analysis based on competing risks Markov chains and additive regression models. J Eval Clin Pract. 2007 Jun;13(3):422-8. X-1F,X-2,X-8
2589. Rosmarakis ES, Prapas SN, Rellos K, et al. Nosocomial infections after off-pump coronary artery bypass surgery: frequency, characteristics, and risk factors. Interact Cardiovasc Thorac Surg. 2007 Dec;6(6):759-67. X-1,X-2,X-6,X-8
2590. Ross MJ, Herrmann HC, Moliterno DJ, et al. Angiographic variables predict increased risk for adverse ischemic events after coronary stenting with glycoprotein IIb/IIIa inhibition: results from the TARGET trial. J Am Coll Cardiol. 2003 Sep 17;42(6):981-8. X-1,X-8
2591. Rossi E, Biasucci LM, Citterio F, et al. Risk of myocardial infarction and angina in patients with severe peripheral vascular disease: predictive role of C-reactive protein. Circulation. 2002 Feb 19;105(7):800-3. X-1,X-7,X-8
2592. Rosvall M, Chaix B, Lynch J, et al. Similar support for three different life course socioeconomic models on predicting premature cardiovascular mortality and all-cause mortality. BMC Public Health. 2006;6:203. X-1,X-6
2593. Roth EJ, Lovell L, Harvey RL, et al. Incidence of and risk factors for medical complications during stroke rehabilitation. Stroke. 2001 Feb;32(2):523-9. X-1,X-6,X-8
2594. Rothenbacher D, Koenig W and Brenner H. Comparison of N-terminal pro-B-natriuretic peptide, C-reactive protein, and creatinine clearance for prognosis in patients with known coronary heart disease. Arch Intern Med. 2006 Dec 11-25;166(22):2455-60. X-1D,X-1F,X-2,X-6,X-8(CABG)(100%)
2595. Rothwell PM, Buchan A and Johnston SC. Recent advances in management of transient ischaemic attacks and minor ischaemic strokes. Lancet Neurol. 2006 Apr;5(4):323-31. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2596. Rothwell PM, Howard SC and Spence JD. Relationship between blood pressure and stroke risk in patients with symptomatic carotid occlusive disease. Stroke. 2003 Nov;34(11):2583-90. X-1,X-6,X-8
2597. Rotstein Z, Mandelzweig L, Lavi B, et al. Does the coronary care unit improve prognosis of patients with acute myocardial infarction? A thrombolytic era study. Eur Heart J. 1999 Jun;20(11):813-8. X-1,X-6,X-8
2598. Roumeguere T, Wespes E, Carpentier Y, et al. Erectile dysfunction is associated with a high prevalence of hyperlipidemia and coronary heart disease risk. Eur Urol. 2003 Sep;44(3):355-9. X-1,X-5,X-8
2599. Roy P, Raya V, Okabe T, et al. Incidence, predictors, and outcomes of post-percutaneous coronary intervention nephropathy in patients with diabetes mellitus and normal baseline serum creatinine levels. Am J Cardiol. 2008 Jun 1;101(11):1544-9. X-1,X-8
2600. Roy P, Torguson R, Okabe T, et al. Comparison between sirolimus- and paclitaxel-eluting stents in complex patient and lesions subsets. Catheter Cardiovasc Interv. 2007 Aug 1;70(2):167-72. X-1,X-5,X-6,X-8
2601. Royston P, Ambler G and Sauerbrei W. The use of fractional polynomials to model continuous risk variables in epidemiology. Int J Epidemiol. 1999 Oct;28(5):964-74. X-1,X-6

Appendix O. List of Excluded Studies

2602. Roze S, Liens D, Palmer A, et al. A health economic model to determine the long-term costs and clinical outcomes of raising low HDL-cholesterol in the prevention of coronary heart disease. Curr Med Res Opin. 2006 Dec;22(12):2549-56. X-1,X-5,X-6
2603. Rubin C, Nolin TD and Himmelfarb J. Are biomarkers useful for assessing cardiovascular risk in patients with chronic kidney disease? Curr Opin Nephrol Hypertens. 2007 Nov;16(6):506-11. X-1,X-2,X-4,X-5
2604. Rubinshtein R, Halon DA, Gaspar T, et al. Usefulness of 64-slice cardiac computed tomographic angiography for diagnosing acute coronary syndromes and predicting clinical outcome in emergency department patients with chest pain of uncertain origin. Circulation. 2007 Apr 3;115(13):1762-8. X-7
2605. Ruel M, Rubens FD, Masters RG, et al. Late incidence and predictors of persistent or recurrent heart failure in patients with aortic prosthetic valves. J Thorac Cardiovasc Surg. 2004 Jan;127(1):149-59. X-1,X-8
2606. Ruiz-Sandoval JL, Chiquete E, Romero-Vargas S, et al. Grading scale for prediction of outcome in primary intracerebral hemorrhages. Stroke. 2007 May;38(5):1641-4. X-1,X-6
2607. Rumberger JA. Cost effectiveness of coronary calcification scanning using electron beam tomography in intermediate and high risk asymptomatic individuals. J Cardiovasc Risk. 2000 Apr;7(2):113-9. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2608. Rumley A, Emberson JR, Wannamethee SG, et al. Effects of older age on fibrin D-dimer, C-reactive protein, and other hemostatic and inflammatory variables in men aged 60-79 years. J Thromb Haemost. 2006 May;4(5):982-7. X-1,X-2,X-6
2609. Rumsfeld JS, MaWhinney S, McCarthy M, Jr., et al. Health-related quality of life as a predictor of mortality following coronary artery bypass graft surgery. Participants of the Department of Veterans Affairs Cooperative Study Group on Processes, Structures, and Outcomes of Care in Cardiac Surgery. JAMA. 1999 Apr 14;281(14):1298-303. X-1,X-6,X-8
2610. Rundek T, Arif H, Boden-Albala B, et al. Carotid plaque, a subclinical precursor of vascular events: the Northern Manhattan Study. Neurology. 2008 Apr 1;70(14):1200-7. X-2,X-8(21.8%)
2611. Ruppert K, Roberts MS, Orchard TJ, et al. Cardiovascular disease risk prediction in type 1 diabetes: accounting for the differences. Diabetes Res Clin Pract. 2007 Nov;78(2):234-7. X-1
2612. Russo A, Grigioni F, Avierinos JF, et al. Thromboembolic complications after surgical correction of mitral regurgitation incidence, predictors, and clinical implications. J Am Coll Cardiol. 2008 Mar 25;51(12):1203-11. X-1,X-2,X-6,X-8
2613. Russo AM, Hafley GE, Lee KL, et al. Racial differences in outcome in the Multicenter UnSustained Tachycardia Trial (MUSTT): a comparison of whites versus blacks. Circulation. 2003 Jul 8;108(1):67-72. X-1,X-6
2614. Russo AM, Stamato NJ, Lehmann MH, et al. Influence of gender on arrhythmia characteristics and outcome in the Multicenter UnSustained Tachycardia Trial. J Cardiovasc Electrophysiol. 2004 Sep;15(9):993-8. X-1,X-6
2615. Rutledge T, Reis SE, Olson M, et al. Socioeconomic status variables predict cardiovascular disease risk factors and prospective mortality risk among women with chest pain. The WISE Study. Behav Modif. 2003 Jan;27(1):54-67. X-1,X-8

Appendix O. List of Excluded Studies

2616. Rutter MK, Wahid ST, McComb JM, et al. Significance of silent ischemia and microalbuminuria in predicting coronary events in asymptomatic patients with type 2 diabetes. J Am Coll Cardiol. 2002 Jul 3;40(1):56-61. X-7
2617. Rutter MK, Wilson PW, Sullivan LM, et al. Use of alternative thresholds defining insulin resistance to predict incident type 2 diabetes mellitus and cardiovascular disease. Circulation. 2008 Feb 26;117(8):1003-9. X-1F
2618. Ryan CJ, DeVon HA, Horne R, et al. Symptom clusters in acute myocardial infarction: a secondary data analysis. Nurs Res. 2007 Mar-Apr;56(2):72-81. X-1,X-2,X-5,X-8
2619. Ryan G, Knuiman MW, Divitini ML, et al. Decline in lung function and mortality: the Busselton Health Study. J Epidemiol Community Health. 1999 Apr;53(4):230-4. X-1,X-6
2620. Saaristo T, Peltonen M, Lindstrom J, et al. Cross-sectional evaluation of the Finnish Diabetes Risk Score: a tool to identify undetected type 2 diabetes, abnormal glucose tolerance and metabolic syndrome. Diab Vasc Dis Res. 2005 May;2(2):67-72. X-1,X-5,X-6
2621. Sabatine MS and Antman EM. The thrombolysis in myocardial infarction risk score in unstable angina/non-ST-segment elevation myocardial infarction. J Am Coll Cardiol. 2003 Feb 19;41(4 Suppl S):89S-95S. X-1,X-6,X-8
2622. Sabatine MS, Januzzi JL, Snapinn S, et al. A risk score system for predicting adverse outcomes and magnitude of benefit with glycoprotein IIb/IIIa inhibitor therapy in patients with unstable angina pectoris. Am J Cardiol. 2001 Sep 1;88(5):488-92. X-1,X-8
2623. Sabatine MS, Ploughman L, Simonsen KL, et al. Association between ADAMTS1 matrix metalloproteinase gene variation, coronary heart disease, and benefit of statin therapy. Arterioscler Thromb Vasc Biol. 2008 Mar;28(3):562-7. X-1,X-2
2624. Sabik JF, 3rd, Lytle BW, Blackstone EH, et al. Does competitive flow reduce internal thoracic artery graft patency? Ann Thorac Surg. 2003 Nov;76(5):1490-6; discussion 1497. X-1,X-6,X-8
2625. Sabri N, Azouz S, Lale E, et al. Initial results, predictors of success, and long-term outcome of primary coronary angioplasty for acute myocardial infarction in a community hospital. Am J Cardiol. 2001 May 1;87(9):1103-5, A9. X-1,X-6,X-8
2626. Sacks FM. The apolipoprotein story. Atheroscler Suppl. 2006 Aug;7(4):23-7. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
2627. Sacks FM, Alaupovic P, Moye LA, et al. VLDL, apolipoproteins B, CIII, and E, and risk of recurrent coronary events in the Cholesterol and Recurrent Events (CARE) trial. Circulation. 2000 Oct 17;102(16):1886-92. X-1,X-8
2628. Saczynski JS, White L, Peila RL, et al. The relation between apolipoprotein A-I and dementia: the Honolulu-Asia aging study. Am J Epidemiol. 2007 May 1;165(9):985-92. X-1,X-6
2629. Sadanandan S, Cannon CP, Gibson CM, et al. A risk score to estimate the likelihood of coronary artery bypass surgery during the index hospitalization among patients with unstable angina and non-ST-segment elevation myocardial infarction. J Am Coll Cardiol. 2004 Aug 18;44(4):799-803. X-1,X-6,X-8
2630. Sadeghi HM, Stone GW, Grines CL, et al. Impact of renal insufficiency in patients undergoing primary angioplasty for acute myocardial infarction. Circulation. 2003 Dec 2;108(22):2769-75. X-1,X-8
2631. Sadrzadeh Rafie AH, Sungar GW, Dewey FE, et al. Prognostic value of double product reserve. Eur J Cardiovasc Prev Rehabil. 2008 Oct;15(5):541-7. X-1,X-2

Appendix O. List of Excluded Studies

2632. Saevarsdottir S, Oskarsson OO, Aspelund T, et al. Mannan binding lectin as an adjunct to risk assessment for myocardial infarction in individuals with enhanced risk. J Exp Med. 2005 Jan 3;201(1):117-25. X-5
2633. Safar ME, Henry O and Meaume S. Aortic pulse wave velocity: an independent marker of cardiovascular risk. Am J Geriatr Cardiol. 2002 Sep-Oct;11(5):295-8. X-2,X-4,X-5,X-6
2634. Saini SD, Schoenfeld P, Fendrick AM, et al. Cost-effectiveness of proton pump inhibitor cotherapy in patients taking long-term, low-dose aspirin for secondary cardiovascular prevention. Arch Intern Med. 2008 Aug 11;168(15):1684-90; discussion 1691. X-1,X-2,X-5,X-6,X-8
2635. Saito S, Tanaka S, Hiroe Y, et al. Angioplasty for chronic total occlusion by using tapered-tip guidewires. Catheter Cardiovasc Interv. 2003 Jul;59(3):305-11. X-1,X-6,X-8
2636. Saitz R, Gaeta J, Cheng DM, et al. Risk of mortality during four years after substance detoxification in urban adults. J Urban Health. 2007 Mar;84(2):272-82. X-1,X-2
2637. Sajadieh A, Nielsen OW, Rasmussen V, et al. Ventricular arrhythmias and risk of death and acute myocardial infarction in apparently healthy subjects of age >or=55 years. Am J Cardiol. 2006 May 1;97(9):1351-7. X-1F,X-2, (Denmark)
2638. Sajadieh A, Nielsen OW, Rasmussen V, et al. Increased ventricular ectopic activity in relation to C-reactive protein, and NT-pro-brain natriuretic peptide in subjects with no apparent heart disease. Pacing Clin Electrophysiol. 2006 Nov;29(11):1188-94. X-1,X-2,X-6,X-8
2639. Sajadieh A, Rasmussen V, Hein HO, et al. Familial predisposition to premature heart attack and reduced heart rate variability. Am J Cardiol. 2003 Jul 15;92(2):234-6. X-1,X-2,X-6
2640. Sakaguchi M, Kitagawa K, Nagai Y, et al. Equivalence of plaque score and intima-media thickness of carotid ultrasonography for predicting severe coronary artery lesion. Ultrasound Med Biol. 2003 Mar;29(3):367-71. X-1,X-6,X-8
2641. Salinas G, Daher IN, Okorodudu AO, et al. B-type natriuretic peptide is not a marker of ischemia during dobutamine stress echocardiography. J Am Soc Echocardiogr. 2007 Jan;20(1):23-6. X-1X-6,,X-7
2642. Salisbury AC, Reid KJ and Spertus JA. Impact of chronic obstructive pulmonary disease on post-myocardial infarction outcomes. Am J Cardiol. 2007 Mar 1;99(5):636-41. X-1,X-8
2643. Salles G, Xavier S, Sousa A, et al. Prognostic value of QT interval parameters for mortality risk stratification in Chagas' disease: results of a long-term follow-up study. Circulation. 2003 Jul 22;108(3):305-12. X-1,X-6,X-8
2644. Salles GF, Xavier SS, Sousa AS, et al. T-wave axis deviation as an independent predictor of mortality in chronic Chagas' disease. Am J Cardiol. 2004 May 1;93(9):1136-40. X-1,X-2
2645. Saloheimo P, Juvela S and Hillbom M. Use of aspirin, epistaxis, and untreated hypertension as risk factors for primary intracerebral hemorrhage in middle-aged and elderly people. Stroke. 2001 Feb;32(2):399-404. X-5,X-8
2646. Samaha FF, Kimmel SE, Kizer JR, et al. Usefulness of the TIMI risk score in predicting both short- and long-term outcomes in the Veterans Affairs Non-Q-Wave Myocardial Infarction Strategies In-Hospital (VANQWISH) Trial. Am J Cardiol. 2002 Nov 1;90(9):922-6. X-1,X-8
2647. San Roman JA, Sanz-Ruiz R, Ortega JR, et al. Safety and predictors of complications with a new accelerated dobutamine stress echocardiography protocol. J Am Soc Echocardiogr. 2008 Jan;21(1):53-7. X-1,X-5,X-6

Appendix O. List of Excluded Studies

2648. Sanches FM, Avesani CM, Kamimura MA, et al. Waist circumference and visceral fat in CKD: a cross-sectional study. Am J Kidney Dis. 2008 Jul;52(1):66-73. X-1,X-2,X-5,X-6,X-7
2649. Sanchis J, Bodi V, Llacer A, et al. Usefulness of C-reactive protein and left ventricular function for risk assessment in survivors of acute myocardial infarction. Am J Cardiol. 2004 Sep 15;94(6):766-9. X-1,X-8
2650. Sanchis J, Bodi V, Nunez J, et al. New risk score for patients with acute chest pain, non-ST-segment deviation, and normal troponin concentrations: a comparison with the TIMI risk score. J Am Coll Cardiol. 2005 Aug 2;46(3):443-9. X-1,X-8
2651. Sanchis J, Bodi V, Nunez J, et al. Limitations of clinical history for evaluation of patients with acute chest pain, non-diagnostic electrocardiogram, and normal troponin. Am J Cardiol. 2008 Mar 1;101(5):613-7. X-1D,X-8(24.40%)
2652. Sanchis J, Bosch X, Bodi V, et al. Combination of clinical risk profile, early exercise testing and circulating biomarkers for evaluation of patients with acute chest pain without ST-segment deviation or troponin elevation. Heart. 2008 Mar;94(3):311-5. X-1
2653. Sanders GD, Al-Khatib SM, Berliner E, et al. Preventing tomorrow's sudden cardiac death today: part II: Translating sudden cardiac death risk assessment strategies into practice and policy. Am Heart J. 2007 Jun;153(6):951-9. X-1,X-2,X-3,X-4,X-5,X-6,X-7,X-8
2654. Sanderson SC, Wardle J, Jarvis MJ, et al. Public interest in genetic testing for susceptibility to heart disease and cancer: a population-based survey in the UK. Prev Med. 2004 Sep;39(3):458-64. X-1,X-2,X-5,X-6
2655. Sangiorgi GM, Clementi F, Cola C, et al. Plaque vulnerability and related coronary event prediction by intravascular ultrasound with virtual histology: "it's a long way to tipperary"? Catheter Cardiovasc Interv. 2007 Aug 1;70(2):203-10. X-1
2656. Santamaria A, Oliver A, Borrell M, et al. Risk of ischemic stroke associated with functional thrombin-activatable fibrinolysis inhibitor plasma levels. Stroke. 2003 Oct;34(10):2387-91. X-1,X-5
2657. Santana CA, Garcia EV, Vansant JP, et al. Three-dimensional color-modulated display of myocardial SPECT perfusion distributions accurately assesses coronary artery disease. J Nucl Med. 2000 Dec;41(12):1941-6. X-1,X-6,X-7,X-8
2658. Santana CA, Shaw LJ, Garcia EV, et al. Incremental prognostic value of left ventricular function by myocardial ECG-gated FDG PET imaging in patients with ischemic cardiomyopathy. J Nucl Cardiol. 2004 Sep-Oct;11(5):542-50. X-1,X-7,X-8
2659. Santopinto J, Gurfinkel EP, Torres V, et al. Prior aspirin users with acute non-ST-elevation coronary syndromes are at increased risk of cardiac events and benefit from enoxaparin. Am Heart J. 2001 Apr;141(4):566-72. X-1
2660. Saribulbul O, Alat I, Coskun S, et al. The role of brain natriuretic peptide in the prediction of cardiac performance in coronary artery bypass grafting. Tex Heart Inst J. 2003;30(4):298-304. X-1,X-2,X-8
2661. Sarker SJ, Heuschmann PU, Burger I, et al. Predictors of survival after haemorrhagic stroke in a multi-ethnic population: the South London Stroke Register (SLSR). J Neurol Neurosurg Psychiatry. 2008 Mar;79(3):260-5. X-1,X-6,X-8
2662. Sarnak MJ, Katz R, Stehman-Breen CO, et al. Cystatin C concentration as a risk factor for heart failure in older adults. Ann Intern Med. 2005 Apr 5;142(7):497-505. X-1,X-6
2663. Sarrafzadegan N, Rabiei K, Shirani S, et al. Drop-out predictors in cardiac rehabilitation programmes and the impact of sex differences among coronary heart disease patients in an

Iranian sample: a cohort study. Clin Rehabil. 2007 Apr;21(4):362-72. X-1,X-5,X-6,X-7,X-8
2664. Sarullo FM, Di Pasquale P, Orlando G, et al. Utility and safety of immediate exercise testing of low-risk patients admitted to the hospital with acute chest pain. Int J Cardiol. 2000 Sep 15;75(2-3):239-43. X-1,X-7,X-8
2665. Sarveswaran J, Ikponmwosa A, Asthana S, et al. Should cardiac troponins be used as a risk stratification tool for patients with chronic critical limb ischaemia? Eur J Vasc Endovasc Surg. 2007 Jun;33(6):703-7. X-1,X-2,X-6,X-7
2666. Sarzynska-Dlugosz I, Nowaczenko M, Blazejewska-Hyzorek B, et al. Echolucent internal carotid artery plaques are a risk factor for stroke. Neurol Neurochir Pol. 2008 Mar-Apr;42(2):91-8. X-1,X-2,X-5,X-6,X-8
2667. Sasaki S, Niwano S, Fukaya H, et al. Clinical usefulness of electrophysiologic study (EPS)-guided risk stratification for life-threatening arrhythmia in patients with heart failure. Int Heart J. 2007 Mar;48(2):155-63. X-1,X-6
2668. Sassi F, McDaid D and Ricciardi W. Conjoint analysis of p s for cardiac risk assessment in primary care. Int J Technol Assess Health Care. 2005 Spring;21(2):211-8. X-1,X-5,X-6
2669. Sato A, Asayama K, Ohkubo T, et al. Optimal cutoff point of waist circumference and use of home blood pressure as a definition of metabolic syndrome: the Ohasama study. Am J Hypertens. 2008 May;21(5):514-20. X-1,X-6
2670. Satoh H, Nishino T, Tomita K, et al. Risk factors and the incidence of coronary artery disease in young middle-aged Japanese men: results from a 10-year cohort study. Intern Med. 2006;45(5):235-9. X-1F,X-2
2671. Satre H, Holmvang L, Wagner GS, et al. Reduction of myocardial damage by prolonged treatment with subcutaneous low molecular weight heparin in unstable coronary artery disease. FRISC study group. Fragmin during Instability in Coronary Artery Disease. Eur Heart J. 1999 May;20(9):645-52. X-1,X-5,X-6
2672. Sattar N. Why metabolic syndrome criteria have not made prime time: a view from the clinic. Int J Obes (Lond). 2008 May;32 Suppl 2:S30-4. X-2,X-4,X-5,X-6,X-7,X-8
2673. Sattar N, Gaw A, Scherbakova O, et al. Metabolic syndrome with and without C-reactive protein as a predictor of coronary heart disease and diabetes in the West of Scotland Coronary Prevention Study. Circulation. 2003 Jul 29;108(4):414-9. X-2
2674. Sattar N and Lowe GD. High sensitivity C-reactive protein and cardiovascular disease: an association built on unstable foundations? Ann Clin Biochem. 2006 Jul;43(Pt 4):252-6. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
2675. Sattar N, McConnachie A, Shaper AG, et al. Can metabolic syndrome usefully predict cardiovascular disease and diabetes? Outcome data from two prospective studies. Lancet. 2008 Jun 7;371(9628):1927-35. X-1F,X-1D,X-2,X-8
2676. Sattar N, Murray HM, McConnachie A, et al. C-reactive protein and prediction of coronary heart disease and global vascular events in the Prospective Study of Pravastatin in the Elderly at Risk (PROSPER). Circulation. 2007 Feb 27;115(8):981-9. X-1D,X-1F,X-2,X-8(~40%)
2677. Sauer WH, Berlin JA, Strom BL, et al. Cigarette yield and the risk of myocardial infarction in smokers. Arch Intern Med. 2002 Feb 11;162(3):300-6. X-2,X-5,X-8
2678. Saumarez RC, Pytkowski M, Sterlinski M, et al. Paced ventricular electrogram fractionation predicts sudden cardiac death in hypertrophic cardiomyopathy. Eur Heart J. 2008 Jul;29(13):1653-61. X-1,X-2,X-7,X-8

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2679. Sauvaget C, Ramadas K, Thomas G, et al. Body mass index, weight change and mortality risk in a prospective study in India. Int J Epidemiol. 2008 Oct;37(5):990-1004. X-1,X-2
2680. Sayeed S, Stanziale SF, Wholey MH, et al. Angiographic lesion characteristics can predict adverse outcomes after carotid artery stenting. J Vasc Surg. 2008 Jan;47(1):81-7. X-1,X-2,X-5,X-6,X-8
2681. Schachinger V and Zeiher AM. Stem cells and cardiovascular and renal disease: today and tomorrow. J Am Soc Nephrol. 2005 Mar;16 Suppl 1:S2-6. X-1,X-2,X-5,X-6,X-7
2682. Schaeffner ES, Kurth T, Bowman TS, et al. Blood pressure measures and risk of chronic kidney disease in men. Nephrol Dial Transplant. 2008 Apr;23(4):1246-51. X-1,X-6
2683. Schaer BA, Zellweger MJ, Cron TA, et al. Value of routine holter monitoring for the detection of paroxysmal atrial fibrillation in patients with cerebral ischemic events. Stroke. 2004 Mar;35(3):e68-70. X-1,X-2,X-5,X-6,X-8
2684. Schelleman H, Klungel OH, Witteman JC, et al. Diuretic-gene interaction and the risk of myocardial infarction and stroke. Pharmacogenomics J. 2007 Oct;7(5):346-52. X-1,X-2
2685. Schett G, Kiechl S, Weger S, et al. High-sensitivity C-reactive protein and risk of nontraumatic fractures in the Bruneck study. Arch Intern Med. 2006 Dec 11-25;166(22):2495-501. X-1,X-2,X-6
2686. Schiano V, Brevetti G, Sirico G, et al. Functional status measured by walking impairment questionnaire and cardiovascular risk prediction in peripheral arterial disease: results of the Peripheral Arteriopathy and Cardiovascular Events (PACE) study. Vasc Med. 2006 Nov;11(3):147-54. X-1
2687. Schiele F, Descotes-Genon V, Seronde MF, et al. Predictive value of admission hyperglycaemia on mortality in patients with acute myocardial infarction. Diabet Med. 2006 Dec;23(12):1370-6. X-1,X-2,X-8
2688. Schiele F, Legalery P, Didier K, et al. Impact of renal dysfunction on 1-year mortality after acute myocardial infarction. Am Heart J. 2006 Mar;151(3):661-7. X-1,X-8
2689. Schiele F, Seronde MF, Descotes-Genon V, et al. Impact of renal dysfunction and glucometabolic status on one month mortality after acute myocardial infarction. Acute Card Care. 2007;9(1):34-42. X-1,X-6,X-8
2690. Schillaci G, Reboldi G and Verdecchia P. High-normal serum creatinine concentration is a predictor of cardiovascular risk in essential hypertension. Arch Intern Med. 2001 Mar 26;161(6):886-91. X-1F,X-2
2691. Schillinger M, Exner M, Mlekusch W, et al. Serum albumin predicts cardiac adverse events in patients with advanced atherosclerosis - interrelation with traditional cardiovascular risk factors. Thromb Haemost. 2004 Mar;91(3):610-8. X-1F,X-2,X-8
2692. Schillinger M, Sodeck G, Meron G, et al. Acute chest pain--identification of patients at low risk for coronary events. The impact of symptoms, medical history and risk factors. Wien Klin Wochenschr. 2004 Feb 16;116(3):83-9. X-1,X-2,X-8
2693. Schindhelm RK, Dekker JM, Nijpels G, et al. Alanine aminotransferase predicts coronary heart disease events: a 10-year follow-up of the Hoorn Study. Atherosclerosis. 2007 Apr;191(2):391-6. X-1F,X-2
2694. Schinkel AF, Elhendy A, Biagini E, et al. Prognostic stratification using dobutamine stress 99mTc-tetrofosmin myocardial perfusion SPECT in elderly patients unable to perform exercise testing. J Nucl Med. 2005 Jan;46(1):12-8. X-1,X-2,X-6

Appendix O. List of Excluded Studies

2695. Schloss TW, Gage BF and Rich MW. An invasive strategy is associated with decreased mortality in patients 80 years and older with acute myocardial infarction. Am J Geriatr Cardiol. 2007 Mar-Apr;16(2):84-91. X-1,X-5,X-6,X-7,X-8
2696. Schlosser FJ, Mojibian HR, Dardik A, et al. Simultaneous sizing and preoperative risk stratification for thoracic endovascular aneurysm repair: role of gated computed tomography. J Vasc Surg. 2008 Sep;48(3):561-70. X-1,X-6,X-7
2697. Schluter M, Reimers B, Castriota F, et al. Impact of diabetes, patient age, and gender on the 30-day incidence of stroke and death in patients undergoing carotid artery stenting with embolus protection: a post-hoc subanalysis of a prospective multicenter registry. J Endovasc Ther. 2007 Jun;14(3):271-8. X-1,X-2,X-8
2698. Schmermund A, Bailey KR, Rumberger JA, et al. An algorithm for noninvasive identification of angiographic three-vessel and/or left main coronary artery disease in symptomatic patients on the basis of cardiac risk and electron-beam computed tomographic calcium scores. J Am Coll Cardiol. 1999 Feb;33(2):444-52. X-1,X-5,X-6
2699. Schmermund A, Denktas AE, Rumberger JA, et al. Independent and incremental value of coronary artery calcium for predicting the extent of angiographic coronary artery disease: comparison with cardiac risk factors and radionuclide perfusion imaging. J Am Coll Cardiol. 1999 Sep;34(3):777-86. X-1,X-6,X-8
2700. Schmermund A, Lehmann N, Bielak LF, et al. Comparison of subclinical coronary atherosclerosis and risk factors in unselected populations in Germany and US-America. Atherosclerosis. 2007 Nov;195(1):e207-16. X-1F,X-1G,X-2,X-4,X-5,X-6
2701. Schmermund A, Stang A, Mohlenkamp S, et al. Prognostic value of electron-beam computed tomography-derived coronary calcium scores compared with clinical parameters in patients evaluated for coronary artery disease. Prognostic value of EBCT in symptomatic patients. Z Kardiol. 2004 Sep;93(9):696-705. X-1,X-2,X-8
2702. Schmidt C, Fagerberg B and Hulthe J. Non-stenotic echolucent ultrasound-assessed femoral artery plaques are predictive for future cardiovascular events in middle-aged men. Atherosclerosis. 2005 Jul;181(1):125-30. X-1E,X-1F,X-2
2703. Schmidt H, Fazekas F, Kostner GM, et al. Angiotensinogen gene promoter haplotype and microangiopathy-related cerebral damage: results of the Austrian Stroke Prevention Study. Stroke. 2001 Feb;32(2):405-12. X-1,X-2,X-6
2704. Schmitt C, Barthel P, Ndrepepa G, et al. Value of programmed ventricular stimulation for prophylactic internal cardioverter-defibrillator implantation in postinfarction patients preselected by noninvasive risk stratifiers. J Am Coll Cardiol. 2001 Jun 1;37(7):1901-7. X-1,X-6,X-8
2705. Schnabel R, Blankenberg S, Lubos E, et al. Asymmetric dimethylarginine and the risk of cardiovascular events and death in patients with coronary artery disease: results from the AtheroGene Study. Circ Res. 2005 Sep 2;97(5):e53-9. X-1,X-8
2706. Schnabel R, Lackner KJ, Rupprecht HJ, et al. Glutathione peroxidase-1 and homocysteine for cardiovascular risk prediction: results from the AtheroGene study. J Am Coll Cardiol. 2005 May 17;45(10):1631-7. X-1,X-8
2707. Schnabel R, Rupprecht HJ, Lackner KJ, et al. Analysis of N-terminal-pro-brain natriuretic peptide and C-reactive protein for risk stratification in stable and unstable coronary artery disease: results from the AtheroGene study. Eur Heart J. 2005 Feb;26(3):241-9. X-1,X-8

2708. Schneweis S, Grond M, Staub F, et al. Predictive value of neurochemical monitoring in large middle cerebral artery infarction. Stroke. 2001 Aug;32(8):1863-7. X-1,X-2,X-6,X-7,X-8
2709. Schoenenberger AW, Erne P, Ammann S, et al. Prediction of arrhythmic events after myocardial infarction based on signal-averaged electrocardiogram and ejection fraction. Pacing Clin Electrophysiol. 2008 Feb;31(2):221-8. X-1,X-6,X-7,X-8
2710. Schouten BW, Bohnen AM, Bosch JL, et al. Erectile dysfunction prospectively associated with cardiovascular disease in the Dutch general population: results from the Krimpen Study. Int J Impot Res. 2008 Jan-Feb;20(1):92-9. X-1D,X-1E,X-1F,X-2
2711. Schouten O, Poldermans D, Visser L, et al. Fluvastatin and bisoprolol for the reduction of perioperative cardiac mortality and morbidity in high-risk patients undergoing non-cardiac surgery: rationale and design of the DECREASE-IV study. Am Heart J. 2004 Dec;148(6):1047-52. X-1
2712. Schramm P, Schellinger PD, Fiebach JB, et al. Comparison of CT and CT angiography source images with diffusion-weighted imaging in patients with acute stroke within 6 hours after onset. Stroke. 2002 Oct;33(10):2426-32. X-1,X-5,X-6X-7
2713. Schreier L, Gonzalez AI, Elbert A, et al. Utility of non-high-density lipoprotein cholesterol in hemodialyzed patients. Metabolism. 2004 Aug;53(8):1013-5. X-1,X-5,X-6,X-7
2714. Schroder R, Zeymer U, Wegscheider K, et al. Comparison of the predictive value of ST segment elevation resolution at 90 and 180 min after start of streptokinase in acute myocardial infarction. A substudy of the hirudin for improvement of thrombolysis (HIT)-4 study. Eur Heart J. 1999 Nov;20(21):1563-71. X-1,X-6,X-8
2715. Schuchlenz HW, Weihs W, Berghold A, et al. Secondary prevention after cryptogenic cerebrovascular events in patients with patent foramen ovale. Int J Cardiol. 2005 May 11;101(1):77-82. X-1,X-6
2716. Schulmeyer MC, Santelices E, Vega R, et al. Impact of intraoperative transesophageal echocardiography during noncardiac surgery. J Cardiothorac Vasc Anesth. 2006 Dec;20(6):768-71. X-1,X-2,X-5,X-7
2717. Schulz AJ, Kannan S, Dvonch JT, et al. Social and physical environments and disparities in risk for cardiovascular disease: the healthy environments partnership conceptual model. Environ Health Perspect. 2005 Dec;113(12):1817-25. X-2,X-4,X-5,X-6,X-7,X-8
2718. Schunkert H, Moebus S, Hanisch J, et al. The correlation between waist circumference and ESC cardiovascular risk score: data from the German metabolic and cardiovascular risk project (GEMCAS). Clin Res Cardiol. 2008 Nov;97(11):827-35. X-1,X-2,X-5,X-6
2719. Schwab JO, Eichner G, Balta O, et al. Determinants of heart rate turbulence after ventricular premature beats in healthy volunteers. Hellenic J Cardiol. 2005 Jan-Feb;46(1):31-4. X-1,X-2,X-5,X-6,X-7
2720. Schwamm LH, Rosenthal ES, Swap CJ, et al. Hypoattenuation on CT angiographic source images predicts risk of intracerebral hemorrhage and outcome after intra-arterial reperfusion therapy. AJNR Am J Neuroradiol. 2005 Aug;26(7):1798-803. X-1,X-5,X-6,X-7
2721. Schwitter J, Oelhafen M, Wyss BM, et al. 2D-spatially-selective real-time magnetic resonance imaging for the assessment of microvascular function and its relation to the cardiovascular risk profile. J Cardiovasc Magn Reson. 2006;8(5):759-69. X-5,X-7
2722. Sciagra R, Imperiale A, Antoniucci D, et al. Relationship of infarct size and severity versus left ventricular ejection fraction and volumes obtained from 99mTc-sestamibi gated

single-photon emission computed tomography in patients treated with primary percutaneous coronary intervention. Eur J Nucl Med Mol Imaging. 2004 Jul;31(7):969-74. X-1,X-2,X-6,X-8
2723. Sciangula A, Puddu PE, Schiariti M, et al. Comparative application of multivariate models developed in Italy and Europe to predict early (28 days) and late (1 year) postoperative death after on- or off-pump coronary artery bypass grafting. Heart Surg Forum. 2007;10(4):E258-66. X-1,X-8
2724. Scirica BM and Morrow DA. Troponins in acute coronary syndromes. Semin Vasc Med. 2003 Nov;3(4):363-74. X-1,X-2,X-4,X-5,X-6
2725. Scirica BM, Morrow DA, Cannon CP, et al. Intensive statin therapy and the risk of hospitalization for heart failure after an acute coronary syndrome in the PROVE IT-TIMI 22 study. J Am Coll Cardiol. 2006 Jun 6;47(11):2326-31. X-1,X-2,X-8
2726. Scott B, Deman A, Peeters P, et al. Cardiac troponin T and malondialdehyde modified plasma lipids in haemodialysis patients. Nephrol Dial Transplant. 2003 Apr;18(4):737-42. X-1,X-6,X-7
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Appendix O. List of Excluded Studies

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2744. Serrano N, Garcia C, Villegas J, et al. Prolonged intubation rates after coronary artery bypass surgery and ICU risk stratification score. Chest. 2005 Aug;128(2):595-601. X-1,X-6,X-8
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2750. Shabsigh R, Shah M and Sand M. Erectile dysfunction and men's health: developing a comorbidity risk calculator. J Sex Med. 2008 May;5(5):1237-43. X-1F,X-2,X-6,X-8
2751. Shadman R, Criqui MH, Bundens WP, et al. Subclavian artery stenosis: prevalence, risk factors, and association with cardiovascular diseases. J Am Coll Cardiol. 2004 Aug 4;44(3):618-23. X-1,X-5,X-6
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saphenous vein graft patencies in symptomatic patients. Eur J Cardiothorac Surg. 2005 May;27(5):870-5. X-1,X-5,X-8
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2757. Shakouri P, Nezami N, Tarzamni MK, et al. The elusive link between high sensitivity C-reactive protein and carotid subclinical atherosclerosis in coronary artery bypass grafting candidates: a cross-sectional study. Cardiovasc Ultrasound. 2008;6:23. X-1,X-2,X-5,X-6,X-7,X-8
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2761. Sharma R, Chemla E, Tome M, et al. Echocardiography-based score to predict outcome after renal transplantation. Heart. 2007 Apr;93(4):464-9. X-1D,X-2,X-6,X-8(~50%)
2762. Sharrett AR, Ballantyne CM, Coady SA, et al. Coronary heart disease prediction from lipoprotein cholesterol levels, triglycerides, lipoprotein(a), apolipoproteins A-I and B, and HDL density subfractions: The Atherosclerosis Risk in Communities (ARIC) Study. Circulation. 2001 Sep 4;104(10):1108-13. X-1F,X-2,X-8
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2764. Shaw LJ, Berman DS, Hendel RC, et al. Cardiovascular disease risk stratification with stress single-photon emission computed tomography technetium-99m tetrofosmin imaging in patients with the metabolic syndrome and diabetes mellitus. Am J Cardiol. 2006 May 15;97(10):1538-44. X-1F,X-2,X-8(>61%)
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2766. Shaw LJ, Raggi P, Berman DS, et al. Coronary artery calcium as a measure of biologic age. Atherosclerosis. 2006 Sep;188(1):112-9. X-1
2767. Shaw LJ, Taylor A, Raggi P, et al. Role of noninvasive imaging in asymptomatic high-risk patients. J Nucl Cardiol. 2006 Mar-Apr;13(2):156-62. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9

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2772. Shen BJ, Avivi YE, Todaro JF, et al. Anxiety characteristics independently and prospectively predict myocardial infarction in men the unique contribution of anxiety among psychologic factors. J Am Coll Cardiol. 2008 Jan 15;51(2):113-9. X-1E,X-2
2773. Shepherd J, Cobbe SM, Ford I, et al. Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. 1995. Atheroscler Suppl. 2004 Oct;5(3):91-7. X-1
2774. Sheridan S, Pignone M and Mulrow C. Framingham-based tools to calculate the global risk of coronary heart disease: a systematic review of tools for clinicians. J Gen Intern Med. 2003 Dec;18(12):1039-52. X-2,X-4,X-5,X-6
2775. Sherlaw-Johnson C, Lovegrove J, Treasure T, et al. Likely variations in perioperative mortality associated with cardiac surgery: when does high mortality reflect bad practice? Heart. 2000 Jul;84(1):79-82. X-1,X-6,X-8
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2778. Shin SJ, Kim HW, Chung S, et al. Late referral to a nephrologist increases the risk of uremia-related cardiac hypertrophy in patients on hemodialysis. Nephron Clin Pract. 2007;107(4):c139-46. X-7
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2780. Shinokawa N, Hirai T, Takashima S, et al. A transesophageal echocardiographic study on risk factors for stroke in elderly patients with atrial fibrillation: a comparison with younger patients. Chest. 2001 Sep;120(3):840-6. X-1,X-2,X-5,X-6
2781. Shishehbor MH, Oliveira LP, Lauer MS, et al. Emerging cardiovascular risk factors that account for a significant portion of attributable mortality risk in chronic kidney disease. Am J Cardiol. 2008 Jun 15;101(12):1741-6. X-1F,X-2,X-6,X-8
2782. Shlipak MG, Angeja BG, Go AS, et al. Hormone therapy and in-hospital survival after myocardial infarction in postmenopausal women. Circulation. 2001 Nov 6;104(19):2300-4. X-1,X-2,X-6,X-8

Appendix O. List of Excluded Studies

2783. Shlipak MG, Chaput LA, Vittinghoff E, et al. Lipid changes on hormone therapy and coronary heart disease events in the Heart and Estrogen/progestin Replacement Study (HERS). Am Heart J. 2003 Nov;146(5):870-5. X-1,X-6,X-8
2784. Shoukat S, Gowani SA, Khimani F, et al. Predictive model of blood transfusion during CABG surgery in Pakistan. J Pak Med Assoc. 2008 Aug;58(8):421-6. X-1,X-2,X-6,X-8
2785. Shuhaiber JH, Goldsmith K and Nashef SA. Impact of cardiothoracic resident turnover on mortality after cardiac surgery: a dynamic human factor. Ann Thorac Surg. 2008 Jul;86(1):123-30; discussion 130-1. X-1,X-4,X-6
2786. Shuhaiber JH, Goldsmith K and Nashef SA. The influence of seasonal variation on cardiac surgery: a time-related clinical outcome predictor. J Thorac Cardiovasc Surg. 2008 Oct;136(4):894-9. X-1,X-2,X-6,X-8
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2788. Sicari R, Ripoli A, Picano E, et al. Long-term prognostic value of dipyridamole echocardiography in vascular surgery: a large-scale multicenter study. Coron Artery Dis. 2002 Feb;13(1):49-55. X-1,X-8
2789. Sidawy AN, Zwolak RM, White RA, et al. Risk-adjusted 30-day outcomes of carotid stenting and endarterectomy: results from the SVS Vascular Registry. J Vasc Surg. 2009 Jan;49(1):71-9. X-1,X-2,X-8
2790. Siddiqui TS and Stoddard MF. Safety of dobutamine stress transesophageal echocardiography in obese patients for evaluation of potential ischemic heart disease. Echocardiography. 2004 Oct;21(7):603-8. X-1,X-2,X-5,X-6,X-7
2791. Sierra-Johnson J, Wright SR, Lopez-Jimenez F, et al. Relation of body mass index to fatal and nonfatal cardiovascular events after cardiac rehabilitation. Am J Cardiol. 2005 Jul 15;96(2):211-4. X-1,X-8
2792. Sihvonen S, Korpela M, Mustonen J, et al. Mortality in patients with rheumatoid arthritis treated with low-dose oral glucocorticoids. A population-based cohort study. J Rheumatol. 2006 Sep;33(9):1740-6. X-1,X-6
2793. Silber S, Albertsson P, Aviles FF, et al. Guidelines for percutaneous coronary interventions. The Task Force for Percutaneous Coronary Interventions of the European Society of Cardiology. Eur Heart J. 2005 Apr;26(8):804-47. X-1,X-2,X-3,X-4,X-5,X-6,X-7,X-8
2794. Silke B, Campbell C and King DJ. The potential cardiotoxicity of antipsychotic drugs as assessed by heart rate variability. J Psychopharmacol. 2002 Dec;16(4):355-60. X-1,X-2,X-5,X-6,X-7
2795. Siller-Matula JM, Lang I, Christ G, et al. Calcium-channel blockers reduce the antiplatelet effect of clopidogrel. J Am Coll Cardiol. 2008 Nov 4;52(19):1557-63. X-1,X-2,X-6,X-8
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2797. Silvestrelli G, Parnetti L, Paciaroni M, et al. Early admission to stroke unit influences clinical outcome. Eur J Neurol. 2006 Mar;13(3):250-5. X-1,X-2,X-8
2798. Simchen E, Galai N, Zitser-Gurevich Y, et al. Sequential logistic models for 30 days mortality after CABG: pre-operative, intra-operative and post-operative experience--The

Israeli CABG study (ISCAB). Three models for early mortality after CABG. Eur J Epidemiol. 2000 Jun;16(6):543-55. X-1,X-8
2799. Simes RJ, Marschner IC, Hunt D, et al. Relationship between lipid levels and clinical outcomes in the Long-term Intervention with Pravastatin in Ischemic Disease (LIPID) Trial: to what extent is the reduction in coronary events with pravastatin explained by on-study lipid levels? Circulation. 2002 Mar 12;105(10):1162-9. X-1,X-8
2800. Simon A, Chironi G, Gariepy J, et al. Differences between markers of atherogenic lipoproteins in predicting high cardiovascular risk and subclinical atherosclerosis in asymptomatic men. Atherosclerosis. 2005 Apr;179(2):339-44. X-1,X-5
2801. Simon A, Chironi G and Levenson J. Comparative performance of subclinical atherosclerosis tests in predicting coronary heart disease in asymptomatic individuals. Eur Heart J. 2007 Dec;28(24):2967-71. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9,
2802. Simon C, Capuano F, Roscitano A, et al. Cardiac troponin I vs EuroSCORE: myocardial infarction and hospital mortality. Asian Cardiovasc Thorac Ann. 2008 Apr;16(2):97-102. X-1,X-7,X-8
2803. Simons PC, Algra A, Bots ML, et al. Common carotid intima-media thickness and arterial stiffness: indicators of cardiovascular risk in high-risk patients. The SMART Study (Second Manifestations of ARTerial disease). Circulation. 1999 Aug 31;100(9):951-7. X-1,X-5,X-6
2804. Simpson CF, Punjabi NM, Wolfenden L, et al. Relationship between lung function and physical performance in disabled older women. J Gerontol A Biol Sci Med Sci. 2005 Mar;60(3):350-4. X-1,X-5,X-6
2805. Simpson KN, Jones WJ, Rajagopalan R, et al. Cost effectiveness of lopinavir/ritonavir compared with atazanavir plus ritonavir in antiretroviral-experienced patients in the US. Clin Drug Investig. 2007;27(7):443-52. X-1,X-2,X-6,X-8
2806. Simpson KN, Luo MP, Chumney EC, et al. Cost effectiveness of lopinavir/ritonavir compared with atazanavir in antiretroviral-naive patients: modelling the combined effects of HIV and heart disease. Clin Drug Investig. 2007;27(1):67-74. X-1,X-2,X-5,X-6
2807. Sin DD and Man SF. Systemic inflammation and mortality in chronic obstructive pulmonary disease. Can J Physiol Pharmacol. 2007 Jan;85(1):141-7. X-1,X-6
2808. Sin DD, Wu L and Man SF. The relationship between reduced lung function and cardiovascular mortality: a population-based study and a systematic review of the literature. Chest. 2005 Jun;127(6):1952-9. X-1F,X-2
2809. Singer OC, Humpich MC, Fiehler J, et al. Risk for symptomatic intracerebral hemorrhage after thrombolysis assessed by diffusion-weighted magnetic resonance imaging. Ann Neurol. 2008 Jan;63(1):52-60. X-1,X-6,X-8
2810. Singh M, Gersh BJ, Li S, et al. Mayo Clinic Risk Score for percutaneous coronary intervention predicts in-hospital mortality in patients undergoing coronary artery bypass graft surgery. Circulation. 2008 Jan 22;117(3):356-62. X-1,X-6,X-8
2811. Singh M, Gersh BJ, McClelland RL, et al. Clinical and angiographic predictors of restenosis after percutaneous coronary intervention: insights from the Prevention of Restenosis With Tranilast and Its Outcomes (PRESTO) trial. Circulation. 2004 Jun 8;109(22):2727-31. X-1,X-6,X-8
2812. Singh M, Lennon RJ, Holmes DR, Jr., et al. Correlates of procedural complications and a simple integer risk score for percutaneous coronary intervention. J Am Coll Cardiol. 2002 Aug 7;40(3):387-93. X-1,X-8

Appendix O. List of Excluded Studies

2813. Singh M, Reeder GS, Jacobsen SJ, et al. Scores for post-myocardial infarction risk stratification in the community. Circulation. 2002 Oct 29;106(18):2309-14. X-1,X-8
2814. Singh M, Reeder GS, Ohman EM, et al. Does the presence of thrombus seen on a coronary angiogram affect the outcome after percutaneous coronary angioplasty? An Angiographic Trials Pool data experience. J Am Coll Cardiol. 2001 Sep;38(3):624-30. X-1,X-8
2815. Singh M, Rihal CS, Lennon RJ, et al. Comparison of Mayo Clinic risk score and American College of Cardiology/American Heart Association lesion classification in the prediction of adverse cardiovascular outcome following percutaneous coronary interventions. J Am Coll Cardiol. 2004 Jul 21;44(2):357-61. X-1,X-8
2816. Singh M, Rihal CS, Lennon RJ, et al. A critical appraisal of current models of risk stratification for percutaneous coronary interventions. Am Heart J. 2005 May;149(5):753-60. X-1,X-8
2817. Singh M, Rihal CS, Lennon RJ, et al. Prediction of complications following nonemergency percutaneous coronary interventions. Am J Cardiol. 2005 Oct 1;96(7):907-12. X-1,X-8
2818. Singh M, Rihal CS, Lennon RJ, et al. Bedside estimation of risk from percutaneous coronary intervention: the new Mayo Clinic risk scores. Mayo Clin Proc. 2007 Jun;82(6):701-8. X-1,X-8
2819. Singh M, Rihal CS, Roger VL, et al. Comorbid conditions and outcomes after percutaneous coronary intervention. Heart. 2008 Nov;94(11):1424-8. X-1,X-8
2820. Singh M, Rihal CS, Selzer F, et al. Validation of Mayo Clinic risk adjustment model for in-hospital complications after percutaneous coronary interventions, using the National Heart, Lung, and Blood Institute dynamic registry. J Am Coll Cardiol. 2003 Nov 19;42(10):1722-8. X-1,X-8
2821. Singh T, Mullick SS, Calton R, et al. Quantification of coronary risk score. Indian J Pediatr. 2002 Jan;69(1):27-9. X-1,X-2,X-5,X-6
2822. Sinha S, Luben RN, Welch A, et al. Fibrinogen and cigarette smoking in men and women in the European Prospective Investigation into Cancer in Norfolk (EPIC-Norfolk) population. Eur J Cardiovasc Prev Rehabil. 2005 Apr;12(2):144-50. X-1,X-2,X-5,X-6
2823. Sinkovic A and Pogacar V. Risk stratification in patients with unstable angina and/or non-ST-elevation myocardial infarction by Troponin T and plasminogen-activator-inhibitor-1 (PAI-1). Thromb Res. 2004;114(4):251-7. X-1,X-7,X-8
2824. Sir JJ, Chung WY, Hwang SJ, et al. N-terminal pro-B-type natriuretic peptide as a predictor of repeat coronary revascularization. Int J Cardiol. 2008 Jun 6;126(3):322-32. X-1,X-2,X-5,X-8
2825. Sirtori CR, Calabresi L, Marchioli R, et al. Cardiovascular risk changes after lipid lowering medications: are they predictable? Atherosclerosis. 2000 Sep;152(1):1-8. X-1
2826. Sjauw KD, van der Horst IC, Nijsten MW, et al. Value of routine admission laboratory tests to predict thirty-day mortality in patients with acute myocardial infarction. Am J Cardiol. 2006 May 15;97(10):1435-40. X-1,X-8
2827. Skelding KA, Best PJ, Bartholomew BA, et al. Validation of a predictive risk score for radiocontrast-induced nephropathy following percutaneous coronary intervention. J Invasive Cardiol. 2007 May;19(5):229-33. X-1,X-8
2828. Skilton MR. Intrauterine risk factors for precocious atherosclerosis. Pediatrics. 2008 Mar;121(3):570-4. X-1,X-2,X-4,X-5,X-6,X-7

2829. Skodova Z, Nagyova I, Rosenberger J, et al. Vital exhaustion in coronary heart disease: the impact of socioeconomic status. Eur J Cardiovasc Prev Rehabil. 2008 Oct;15(5):572-6. X-1,X-2,X-5,X-6,X-8
2830. Skouby SO, Jespersen J, Kluft C, et al. On the route to combined evidence from OC and HRT/ERT. Eur J Contracept Reprod Health Care. 2002 Dec;7(4):185-98. X-1F,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2831. Slart RH, Bax JJ, van Veldhuisen DJ, et al. Prediction of functional recovery after revascularization in patients with coronary artery disease and left ventricular dysfunction by gated FDG-PET. J Nucl Cardiol. 2006 Mar-Apr;13(2):210-9. X-1,X-6,X-7,X-8
2832. Slomka PJ, Fieno D, Thomson L, et al. Automatic detection and size quantification of infarcts by myocardial perfusion SPECT: clinical validation by delayed-enhancement MRI. J Nucl Med. 2005 May;46(5):728-35. X-1,X-5,X-6,X-7
2833. Slooter AJ, Cruts M, Hofman A, et al. The impact of APOE on myocardial infarction, stroke, and dementia: the Rotterdam Study. Neurology. 2004 Apr 13;62(7):1196-8. X-1
2834. Smart S, Sagar K and Tresch D. Age-related determinants of outcome after acute myocardial infarction: a dobutamine-atropine stress echocardiographic study. J Am Geriatr Soc. 2002 Jul;50(7):1176-85. X-1,X-7,X-8
2835. Smebye ML, Iversen EK, Hoieggen A, et al. Effect of hemoglobin levels on cardiovascular outcomes in patients with isolated systolic hypertension and left ventricular hypertrophy (from the LIFE study). Am J Cardiol. 2007 Sep 1;100(5):855-9. X-1F,X-2,X-8
2836. Smieja M, Gnarpe J, Lonn E, et al. Multiple infections and subsequent cardiovascular events in the Heart Outcomes Prevention Evaluation (HOPE) Study. Circulation. 2003 Jan 21;107(2):251-7. X-1,X-2
2837. Smilde TJ, van Wissen S, Wollersheim H, et al. Genetic and metabolic factors predicting risk of cardiovascular disease in familial hypercholesterolemia. Neth J Med. 2001 Oct;59(4):184-95. X-1G,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2838. Smith CL. C-reactive protein and asymmetric dimethylarginine: markers or mediators in cardiovascular disorders? Curr Pharm Des. 2007;13(16):1619-29. X-1
2839. Smith GL, Smith BD, Buchholz TA, et al. Cerebrovascular disease risk in older head and neck cancer patients after radiotherapy. J Clin Oncol. 2008 Nov 1;26(31):5119-25. X-1,X-2
2840. Smith J, Forster A and Young J. Use of the 'STRATIFY' falls risk assessment in patients recovering from acute stroke. Age Ageing. 2006 Mar;35(2):138-43. X-1,X-6,X-8
2841. Smith NL, Barzilay JI, Shaffer D, et al. Fasting and 2-hour postchallenge serum glucose measures and risk of incident cardiovascular events in the elderly: the Cardiovascular Health Study. Arch Intern Med. 2002 Jan 28;162(2):209-16. X-1F,X-2
2842. Smith PM, Ottenbacher KJ, Cranley M, et al. Predicting follow-up living setting in patients with stroke. Arch Phys Med Rehabil. 2002 Jun;83(6):764-70. X-1,X-6,X-8
2843. Smith SC, Jr., Anderson JL, Cannon RO, 3rd, et al. CDC/AHA Workshop on Markers of Inflammation and Cardiovascular Disease: Application to Clinical and Public Health Practice: report from the clinical practice discussion group. Circulation. 2004 Dec 21;110(25):e550-3. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2844. Smith SC, Jr., Blair SN, Bonow RO, et al. AHA/ACC Guidelines for Preventing Heart Attack and Death in Patients With Atherosclerotic Cardiovascular Disease: 2001 update. A statement for healthcare professionals from the American Heart Association and the American College of Cardiology. J Am Coll Cardiol. 2001 Nov 1;38(5):1581-3. X-4

Appendix O. List of Excluded Studies

2845. Smock AL, Larson B, Brown C, et al. Early prediction of 30-day mortality after Q-wave myocardial infarction by echocardiographic assessment of left ventricular function--a pilot investigation. Clin Cardiol. 2001 Mar;24(3):191-5. X-1,X-8
2846. Snapir A, Heinonen P, Tuomainen TP, et al. An insertion/deletion polymorphism in the alpha2B-adrenergic receptor gene is a novel genetic risk factor for acute coronary events. J Am Coll Cardiol. 2001 May;37(6):1516-22. X-1F,X-1G,X-2
2847. So L, Evans D and Quan H. ICD-10 coding algorithms for defining comorbidities of acute myocardial infarction. BMC Health Serv Res. 2006;6:161. X-1,X-5,X-6,X-7
2848. Sobesky J, Frackowiak M, Zaro Weber O, et al. The Cologne stroke experience: safety and outcome in 450 patients treated with intravenous thrombolysis. Cerebrovasc Dis. 2007;24(1):56-65. X-1,X-5,X-8
2849. Sobolev BG, Levy AR, Kuramoto L, et al. The risk of death associated with delayed coronary artery bypass surgery. BMC Health Serv Res. 2006;6:85. X-1,X-8
2850. Sodeck G, Domanovits H, Schillinger M, et al. Pre-operative N-terminal pro-brain natriuretic peptide predicts outcome in type A aortic dissection. J Am Coll Cardiol. 2008 Mar 18;51(11):1092-7. X-1,X-2,X-5,X-6,X-7,X-8
2851. Sodhi HS, Shrestha SK, Rauniyar R, et al. Prevalence of peripheral arterial disease by ankle-brachial index and its correlation with carotid intimal thickness and coronary risk factors in Nepalese population over the age of forty years. Kathmandu Univ Med J (KUMJ). 2007 Jan-Mar;5(1):12-5. X-1,X-2,X-5,X-6,X-7
2852. Soedamah-Muthu SS, Fuller JH, Mulnier HE, et al. High risk of cardiovascular disease in patients with type 1 diabetes in the U.K.: a cohort study using the general practice research database. Diabetes Care. 2006 Apr;29(4):798-804. X-1F,X-2
2853. Sohaib SM, Papacosta O, Morris RW, et al. Length of the QT interval: determinants and prognostic implications in a population-based prospective study of older men. J Electrocardiol. 2008 Nov-Dec;41(6):704-10. X-1,X-2,X-6,X-8
2854. Sokejima S, Nakatani Y, Kario K, et al. Seismic intensity and risk of cerebrovascular stroke: 1995 Hanshin-Awaji earthquake. Prehosp Disaster Med. 2004 Oct-Dec;19(4):297-306. X-1
2855. Solberg OG, Dahl M, Mowinckel P, et al. Derivation and validation of a simple risk score for predicting 1-year mortality in stroke. J Neurol. 2007 Oct;254(10):1376-83. X-1,X-8
2856. Soliman Hamad MA, Tan ME, van Straten AH, et al. Long-term results of coronary artery bypass grafting in patients with left ventricular dysfunction. Ann Thorac Surg. 2008 Feb;85(2):488-93. X-1,X-2,X-5,X-6,X-7,X-8
2857. Solomon DH, Ganz DA, Avorn J, et al. Which patients with unstable angina or non-Q-wave myocardial infarction should have immediate cardiac catheterization? A clinical decision rule for predicting who will fail medical therapy. J Clin Epidemiol. 2002 Feb;55(2):121-8. X-1,X-6,X-8
2858. Solomon DH, Stone PH, Glynn RJ, et al. Use of risk stratification to identify patients with unstable angina likeliest to benefit from an invasive versus conservative management strategy. J Am Coll Cardiol. 2001 Oct;38(4):969-76. X-1,X-8
2859. Solomon SD, Wittes J, Finn PV, et al. Cardiovascular risk of celecoxib in 6 randomized placebo-controlled trials: the cross trial safety analysis. Circulation. 2008 Apr 22;117(16):2104-13. X-1,X-2,X-4,X-5

Appendix O. List of Excluded Studies

2860. Soman P, Dave DM, Udelson JE, et al. Vascular endothelial dysfunction is associated with reversible myocardial perfusion defects in the absence of obstructive coronary artery disease. J Nucl Cardiol. 2006 Nov;13(6):756-60. X-1,X-2,X-5,X-6,X-7,X-8
2861. Song YM and Byeon JJ. Excess mortality from avoidable and non-avoidable causes in men of low socioeconomic status: a prospective study in Korea. J Epidemiol Community Health. 2000 Mar;54(3):166-72. X-1,X-2,X-6
2862. Song YM, Kwon SU, Sung J, et al. Different risk factor profiles between subtypes of ischemic stroke. A case-control study in Korean men. Eur J Epidemiol. 2005;20(7):605-12. X-1,X-2,X-5,X-8
2863. Soo L, Huff N, Gray D, et al. Geographical distribution of cardiac arrest in Nottinghamshire. Resuscitation. 2001 Feb;48(2):137-47. X-1,X-2,X-5
2864. Soon KH, Kelly AM, Cox N, et al. Practicality, safety and accuracy of computed tomography coronary angiography in the evaluation of low TIMI-risk score chest pain patients: a pilot study. Emerg Med Australas. 2007 Apr;19(2):129-35. X-1,X-2,X-6,X-7,X-8
2865. Sorensen HT, Thulstrup AM, Norgdard B, et al. Fetal growth and blood pressure in a Danish population aged 31-51 years. Scand Cardiovasc J. 2000 Aug;34(4):390-5. X-1,X-6
2866. Sosnowski M, MacFarlane PW, Czyz Z, et al. Age-adjustment of HRV measures and its prognostic value for risk assessment in patients late after myocardial infarction. Int J Cardiol. 2002 Dec;86(2-3):249-58. X-1,X-8
2867. Southern DA, Quan H and Ghali WA. Comparison of the Elixhauser and Charlson/Deyo methods of comorbidity measurement in administrative data. Med Care. 2004 Apr;42(4):355-60. X-1,X-2,X-6,X-8
2868. Sozzi FB, Elhendy A, Rizzello V, et al. Prognostic significance of myocardial ischemia during dobutamine stress echocardiography in asymptomatic patients with diabetes mellitus and no prior history of coronary events. Am J Cardiol. 2007 May 1;99(9):1193-5. X-1,X-7
2869. Sozzi FB, Elhendy A, Rizzello V, et al. Prognostic significance of akinesis becoming dyskinesis during dobutamine stress echocardiography. J Am Soc Echocardiogr. 2007 Mar;20(3):257-61. X-1D,X-2,X-8(99%)
2870. Sozzi FB, Elhendy A, Rizzello V, et al. Prognostic value of dobutamine stress echocardiography in patients with systemic hypertension and known or suspected coronary artery disease. Am J Cardiol. 2004 Sep 15;94(6):733-9. X-1
2871. Speel TG, van Langen H and Meuleman EJ. The risk of coronary heart disease in men with erectile dysfunction. Eur Urol. 2003 Sep;44(3):366-70; discussion 370-1. X-1,X-7
2872. Spence JD, Eliasziw M, DiCicco M, et al. Carotid plaque area: a tool for targeting and evaluating vascular preventive therapy. Stroke. 2002 Dec;33(12):2916-22. X-1F,X-2,X-8
2873. Spencer CA, Jamrozik K, Norman PE, et al. A simple lifestyle score predicts survival in healthy elderly men. Prev Med. 2005 Jun;40(6):712-7. X-1G,X-2,X-6
2874. Spencer FA, Moscucci M, Granger CB, et al. Does comorbidity account for the excess mortality in patients with major bleeding in acute myocardial infarction? Circulation. 2007 Dec 11;116(24):2793-801. X-1,X-5,X-6,X-8
2875. Spiegelhalter DJ. Handling over-dispersion of performance indicators. Qual Saf Health Care. 2005 Oct;14(5):347-51. X-1,X-6,X-8
2876. Spinelli L, Petretta M, Acampa W, et al. Prognostic value of combined assessment of regional left ventricular function and myocardial perfusion by dobutamine and rest gated

SPECT in patients with uncomplicated acute myocardial infarction. J Nucl Med. 2003 Jul;44(7):1023-9. X-1,X-2,X-6,X-8
2877. Spodick DH, Ariyarajah V and Apiyasawat S. Higher prevalence of cardiovascular events among patients with abnormal atrial depolarization and coronary artery disease at 18 months' post-exercise tolerance testing. Am Heart Hosp J. 2007 Fall;5(4):236-40. X-7
2878. Sprecher DL, Goodman SG, Kannampuzha P, et al. Skin tissue cholesterol (SkinTc) is related to angiographically-defined cardiovascular disease. Atherosclerosis. 2003 Dec;171(2):255-8. X-1,X-5,X-6
2879. Sprecher DL and Pearce GL. Skin cholesterol adds to Framingham risk assessment. Am Heart J. 2006 Oct;152(4):694-6. X-2,X-5,X-6,X-8(90%)
2880. Sramek A, Reiber JH, Gerrits WB, et al. Decreased coagulability has no clinically relevant effect on atherogenesis: observations in individuals with a hereditary bleeding tendency. Circulation. 2001 Aug 14;104(7):762-7. X-1,X-2,X-5,X-6
2881. Srinivas VS, Cannon CP, Gibson CM, et al. Myoglobin levels at 12 hours identify patients at low risk for 30-day mortality after thrombolysis in acute myocardial infarction: a Thrombolysis in Myocardial Infarction 10B substudy. Am Heart J. 2001 Jul;142(1):29-36. X-1,X-8
2882. Srinivas VS, Garg S, Negassa A, et al. Persistent sex difference in hospital outcome following percutaneous coronary intervention: results from the New York State reporting system. J Invasive Cardiol. 2007 Jun;19(6):265-8. X-1,X-6,X-8
2883. Srinivas VS, Skeif B, Negassa A, et al. Effectiveness of glycoprotein IIb/IIIa inhibitor use during primary coronary angioplasty: results of propensity analysis using the New York State Percutaneous Coronary Intervention Reporting System. Am J Cardiol. 2007 Feb 15;99(4):482-5. X-1,X-8
2884. Srinivas VS, Vakili BA and Brown DL. Comparison of in-hospital outcomes following early or delayed angioplasty for acute myocardial infarction. J Invasive Cardiol. 2002 Dec;14(12):746-50. X-1,X-8
2885. Srinivasan SR, Segrest JP, Elkasabany AM, et al. Distribution and correlates of lipoproteins and their subclasses in black and white young adults. The Bogalusa Heart Study. Atherosclerosis. 2001 Dec;159(2):391-7. X-1,X-2,X-5,X-6
2886. Sritara P, Patoomanunt P, Woodward M, et al. Associations between serum lipids and causes of mortality in a cohort of 3,499 urban Thais: The Electricity Generating Authority of Thailand (EGAT) study. Angiology. 2007 Dec-2008 Jan;58(6):757-63. X-1E,X-2
2887. Staat P, Cucherat M, George M, et al. Severe morbidity after coronary artery surgery: development and validation of a simple predictive clinical score. Eur Heart J. 1999 Jul;20(13):960-6. X-1,X-6,X-8
2888. Staessen JA and Wang J. Do ancillary properties of antihypertensive drugs explain the outcome results of recent trials? J Nephrol. 2002 Jul-Aug;15(4):422-7. X-1,X-2,X-4,X-5
2889. Stagmo M, Juul-Moller S and Israelsson B. Fifteen-year risk of major coronary events predicted by Holter ST-monitoring in asymptomatic middle-aged men. Eur J Cardiovasc Prev Rehabil. 2005 Oct;12(5):478-83. X-7
2890. Stamou SC, Jablonski KA, Hill PC, et al. Coronary revascularization without cardiopulmonary bypass versus the conventional approach in high-risk patients. Ann Thorac Surg. 2005 Feb;79(2):552-7. X-1,X-8

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2891. Stanek EJ, Sarawate C, Willey VJ, et al. Risk of cardiovascular events in patients at optimal values for combined lipid parameters. Curr Med Res Opin. 2007 Mar;23(3):553-63. X-1F,X-8(35%)
2892. Stanescu C. Exercise echocardiography in coronary artery disease. Rom J Intern Med. 2004;42(3):473-89. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2893. Stapf C, Mohr JP, Sciacca RR, et al. Incident hemorrhage risk of brain arteriovenous malformations located in the arterial borderzones. Stroke. 2000 Oct;31(10):2365-8. X-1
2894. Stavenow L and Kjellstrom T. Influence of serum triglyceride levels on the risk for myocardial infarction in 12,510 middle aged males: interaction with serum cholesterol. Atherosclerosis. 1999 Dec;147(2):243-7. X-1
2895. Stefanadis C, Dernellis J, Tsiamis E, et al. Aortic stiffness as a risk factor for recurrent acute coronary events in patients with ischaemic heart disease. Eur Heart J. 2000 Mar;21(5):390-6. X-1,X-7,X-8
2896. Stefani MA, Porter PJ, terBrugge KG, et al. Large and deep brain arteriovenous malformations are associated with risk of future hemorrhage. Stroke. 2002 May;33(5):1220-4. X-1,X-2
2897. Stefanick ML, Anderson GL, Margolis KL, et al. Effects of conjugated equine estrogens on breast cancer and mammography screening in postmenopausal women with hysterectomy. JAMA. 2006 Apr 12;295(14):1647-57. X-1,X-2,X-6
2898. Steg PG, Cambou JP, Goldstein P, et al. Bypassing the emergency room reduces delays and mortality in ST elevation myocardial infarction: the USIC 2000 registry. Heart. 2006 Oct;92(10):1378-83. X-1,X-6,X-8
2899. Steg PG, Lopez-Sendon J, Lopez de Sa E, et al. External validity of clinical trials in acute myocardial infarction. Arch Intern Med. 2007 Jan 8;167(1):68-73. X-1,X-6,X-8
2900. Stein JH, Fraizer MC, Aeschlimann SE, et al. Vascular age: integrating carotid intima-media thickness measurements with global coronary risk assessment. Clin Cardiol. 2004 Jul;27(7):388-92. X-5,X-6,X-7
2901. Stein JH, Korcarz CE, Hurst RT, et al. Use of carotid ultrasound to identify subclinical vascular disease and evaluate cardiovascular disease risk: a consensus statement from the American Society of Echocardiography Carotid Intima-Media Thickness Task Force. Endorsed by the Society for Vascular Medicine. J Am Soc Echocardiogr. 2008 Feb;21(2):93-111; quiz 189-90. X-1,X-2,X-4
2902. Stein KM. Noninvasive risk stratification for sudden death: signal-averaged electrocardiography, nonsustained ventricular tachycardia, heart rate variability, baroreflex sensitivity, and QRS duration. Prog Cardiovasc Dis. 2008 Sep-Oct;51(2):106-17. X-1D,X-2,X-4,X-5,X-6,X-7,X-8,X-9
2903. Stein RA, Chaitman BR, Balady GJ, et al. Safety and utility of exercise testing in emergency room chest pain centers: An advisory from the Committee on Exercise, Rehabilitation, and Prevention, Council on Clinical Cardiology, American Heart Association. Circulation. 2000 Sep 19;102(12):1463-7. X-1
2904. Steinberg BA, Moghbeli N, Buros J, et al. Global outcomes of ST-elevation myocardial infarction: comparisons of the Enoxaparin and Thrombolysis Reperfusion for Acute Myocardial Infarction Treatment-Thrombolysis In Myocardial Infarction study 25 (ExTRACT-TIMI 25) registry and trial. Am Heart J. 2007 Jul;154(1):54-61. X-1,X-8
2905. Stengard JH, Kardia SL, Tervahauta M, et al. Utility of the predictors of coronary heart disease mortality in a longitudinal study of elderly Finnish men aged 65 to 84 years is

dependent on context defined by Apo E genotype and area of residence. Clin Genet. 1999 Nov;56(5):367-77. X-1F,X-2,X-5

2906. Stenvinkel P and Alvestrand A. Inflammation in end-stage renal disease: sources, consequences, and therapy. Semin Dial. 2002 Sep-Oct;15(5):329-37. X-1,X-4,X-5,X-6
2907. Stenvinkel P, Heimburger O, Wang T, et al. High serum hyaluronan indicates poor survival in renal replacement therapy. Am J Kidney Dis. 1999 Dec;34(6):1083-8. X-1,X-6,X-7
2908. Steptoe A, Shamaei-Tousi A, Gylfe A, et al. Socioeconomic status, pathogen burden and cardiovascular disease risk. Heart. 2007 Dec;93(12):1567-70. X-5
2909. Stern AH. A review of the studies of the cardiovascular health effects of methylmercury with consideration of their suitability for risk assessment. Environ Res. 2005 May;98(1):133-42. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2910. Stern RH. Evaluating new cardiovascular risk factors for risk stratification. J Clin Hypertens (Greenwich). 2008 Jun;10(6):485-8. X-2,X-4,X-5,X-6,X-7,X-8,X-9
2911. Stevens LM, Carrier M, Perrault LP, et al. Single versus bilateral internal thoracic artery grafts with concomitant saphenous vein grafts for multivessel coronary artery bypass grafting: effects on mortality and event-free survival. J Thorac Cardiovasc Surg. 2004 May;127(5):1408-15. X-1,X-6,X-8
2912. Stevens LM, Carrier M, Perrault LP, et al. Influence of diabetes and bilateral internal thoracic artery grafts on long-term outcome for multivessel coronary artery bypass grafting. Eur J Cardiothorac Surg. 2005 Feb;27(2):281-8. X-1,X-8
2913. Stevens RJ, Kothari V, Adler AI, et al. The UKPDS risk engine: a model for the risk of coronary heart disease in Type II diabetes (UKPDS 56). Clin Sci (Lond). 2001 Dec;101(6):671-9. X-2
2914. Stevens RJ, Kothari V, Adler AI, et al. The UKPDS risk engine: a model for the risk of coronary heart disease in Type II diabetes (UKPDS 56). Clin Sci (Lond). 2001 Dec;101(6):671-9. X-2
2915. Stewart JE, Allred EN, Collins M, et al. Risk of cranial ultrasound abnormalities in very-low-birth-weight infants conceived with assisted reproductive techniques. J Perinatol. 2002 Jan;22(1):37-45. X-1,X-2,X-6
2916. Steyerberg EW, Eijkemans MJ, Boersma E, et al. Applicability of clinical prediction models in acute myocardial infarction: a comparison of traditional and empirical Bayes adjustment methods. Am Heart J. 2005 Nov;150(5):920. X-1,X-8
2917. Steyerberg EW, Eijkemans MJ, Boersma E, et al. Equally valid models gave divergent predictions for mortality in acute myocardial infarction patients in a comparison of logistic [corrected] regression models. J Clin Epidemiol. 2005 Apr;58(4):383-90. X-1,X-8
2918. Steyerberg EW, Eijkemans MJ, Harrell FE, Jr., et al. Prognostic modeling with logistic regression analysis: in search of a sensible strategy in small data sets. Med Decis Making. 2001 Jan-Feb;21(1):45-56. X-1,X-8
2919. Steyn K, Levitt NS, Hoffman M, et al. The global cardiovascular diseases risk pattern in a peri-urban working-class community in South Africa. The Mamre study. Ethn Dis. 2004 Spring;14(2):233-42. X-1,X-2,X-5,X-6
2920. Stolz E, Valdueza JM, Grebe M, et al. Anemia as a risk factor for cerebral venous thrombosis? An old hypothesis revisited. Results of a prospective study. J Neurol. 2007 Jun;254(6):729-34. X-1,X-2,X-5,X-6

Appendix O. List of Excluded Studies

2921. Stone GW, Peterson MA, Lansky AJ, et al. Impact of normalized myocardial perfusion after successful angioplasty in acute myocardial infarction. J Am Coll Cardiol. 2002 Feb 20;39(4):591-7. X-1,X-2,X-6,X-7,X-8
2922. Stork S, Feelders RA, van den Beld AW, et al. Prediction of mortality risk in the elderly. Am J Med. 2006 Jun;119(6):519-25. X-2
2923. Stork S, van den Beld AW, von Schacky C, et al. Carotid artery plaque burden, stiffness, and mortality risk in elderly men: a prospective, population-based cohort study. Circulation. 2004 Jul 20;110(3):344-8. X-1
2924. Strand BH and Kunst A. Childhood socioeconomic position and cause-specific mortality in early adulthood. Am J Epidemiol. 2007 Jan 1;165(1):85-93. X-1F,X-2
2925. Strand M, Soderstrom I, Wiklund PG, et al. Polymorphisms at the osteoprotegerin and interleukin-6 genes in relation to first-ever stroke. Cerebrovasc Dis. 2007;24(5):418-25. X-1,X-2,X-5,X-8
2926. Strandberg TE, Strandberg AY, Pitkala KH, et al. Cardiovascular risk in midlife and psychological well-being among older men. Arch Intern Med. 2006 Nov 13;166(20):2266-71. X-1,X-2,X-6,X-8
2927. Strasak AM, Kelleher CC, Klenk J, et al. Longitudinal change in serum gamma-glutamyltransferase and cardiovascular disease mortality: a prospective population-based study in 76,113 Austrian adults. Arterioscler Thromb Vasc Biol. 2008 Oct;28(10):1857-65. X-1,X-2
2928. Straus SM, Kors JA, De Bruin ML, et al. Prolonged QTc interval and risk of sudden cardiac death in a population of older adults. J Am Coll Cardiol. 2006 Jan 17;47(2):362-7. X-2,X-8(MI, 6.3%)
2929. Struthers A and Lang C. The potential to improve primary prevention in the future by using BNP/N-BNP as an indicator of silent 'pancardiac' target organ damage: BNP/N-BNP could become for the heart what microalbuminuria is for the kidney. Eur Heart J. 2007 Jul;28(14):1678-82. X-1,X-6
2930. Struthers R, Baker M and Savik K. Cardiovascular risk factors among Native American women Inter-Tribal Heart Project participants. J Obstet Gynecol Neonatal Nurs. 2006 Jul-Aug;35(4):482-90. X-5
2931. Stukel TA, Fisher ES, Wennberg DE, et al. Analysis of observational studies in the presence of treatment selection bias: effects of invasive cardiac management on AMI survival using propensity score and instrumental variable methods. JAMA. 2007 Jan 17;297(3):278-85. X-1,X-8
2932. Stukenborg GJ, Wagner DP, Harrell FE, Jr., et al. Present-at-admission diagnoses improved mortality risk adjustment among acute myocardial infarction patients. J Clin Epidemiol. 2007 Feb;60(2):142-54. X-1,X-8
2933. Stukenborg GJ, Wagner DP, Harrell FE, Jr., et al. Which hospitals have significantly better or worse than expected mortality rates for acute myocardial infarction patients? Improved risk adjustment with present-at-admission diagnoses. Circulation. 2007 Dec 18;116(25):2960-8. X-1,X-2,X-5,X-6,X-8
2934. Sturmer T, Buring JE, Lee IM, et al. Colorectal cancer after start of nonsteroidal anti-inflammatory drug use. Am J Med. 2006 Jun;119(6):494-502. X-1,X-2,X-6
2935. Sudhir K. Lipoprotein-associated phospholipase A2, vascular inflammation and cardiovascular risk prediction. Vasc Health Risk Manag. 2006;2(2):153-6. X-2,X-4,X-5,X-6,X-7,X-8

2936. Sukiennik A, Ostrowska-Nowak J, Wisniewska-Szmyt J, et al. Predicted and observed in-hospital mortality after left main coronary artery stenting in 204 patients. Cardiol J. 2008;15(3):268-76. X-1,X-7,X-8
2937. Suleiman M, Gruberg L, Hammerman H, et al. Comparison of two platelet glycoprotein IIb/IIIa inhibitors, eptifibatide and abciximab: outcomes, complications and thrombocytopenia during percutaneous coronary intervention. J Invasive Cardiol. 2003 Jun;15(6):319-23. X-1,X-5,X-8
2938. Sullivan LM, Massaro JM and D'Agostino RB, Sr. Presentation of multivariate data for clinical use: The Framingham Study risk score functions. Stat Med. 2004 May 30;23(10):1631-60. X-4,X-5,X-6
2939. Sun L, Li Z, Zhang H, et al. Pentanucleotide TTTTA repeat polymorphism of apolipoprotein(a) gene and plasma lipoprotein(a) are associated with ischemic and hemorrhagic stroke in Chinese: a multicenter case-control study in China. Stroke. 2003 Jul;34(7):1617-22. X-1,X-6
2940. Sun L, Sun Y, Zhao X, et al. Predictive role of BNP and NT-proBNP in hemodialysis patients. Nephron Clin Pract. 2008;110(3):c178-84. X-1,X-2
2941. Sun X, Hill PC, Bafi AS, et al. Is cardiac surgery safe in extremely obese patients (body mass index 50 or greater)? Ann Thorac Surg. 2009 Feb;87(2):540-6. X-1,X-2,X-7,X-8
2942. Sunaga K, Miura K, Naruse Y, et al. Glycated hemoglobin and risk of stroke, ischemic and hemorrhagic, in Japanese men and women. Cerebrovasc Dis. 2008;26(3):310-6. X-1,X-2
2943. Sundberg G, Bagust A and Terent A. A model for costs of stroke services. Health Policy. 2003 Jan;63(1):81-94. X-1,X-2,X-5,X-6
2944. Sundquist J, Johansson SE, Yang M, et al. Low linking social capital as a predictor of coronary heart disease in Sweden: a cohort study of 2.8 million people. Soc Sci Med. 2006 Feb;62(4):954-63. X-1,X-5
2945. Sundquist K, Qvist J, Johansson SE, et al. The long-term effect of physical activity on incidence of coronary heart disease: a 12-year follow-up study. Prev Med. 2005 Jul;41(1):219-25. X-1E,X-1F,X-2
2946. Sung J, Lim SJ, Choe Y, et al. Comparison of the coronary calcium score with the estimated coronary risk. Coron Artery Dis. 2008 Nov;19(7):475-9. X-1,X-2,X-5,X-6
2947. Suominen V, Rantanen T, Venermo M, et al. Prevalence and risk factors of PAD among patients with elevated ABI. Eur J Vasc Endovasc Surg. 2008 Jun;35(6):709-14. X-1,X-2,X-5,X-6
2948. Surgenor SD, O'Connor GT, Lahey SJ, et al. Predicting the risk of death from heart failure after coronary artery bypass graft surgery. Anesth Analg. 2001 Mar;92(3):596-601. X-1,X-8
2949. Suri MF, Ezzeddine MA, Lakshminarayan K, et al. Validation of two different grading schemes to identify patients with asymptomatic carotid artery stenosis in general population. J Neuroimaging. 2008 Apr;18(2):142-7. X-1,X-5,X-6
2950. Susen S, Sautiere K, Mouquet F, et al. Serum hepatocyte growth factor levels predict long-term clinical outcome after percutaneous coronary revascularization. Eur Heart J. 2005 Nov;26(22):2387-95. X-1X-8
2951. Sutton-Tyrrell K, Venkitachalam L, Kanaya AM, et al. Relationship of ankle blood pressures to cardiovascular events in older adults. Stroke. 2008 Mar;39(3):863-9. X-1E,X-2,X-8(23.6%)

Appendix O. List of Excluded Studies

2952. Suzuki T, Hirata K, Elkind MS, et al. Metabolic syndrome, endothelial dysfunction, and risk of cardiovascular events: the Northern Manhattan Study (NOMAS). Am Heart J. 2008 Aug;156(2):405-10. X-1,X-2
2953. Svensson AM, Abrahamsson P, McGuire DK, et al. Influence of diabetes on long-term outcome among unselected patients with acute coronary events. Scand Cardiovasc J. 2004 Aug;38(4):229-34. X-1,X-8
2954. Swinburn BA, Carey D, Hills AP, et al. Effect of orlistat on cardiovascular disease risk in obese adults. Diabetes Obes Metab. 2005 May;7(3):254-62. X-1,X-6,X-7
2955. Swinburn JM and Senior R. Myocardial viability assessed by dobutamine stress echocardiography predicts reduced mortality early after acute myocardial infarction: determining the risk of events after myocardial infarction (DREAM) study. Heart. 2006 Jan;92(1):44-8. X-1,X-8
2956. Synnergren MJ, Ekroth R, Oden A, et al. Incomplete revascularization reduces survival benefit of coronary artery bypass grafting: role of off-pump surgery. J Thorac Cardiovasc Surg. 2008 Jul;136(1):29-36. X-1,X-2,X-6
2957. Szczech LA, Best PJ, Crowley E, et al. Outcomes of patients with chronic renal insufficiency in the bypass angioplasty revascularization investigation. Circulation. 2002 May 14;105(19):2253-8. X-1,X-2,X-8
2958. Sze KH, Wong E, Leung HY, et al. Falls among Chinese stroke patients during rehabilitation. Arch Phys Med Rehabil. 2001 Sep;82(9):1219-25. X-1,X-2,X-6,X-8
2959. Szymanski P, Rezler J, Stec S, et al. Long-term prognostic value of an index of myocardial performance in patients with myocardial infarction. Clin Cardiol. 2002 Aug;25(8):378-83. X-1,X-7,X-8
2960. Taal MW, Sigrist MK, Fakis A, et al. Markers of arterial stiffness are risk factors for progression to end-stage renal disease among patients with chronic kidney disease stages 4 and 5. Nephron Clin Pract. 2007;107(4):c177-81. X-7
2961. Tadros GM, McConnell TR, Wood GC, et al. Clinical predictors of 30-day cardiac events in patients with acute coronary syndrome at a community hospital. South Med J. 2003 Nov;96(11):1113-20. X-1,X-7,X-8
2962. Takahara Y, Mogi K, Sakurai M, et al. Total aortic arch grafting via median sternotomy using integrated antegrade cerebral perfusion. Ann Thorac Surg. 2003 Nov;76(5):1485-9; discussion 1489. X-1,X-5,X-6,X-8
2963. Takahashi O, Cook EF, Nakamura T, et al. Risk stratification for in-hospital mortality in spontaneous intracerebral haemorrhage: a Classification and Regression Tree analysis. QJM. 2006 Nov;99(11):743-50. X-1,X-2,X-6,X-8
2964. Takeshita H, Shimada Y, Kobayashi Y, et al. Impact of body mass index and Framingham risk score on coronary artery plaque. Osaka City Med J. 2008 Jun;54(1):31-9. X-1,X-2,X-6,X-8
2965. Talbott EO, Zborowski J, Rager J, et al. Is there an independent effect of polycystic ovary syndrome (PCOS) and menopause on the prevalence of subclinical atherosclerosis in middle aged women? Vasc Health Risk Manag. 2008;4(2):453-62. X-6,X-8
2966. Talmud PJ, Cooper JA, Palmen J, et al. Chromosome 9p21.3 coronary heart disease locus genotype and prospective risk of CHD in healthy middle-aged men. Clin Chem. 2008 Mar;54(3):467-74. X-1F,X-1G

2967. Talmud PJ, Hawe E, Miller GJ, et al. Nonfasting apolipoprotein B and triglyceride levels as a useful predictor of coronary heart disease risk in middle-aged UK men. Arterioscler Thromb Vasc Biol. 2002 Nov 1;22(11):1918-23. X-1F,X-2
2968. Talmud PJ, Hawe E, Miller GJ, et al. Nonfasting apolipoprotein B and triglyceride levels as a useful predictor of coronary heart disease risk in middle-aged UK men. Arterioscler Thromb Vasc Biol. 2002 Nov 1;22(11):1918-23. X-1
2969. Tam LS, Tomlinson B, Chu TT, et al. Cardiovascular risk profile of patients with psoriatic arthritis compared to controls--the role of inflammation. Rheumatology (Oxford). 2008 May;47(5):718-23. X-1,X-2,X-5,X-6,X-7
2970. Tamaki N and Morita K. SPET in cardiology. Diagnosis, prognosis, and management of patients with coronary artery disease. Q J Nucl Med Mol Imaging. 2005 Jun;49(2):193-203. X-1,X-8
2971. Tamburino C, Angiolillo DJ, Capranzano P, et al. Complete versus incomplete revascularization in patients with multivessel disease undergoing percutaneous coronary intervention with drug-eluting stents. Catheter Cardiovasc Interv. 2008 Oct 1;72(4):448-56. X-1,X-2,X-8
2972. Tamis-Holland JE, Homel P, Durani M, et al. Atrial fibrillation after minimally invasive direct coronary artery bypass surgery. J Am Coll Cardiol. 2000 Nov 15;36(6):1884-8. X-1,X-6,X-8
2973. Tan ZS, Seshadri S, Beiser A, et al. Plasma total cholesterol level as a risk factor for Alzheimer disease: the Framingham Study. Arch Intern Med. 2003 May 12;163(9):1053-7. X-1,X-6
2974. Tanasescu M, Leitzmann MF, Rimm EB, et al. Physical activity in relation to cardiovascular disease and total mortality among men with type 2 diabetes. Circulation. 2003 May 20;107(19):2435-9. X-1F,X-2
2975. Tanemoto K. Surgical treatment of ischemic mitral valve regurgitation. Ann Thorac Cardiovasc Surg. 2005 Aug;11(4):228-31. X-1,X-2,X-4,X-5,X-6,X-7,X-8
2976. Tang EW, Wong CK and Herbison P. Global Registry of Acute Coronary Events (GRACE) hospital discharge risk score accurately predicts long-term mortality post acute coronary syndrome. Am Heart J. 2007 Jan;153(1):29-35. X-1,X-8
2977. Tang EW, Wong CK, Restieaux NJ, et al. Clinical outcome of older patients with acute coronary syndrome over the last three decades. Age Ageing. 2006 May;35(3):280-5. X-1,X-8
2978. Tang J, Zhao J, Zhao Y, et al. Apolipoprotein E epsilon4 and the risk of unfavorable outcome after aneurysmal subarachnoid hemorrhage. Surg Neurol. 2003 Nov;60(5):391-6; discussion 396-7. X-1,X-5,X-6,X-8
2979. Tang WH, Steinhubl SR, Van Lente F, et al. Risk stratification for patients undergoing nonurgent percutaneous coronary intervention using N-terminal pro-B-type natriuretic peptide: a Clopidogrel for the Reduction of Events During Observation (CREDO) substudy. Am Heart J. 2007 Jan;153(1):36-41. X-1,X-2,X-8
2980. Tanko LB, Christiansen C, Cox DA, et al. Relationship between osteoporosis and cardiovascular disease in postmenopausal women. J Bone Miner Res. 2005 Nov;20(11):1912-20. X-1F,X-2,X-8
2981. Tanne D, Benderly M, Goldbourt U, et al. C-reactive protein as a predictor of incident ischemic stroke among patients with preexisting cardiovascular disease. Stroke. 2006 Jul;37(7):1720-4. X-1,X-8

Appendix O. List of Excluded Studies

2982. Tanne D, Haim M, Boyko V, et al. Soluble intercellular adhesion molecule-1 and risk of future ischemic stroke: a nested case-control study from the Bezafibrate Infarction Prevention (BIP) study cohort. Stroke. 2002 Sep;33(9):2182-6. X-1,X-5,X-6,X-8
2983. Tanne D, Haim M, Goldbourt U, et al. Prospective study of serum homocysteine and risk of ischemic stroke among patients with preexisting coronary heart disease. Stroke. 2003 Mar;34(3):632-6. X-1,X-8
2984. Tanne D, Kasner SE, Demchuk AM, et al. Markers of increased risk of intracerebral hemorrhage after intravenous recombinant tissue plasminogen activator therapy for acute ischemic stroke in clinical practice: the Multicenter rt-PA Stroke Survey. Circulation. 2002 Apr 9;105(14):1679-85. X-1,X-2,X-8
2985. Targonski PV, Bonetti PO, Pumper GM, et al. Coronary endothelial dysfunction is associated with an increased risk of cerebrovascular events. Circulation. 2003 Jun 10;107(22):2805-9. X-1,X-5,X-6
2986. Tartan Z, Uyarel H, Kasikcioglu H, et al. Metabolic syndrome as a predictor of non-dipping hypertension. Tohoku J Exp Med. 2006 Sep;210(1):57-66. X-1,X-6,X-7
2987. Tartiere JM, Henry OF, Safar H, et al. Carotid intima-media thickness and carotid and/or iliofemoral plaques: comparison of two markers of cardiovascular risk in hypertensive patients. J Hypertens. 2003 Apr;21(4):739-46. X-1,X-5
2988. Tay SY, Ampil ER, Chen CP, et al. The relationship between homocysteine, cognition and stroke subtypes in acute stroke. J Neurol Sci. 2006 Dec 1;250(1-2):58-61. X-1,X-5,X-6,X-7,X-8
2989. Taylor AJ. Atherosclerosis imaging to detect and monitor cardiovascular risk. Am J Cardiol. 2002 Nov 21;90(10C):8L-11L. X-1,X-2,X-4,X-5,X-6
2990. Taylor AJ, Arora NS, Bindeman J, et al. Conventional, emerging, heredity, lifestyle, and psychosocial coronary risk factors: relationships to subclinical atherosclerosis. Prev Cardiol. 2006 Winter;9(1):25-32. X-1,X-2,X-5,X-6
2991. Taylor AJ, Bindeman J, Feuerstein I, et al. Coronary calcium independently predicts incident premature coronary heart disease over measured cardiovascular risk factors: mean three-year outcomes in the Prospective Army Coronary Calcium (PACC) project. J Am Coll Cardiol. 2005 Sep 6;46(5):807-14. X-1
2992. Taylor AJ, Bindeman J, Le TP, et al. Progression of calcified coronary atherosclerosis: relationship to coronary risk factors and carotid intima-media thickness. Atherosclerosis. 2008 Mar;197(1):339-45. X-6,X-7
2993. Taylor AJ, Feuerstein I, Wong H, et al. Do conventional risk factors predict subclinical coronary artery disease? Results from the Prospective Army Coronary Calcium Project. Am Heart J. 2001 Mar;141(3):463-8. X-6
2994. Tello-Montoliu A, Molto JM, Lopez-Hernandez N, et al. Common carotid artery intima-media thickness and intracranial pulsatility index in non-ST-elevation acute coronary syndromes. Cerebrovasc Dis. 2007;24(4):338-42. X-1,X-5,X-6,X-8
2995. ten Broecke PW, De Hert SG, Mertens E, et al. Effect of preoperative beta-blockade on perioperative mortality in coronary surgery. Br J Anaesth. 2003 Jan;90(1):27-31. X-1,X-6,X-8
2996. Tentori F, Blayney MJ, Albert JM, et al. Mortality risk for dialysis patients with different levels of serum calcium, phosphorus, and PTH: the Dialysis Outcomes and Practice Patterns Study (DOPPS). Am J Kidney Dis. 2008 Sep;52(3):519-30. X-1D,X-1F,X-2,X-8

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2997. ter Avest E, Holewijn S, Bredie SJ, et al. Pulse wave velocity in familial combined hyperlipidemia. Am J Hypertens. 2007 Mar;20(3):263-9. X-1,X-5,X-6,X-8
2998. Terracciano A, Lockenhoff CE, Zonderman AB, et al. Personality predictors of longevity: activity, emotional stability, and conscientiousness. Psychosom Med. 2008 Jul;70(6):621-7. X-1,X-2,X-6
2999. Thatipelli MR, Pellikka PA, McBane RD, et al. Prognostic value of ankle-brachial index and dobutamine stress echocardiography for cardiovascular morbidity and all-cause mortality in patients with peripheral arterial disease. J Vasc Surg. 2007 Jul;46(1):62-70; discussion 70. X-1F,X-2,X-5,X-8
3000. Thielmann M and Jakob H. Surgical revascularization and perioperative management in patients with non-ST-elevation acute coronary syndromes. Rocz Akad Med Bialymst. 2005;50:37-44. X-1,X-8
3001. Thielmann M, Massoudy P, Neuhauser M, et al. Risk stratification with cardiac troponin I in patients undergoing elective coronary artery bypass surgery. Eur J Cardiothorac Surg. 2005 May;27(5):861-9. X-1,X-8
3002. Thielmann M, Massoudy P, Neuhauser M, et al. Prognostic value of preoperative cardiac troponin I in patients with non-ST-segment elevation acute coronary syndromes undergoing coronary artery bypass surgery. Chest. 2005 Nov;128(5):3526-36. X-1,X-8
3003. Thijs VN and Albers GW. Symptomatic intracranial atherosclerosis: outcome of patients who fail antithrombotic therapy. Neurology. 2000 Aug 22;55(4):490-7. X-7,X-8
3004. Thomas AJ, Eberly LE, Davey Smith G, et al. Race/ethnicity, income, major risk factors, and cardiovascular disease mortality. Am J Public Health. 2005 Aug;95(8):1417-23. X-1F,X-2,X-8(~1.5%)
3005. Thomas GN, Chen XY, Lin JW, et al. Middle cerebral artery stenosis increased the risk of vascular disease mortality among type 2 diabetic patients. Cerebrovasc Dis. 2008;25(3):261-7. X-1,X-2
3006. Thomas KE and Josephson ME. The role of electrophysiology study in risk stratification of sudden cardiac death. Prog Cardiovasc Dis. 2008 Sep-Oct;51(2):97-105. X-1D,X-2,X-4,X-5,X-6,X-7,X-8,X-9
3007. Thomas KL, Al-Khatib SM, Lokhnygina Y, et al. Amiodarone use after acute myocardial infarction complicated by heart failure and/or left ventricular dysfunction may be associated with excess mortality. Am Heart J. 2008 Jan;155(1):87-93. X-1,X-2,X-8
3008. Thomas LC, Rivett DA and Bolton PS. Pre-manipulative testing and the use of the velocimeter. Man Ther. 2008 Feb;13(1):29-36. X-1,X-5
3009. Thompson BH and Stanford W. Update on using coronary calcium screening by computed tomography to measure risk for coronary heart disease. Int J Cardiovasc Imaging. 2005 Feb;21(1):39-53. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3010. Thompson CR, Humphries KH, Gao M, et al. Revascularization use and survival outcomes after cardiac catheterization in British Columbia and Alberta. Can J Cardiol. 2004 Dec;20(14):1417-23. X-1,X-6,X-8
3011. Thomsen TF, Davidsen M, Ibsen H, et al. A new method for CHD prediction and prevention based on regional risk scores and randomized clinical trials; PRECARD and the Copenhagen Risk Score. J Cardiovasc Risk. 2001 Oct;8(5):291-7. X-2
3012. Thomsen TF, McGee D, Davidsen M, et al. A cross-validation of risk-scores for coronary heart disease mortality based on data from the Glostrup Population Studies and Framingham Heart Study. Int J Epidemiol. 2002 Aug;31(4):817-22. X-4,X-5

Appendix O. List of Excluded Studies

3013. Thorand B, Lowel H, Schneider A, et al. C-reactive protein as a predictor for incident diabetes mellitus among middle-aged men: results from the MONICA Augsburg cohort study, 1984-1998. Arch Intern Med. 2003 Jan 13;163(1):93-9. X-1,X-2,X-6
3014. Thrainsdottir IS, Aspelund T, Hardarson T, et al. Glucose abnormalities and heart failure predict poor prognosis in the population-based Reykjavik Study. Eur J Cardiovasc Prev Rehabil. 2005 Oct;12(5):465-71. X-1,X-8
3015. Thurston RC, Kubzansky LD, Kawachi I, et al. Is the association between socioeconomic position and coronary heart disease stronger in women than in men? Am J Epidemiol. 2005 Jul 1;162(1):57-65. X-1F,X-2
3016. Tillin T, Chambers J, Malik I, et al. Measurement of pulse wave velocity: site matters. J Hypertens. 2007 Feb;25(2):383-9. X-1,X-5,X-6,X-7
3017. Tillin T, Forouhi N, McKeigue P, et al. Microalbuminuria and coronary heart disease risk in an ethnically diverse UK population: a prospective cohort study. J Am Soc Nephrol. 2005 Dec;16(12):3702-10. X-1F,X-2,X-6,X-8(2-11%), (England)
3018. Tilling K, Sterne JA, Rudd AG, et al. A new method for predicting recovery after stroke. Stroke. 2001 Dec 1;32(12):2867-73. X-1,X-6,X-8
3019. Timaran CH, Rosero EB, Smith ST, et al. Trends and outcomes of concurrent carotid revascularization and coronary bypass. J Vasc Surg. 2008 Aug;48(2):355-360; discussion 360-1. X-1,X-6,X-8
3020. Tirkes AT, Gottlieb RH, Voci SL, et al. Risk of significant coronary artery disease as determined by CT measurement of the distribution of abdominal adipose tissue. J Comput Assist Tomogr. 2002 Mar-Apr;26(2):210-5. X-1,X-2,X-5,X-7,X-8
3021. Tiroch KA, Arora N, Matheny ME, et al. Risk predictors of retroperitoneal hemorrhage following percutaneous coronary intervention. Am J Cardiol. 2008 Dec 1;102(11):1473-6. X-1,X-2,X-6,X-8
3022. Tjandrawidjaja MC, Fu Y, Al-Khalidi H, et al. Failure of investigator adherence to electrocardiographic entry criteria is frequent and influences clinical outcomes: lessons from APEX-AMI. Eur Heart J. 2007 Dec;28(23):2850-7. X-1,X-2,X-8
3023. Todaro JF, Con A, Niaura R, et al. Combined effect of the metabolic syndrome and hostility on the incidence of myocardial infarction (the Normative Aging Study). Am J Cardiol. 2005 Jul 15;96(2):221-6. X-1F,X-2,X-6
3024. Toft U, Kristoffersen LH, Lau C, et al. The Dietary Quality Score: validation and association with cardiovascular risk factors: the Inter99 study. Eur J Clin Nutr. 2007 Feb;61(2):270-8. X-1,X-5,X-6
3025. Togni M, Eber S, Widmer J, et al. Impact of vessel size on outcome after implantation of sirolimus-eluting and paclitaxel-eluting stents: a subgroup analysis of the SIRTAX trial. J Am Coll Cardiol. 2007 Sep 18;50(12):1123-31. X-1,X-8
3026. Tolbert PE, Klein M, Peel JL, et al. Multipollutant modeling issues in a study of ambient air quality and emergency department visits in Atlanta. J Expo Sci Environ Epidemiol. 2007 Dec;17 Suppl 2:S29-35. X-1,X-2,X-5
3027. Tomiyama H, Arai T, Koji Y, et al. The relationship between high-sensitive C-reactive protein and pulse wave velocity in healthy Japanese men. Atherosclerosis. 2004 Jun;174(2):373-7. X-1,X-2,X-5,X-6
3028. Tonelli M, Wiebe N, Culleton B, et al. Chronic kidney disease and mortality risk: a systematic review. J Am Soc Nephrol. 2006 Jul;17(7):2034-47. X-1,X-2,X-4,X-5,X-6

Appendix O. List of Excluded Studies

3029. Tong DC, Adami A, Moseley ME, et al. Relationship between apparent diffusion coefficient and subsequent hemorrhagic transformation following acute ischemic stroke. Stroke. 2000 Oct;31(10):2378-84. X-1,X-6,X-7,X-8
3030. Tonstad S and Graff-Iversen S. Action levels for obesity treatment in 40 to 42-y-old men and women compared with action levels for prevention of coronary heart disease. Int J Obes Relat Metab Disord. 2001 Nov;25(11):1698-704. X-1G,X-2,X-5,X-6
3031. Topkara VK, Dang NC, John R, et al. A decade experience of cardiac retransplantation in adult recipients. J Heart Lung Transplant. 2005 Nov;24(11):1745-50. X-1,X-8
3032. Topol EJ, Easton D, Harrington RA, et al. Randomized, double-blind, placebo-controlled, international trial of the oral IIb/IIIa antagonist lotrafiban in coronary and cerebrovascular disease. Circulation. 2003 Jul 29;108(4):399-406. X-1,X-2
3033. Torquati A, Wright K, Melvin W, et al. Effect of gastric bypass operation on Framingham and actual risk of cardiovascular events in class II to III obesity. J Am Coll Surg. 2007 May;204(5):776-82; discussion 782-3. X-1
3034. Torres JL and Ridker PM. Clinical use of high sensitivity C-reactive protein for the prediction of adverse cardiovascular events. Curr Opin Cardiol. 2003 Nov;18(6):471-8. X-1,X-3,X-4,X-5,X-6
3035. Touboul PJ, Hernandez-Hernandez R, Kucukoglu S, et al. Carotid artery intima media thickness, plaque and Framingham cardiovascular score in Asia, Africa/Middle East and Latin America: the PARC-AALA study. Int J Cardiovasc Imaging. 2007 Oct;23(5):557-67. X-1
3036. Touboul PJ, Labreuche J, Vicaut E, et al. Carotid intima-media thickness, plaques, and Framingham risk score as independent determinants of stroke risk. Stroke. 2005 Aug;36(8):1741-5. X-1,X-5
3037. Toumpoulis IK, Anagnostopoulos CE, DeRose JJ, et al. Early and midterm outcome after off-pump coronary artery bypass grafting in patients with left ventricular dysfunction. Heart Surg Forum. 2004;7(6):E539-45; discussion E539-45. X-1,X-8
3038. Toumpoulis IK, Anagnostopoulos CE, DeRose JJ, et al. European system for cardiac operative risk evaluation predicts long-term survival in patients with coronary artery bypass grafting. Eur J Cardiothorac Surg. 2004 Jan;25(1):51-8. X-1,X-8
3039. Toumpoulis IK, Anagnostopoulos CE, DeRose JJ, et al. Does EuroSCORE predict length of stay and specific postoperative complications after coronary artery bypass grafting? Int J Cardiol. 2005 Oct 20;105(1):19-25. X-1,X-8
3040. Toumpoulis IK, Anagnostopoulos CE, Swistel DG, et al. Does EuroSCORE predict length of stay and specific postoperative complications after cardiac surgery? Eur J Cardiothorac Surg. 2005 Jan;27(1):128-33. X-1,X-8
3041. Touze E, Varenne O, Chatellier G, et al. Risk of myocardial infarction and vascular death after transient ischemic attack and ischemic stroke: a systematic review and meta-analysis. Stroke. 2005 Dec;36(12):2748-55. X-1,X-4,X-5,X-8
3042. Toyama T, Hoshizaki H, Seki R, et al. Evaluation of myocardial viability following acute myocardial infarction using 201Tl SPECT after thallium-glucose-insulin infusion--comparison with 18F-FDG positron emission tomography. Ann Nucl Med. 2004 Sep;18(6):463-8. X-1,X-2,X-6,X-7,X-8
3043. Toyoda K, Okada Y, Ibayashi S, et al. Antithrombotic therapy and predilection for cerebellar hemorrhage. Cerebrovasc Dis. 2007;23(2-3):109-16. X-1,X-2,X-8

Appendix O. List of Excluded Studies

3044. Trehan N, Khanna SN, Mishra Y, et al. Predictors of early outcome after coronary artery surgery in patients with severe left ventricular dysfunction. J Card Surg. 2003 Mar-Apr;18(2):101-6. X-1,X-6,X-8
3045. Tretter MJ, Jr., Hertzer NR, Mascha EJ, et al. Perioperative risk and late outcome of nonelective carotid endarterectomy. J Vasc Surg. 1999 Oct;30(4):618-31. X-1,X-6,X-8
3046. Tricoci P, Peterson ED, Mulgund J, et al. Temporal trends in the use of early cardiac catheterization in patients with non-ST-segment elevation acute coronary syndromes (results from CRUSADE). Am J Cardiol. 2006 Nov 1;98(9):1172-6. X-1,X-2,X-5,X-6,X-8
3047. Tripathi M and Pandey M. Intrathoracic pulmonary artery catheter allocation in the of left atrial dilatation. J Cardiovasc Surg (Torino). 2003 Dec;44(6):719-24. X-1,X-2,X-6,X-7,X-8
3048. Tsai HK, D'Amico AV, Sadetsky N, et al. Androgen deprivation therapy for localized prostate cancer and the risk of cardiovascular mortality. J Natl Cancer Inst. 2007 Oct 17;99(20):1516-24. X-1
3049. Tsang TS, Barnes ME, Gersh BJ, et al. Prediction of risk for first age-related cardiovascular events in an elderly population: the incremental value of echocardiography. J Am Coll Cardiol. 2003 Oct 1;42(7):1199-205. X-2
3050. Tschanz JT, Corcoran C, Skoog I, et al. Dementia: the leading predictor of death in a defined elderly population: the Cache County Study. Neurology. 2004 Apr 13;62(7):1156-62. X-1,X-2,X-6
3051. Tsukamoto T, Morita K, Naya M, et al. Myocardial flow reserve is influenced by both coronary artery stenosis severity and coronary risk factors in patients with suspected coronary artery disease. Eur J Nucl Med Mol Imaging. 2006 Oct;33(10):1150-6. X-1,X-2,X-5,X-6,X-7,X-8
3052. Tsuru R, Kondo H, Hojo Y, et al. Increased granzyme B production from peripheral blood mononuclear cells in patients with acute coronary syndrome. Heart. 2008 Mar;94(3):305-10. X-1,X-5,X-6,X-7,X-8
3053. Tsuruda T, Kato J, Sumi T, et al. Combined use of brain natriuretic peptide and C-reactive protein for predicting cardiovascular risk in outpatients with type 2 diabetes mellitus. Vasc Health Risk Manag. 2007;3(4):417-23. X-7
3054. Tsushima Y, Aoki J and Endo K. Brain microhemorrhages detected on T2*-weighted gradient-echo MR images. AJNR Am J Neuroradiol. 2003 Jan;24(1):88-96. X-1,X-2
3055. Tsutsumi A, Kayaba K, Kario K, et al. Prospective study on occupational stress and risk of stroke. Arch Intern Med. 2009 Jan 12;169(1):56-61. X-1,X-2
3056. Tu JV, Wang H, Bowyer B, et al. Risk factors for death or stroke after carotid endarterectomy: observations from the Ontario Carotid Endarterectomy Registry. Stroke. 2003 Nov;34(11):2568-73. X-1G,X-2,X-8
3057. Tugtekin S, Kappert U, Alexiou K, et al. Coronary artery bypass grafting in octogenarians--outcome with and without extracorporeal circulation. Thorac Cardiovasc Surg. 2007 Oct;55(7):407-11. X-1,X-6,X-8
3058. Tully MA, Cupples ME, Chan WS, et al. Brisk walking, fitness, and cardiovascular risk: a randomized controlled trial in primary care. Prev Med. 2005 Aug;41(2):622-8. X-1X-7
3059. Tunstall-Pedoe H. The Dundee coronary risk-disk for management of change in risk factors. BMJ. 1991 Sep 28;303(6805):744-7. X-2
3060. Tuomainen AM, Nyyssonen K, Laukkanen JA, et al. Serum matrix metalloproteinase-8 concentrations are associated with cardiovascular outcome in men. Arterioscler Thromb Vasc Biol. 2007 Dec;27(12):2722-8. X-1E,X-1F,X-2

Appendix O. List of Excluded Studies

3061. Turhan H, Erbay AR, Yasar AS, et al. Plasma soluble adhesion molecules; intercellular adhesion molecule-1, vascular cell adhesion molecule-1 and E-selectin levels in patients with isolated coronary artery ectasia. Coron Artery Dis. 2005 Feb;16(1):45-50. X-1,X-2,X-5,X-6,X-7,X-8
3062. Turin TC, Kita Y, Murakami Y, et al. Increase of stroke incidence after weekend regardless of traditional risk factors: Takashima Stroke Registry, Japan; 1988-2003. Cerebrovasc Dis. 2007;24(4):328-37. X-2
3063. Tuttolomondo A, Pinto A, Salemi G, et al. Diabetic and non-diabetic subjects with ischemic stroke: differences, subtype distribution and outcome. Nutr Metab Cardiovasc Dis. 2008 Feb;18(2):152-7. X-5
3064. Tverdal A. Calculation of risk for the development of acute myocardial infarction in the normal population based on long-term follow-up studies: smokers compared with non-smokers. J Cardiovasc Risk. 1999 Oct;6(5):287-91. X-1E,X-1F,X-2
3065. Twisk JW, Kemper HC and van Mechelen W. Prediction of cardiovascular disease risk factors later in life by physical activity and physical fitness in youth: introduction. Int J Sports Med. 2002 May;23 Suppl 1:S5-7. X-2,X-4,X-5,X-6,X-7,X-8
3066. Tziakas DN, Chalikias GK, Kaski JC, et al. Inflammatory and anti-inflammatory variable clusters and risk prediction in acute coronary syndrome patients: a factor analysis approach. Atherosclerosis. 2007 Jul;193(1):196-203. X-1,X-8
3067. Ueda K, Tsukuma H, Tanaka H, et al. Estimation of individualized probabilities of developing breast cancer for Japanese women. Breast Cancer. 2003;10(1):54-62. X-1,X-2,X-6
3068. Ueda R, Yokouchi M, Suzuki T, et al. Prognostic value of high plasma brain natriuretic peptide concentrations in very elderly persons. Am J Med. 2003 Mar;114(4):266-70. X-1,X-6,X-7
3069. Uehara R, Yashiro M, Hayasaka S, et al. Serum alanine aminotransferase concentrations in patients with Kawasaki disease. Pediatr Infect Dis J. 2003 Sep;22(9):839-42. X-1,X-6
3070. Ueno H, Nakayama M, Kojima S, et al. The synergistic combined effect of anemia with high plasma levels of B-type natriuretic peptide significantly predicts an enhanced risk for major adverse cardiac events. Heart Vessels. 2008 Jul;23(4):243-8. X-1,X-2,X-7
3071. Ugarte MD, Ibanez B and Militino AF. Modelling risks in disease mapping. Stat Methods Med Res. 2006 Feb;15(1):21-35. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3072. Ugolini C and Nobilio L. Risk adjustment for coronary artery bypass graft surgery: an administrative approach versus EuroSCORE. Int J Qual Health Care. 2004 Apr;16(2):157-64. X-1,X-2,X-5,X-6
3073. Uitterlinden AG, Fang Y, Van Meurs JB, et al. Genetics and biology of vitamin D receptor polymorphisms. Gene. 2004 Sep 1;338(2):143-56. X-1,X-2,X-4,X-5,X-6
3074. Uitterlinden AG, Fang Y, van Meurs JB, et al. Vitamin D receptor gene polymorphisms in relation to Vitamin D related disease states. J Steroid Biochem Mol Biol. 2004 May;89-90(1-5):187-93. X-1,X-2,X-4,X-5,X-6
3075. Ulgen MS, Bilici A, Acar M, et al. The relationship of coronary artery disease and carotid Doppler flow velocity and resistance index in patients with no significant carotid stenosis. Angiology. 2001 Jun;52(6):433-4. X-1
3076. Ulus T, Yildirir A, Sade LE, et al. Serum gamma-glutamyl transferase activity: new high-risk criteria in acute coronary syndrome patients? Coron Artery Dis. 2008 Nov;19(7):489-95. X-1,X-2,X-7,X-8

Appendix O. List of Excluded Studies

3077. Umana JP, Miller DC and Mitchell RS. What is the best treatment for patients with acute type B aortic dissections--medical, surgical, or endovascular stent-grafting? Ann Thorac Surg. 2002 Nov;74(5):S1840-3; discussion S1857-63. X-1,X-2,X-6,X-7
3078. Unwin N, Shaw J, Zimmet P, et al. Impaired glucose tolerance and impaired fasting glycaemia: the current status on definition and intervention. Diabet Med. 2002 Sep;19(9):708-23. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3079. Urbonaviciene G, Urbonavicius S, Vorum H, et al. Evaluation of prognostic clinical and ECG parameters in patients after myocardial infarction by applying logistic regression method. Pacing Clin Electrophysiol. 2008 Nov;31(11):1391-8. X-1,X-2,X-7,X-8
3080. Usmani A, Sharma P and Aneja A. Can brain natriuretic peptide identify noncardiac surgery patients at high risk for cardiac events? Cleve Clin J Med. 2007 Sep;74 Suppl 1:S12-3. X-1
3081. Uthoff H, Staub D, Meyerhans A, et al. Intima-media thickness and carotid resistive index: progression over 6 years and predictive value for cardiovascular events. Ultraschall Med. 2008 Dec;29(6):604-10. X-1,X-2,X-7,X-8
3082. Uyttenboogaart M, Koch MW, Koopman K, et al. Safety of antiplatelet therapy prior to intravenous thrombolysis in acute ischemic stroke. Arch Neurol. 2008 May;65(5):607-11. X-1,X-2,X-5,X-6,X-8
3083. Uyttenboogaart M, Vroomen PC, Stewart RE, et al. Safety of routine IV thrombolysis between 3 and 4.5 h after ischemic stroke. J Neurol Sci. 2007 Mar 15;254(1-2):28-32. X-1,X-7,X-8
3084. Uzunca I, Asil T, Balci K, et al. Evaluation of vasomotor reactivity by transcranial Doppler sonography in patients with acute stroke who have symptomatic intracranial and extracranial stenosis. J Ultrasound Med. 2007 Feb;26(2):179-85. X-1,X-7,X-8
3085. Vaananen A, Koskinen A, Joensuu M, et al. Lack of predictability at work and risk of acute myocardial infarction: an 18-year prospective study of industrial employees. Am J Public Health. 2008 Dec;98(12):2264-71. X-1,X-2
3086. Vaccarino V, Abramson JL, Veledar E, et al. Sex differences in hospital mortality after coronary artery bypass surgery: evidence for a higher mortality in younger women. Circulation. 2002 Mar 12;105(10):1176-81. X-1,X-5,X-8
3087. Vaidya D, Kelemen MD, Bittner V, et al. Fasting plasma glucose predicts survival and angiographic progression in high-risk postmenopausal women with coronary artery disease. J Womens Health (Larchmt). 2007 Mar;16(2):228-34. X-1F,X-2,X-8
3088. Valdes-Canedo F, Pita-Fernandez S, Seijo-Bestilleiro R, et al. Incidence of cardiovascular events in renal transplant recipients and clinical relevance of modifiable variables. Transplant Proc. 2007 Sep;39(7):2239-41. X-1F,X-2,X-8
3089. Valencia JF, Vallverdu M, Cygankiewicz I, et al. Multiscale regularity analysis of the Heart Rate Variability: stratification of cardiac death risk. Conf Proc IEEE Eng Med Biol Soc. 2007;2007:5947-50. X-1,X-8
3090. Valenzuela LF, Vazquez R, Fournier JA, et al. Prediction of infarction-related artery occlusion and multivessel disease in postinfarction angina. Int J Cardiol. 2007 Feb 14;115(3):381-5. X-1,X-7,X-8
3091. Valeti US, Miller TD, Hodge DO, et al. Exercise single-photon emission computed tomography provides effective risk stratification of elderly men and elderly women. Circulation. 2005 Apr 12;111(14):1771-6. X-1D,X-1F,X-1G,X-8(MI, 13%W, 20%M)

3092. Valgimigli M, Serruys PW, Tsuchida K, et al. Cyphering the complexity of coronary artery disease using the syntax score to predict clinical outcome in patients with three-vessel lumen obstruction undergoing percutaneous coronary intervention. Am J Cardiol. 2007 Apr 15;99(8):1072-81. X-1,X-8
3093. Vallejo E, Morales M, Sanchez I, et al. Myocardial perfusion SPECT imaging in patients with myocardial bridging. J Nucl Cardiol. 2005 May-Jun;12(3):318-23. X-1,X-6,X-7,X-8
3094. van Bemmel T, Vinkers DJ, Macfarlane PW, et al. Markers of autonomic tone on a standard ECG are predictive of mortality in old age. Int J Cardiol. 2006 Feb 8;107(1):36-41. X-1F,X-2,X-6,X-8
3095. van den Belt-Dusebout AW, Nuver J, de Wit R, et al. Long-term risk of cardiovascular disease in 5-year survivors of testicular cancer. J Clin Oncol. 2006 Jan 20;24(3):467-75. X-1,X-2
3096. van der Harst P, Voors AA, Volbeda M, et al. Usefulness of preoperative C-reactive protein and soluble intercellular adhesion molecule-1 level for predicting future cardiovascular events after coronary artery bypass grafting. Am J Cardiol. 2006 Jun 15;97(12):1697-701. X-1,X-7,X-8
3097. van der Meer IM, de Maat MP, Kiliaan AJ, et al. The value of C-reactive protein in cardiovascular risk prediction: the Rotterdam Study. Arch Intern Med. 2003 Jun 9;163(11):1323-8. X-1,X-5
3098. van der Net JB, Janssens AC, Defesche JC, et al. Usefulness of genetic polymorphisms and conventional risk factors to predict coronary heart disease in patients with familial hypercholesterolemia. Am J Cardiol. 2009 Feb 1;103(3):375-80. X-1
3099. van der Steeg WA, Boekholdt SM, Stein EA, et al. Role of the apolipoprotein B-apolipoprotein A-I ratio in cardiovascular risk assessment: a case-control analysis in EPIC-Norfolk. Ann Intern Med. 2007 May 1;146(9):640-8. X-1
3100. van der Weijden T, van Steenkiste B, Stoffers HE, et al. Primary prevention of cardiovascular diseases in general practice: mismatch between cardiovascular risk and patients' risk perceptions. Med Decis Making. 2007 Nov-Dec;27(6):754-61. X-1,X-2,X-5,X-6
3101. van Domburg RT, Scmidt Pedersen S, van den Brand MJ, et al. Feelings of being disabled as a predictor of mortality in men 10 years after percutaneous coronary transluminal angioplasty. J Psychosom Res. 2001 Sep;51(3):469-77. X-1,X-2,X-6,X-8
3102. van Domburg RT, Takkenberg JJ, van Herwerden LA, et al. Short-term and 5-year outcome after primary isolated coronary artery bypass graft surgery: results of risk stratification in a bilocation center. Eur J Cardiothorac Surg. 2002 Apr;21(4):733-40. X-1,X-8
3103. van Exel E, Gussekloo J, de Craen AJ, et al. Inflammation and stroke: the Leiden 85-Plus Study. Stroke. 2002 Apr;33(4):1135-8. X-1,X-2,X-8
3104. van Gameren M, Kappetein AP, Steyerberg EW, et al. Do we need separate risk stratification models for hospital mortality after heart valve surgery? Ann Thorac Surg. 2008 Mar;85(3):921-30. X-1,X-8
3105. van Gorp MJ, Steyerberg EW, Kallewaard M, et al. Clinical prediction rule for 30-day mortality in Bjork-Shiley convexo-concave valve replacement. J Clin Epidemiol. 2003 Oct;56(10):1006-12. X-1

Appendix O. List of Excluded Studies

3106. van Melle JP, de Jonge P, Kuyper AM, et al. Prediction of depressive disorder following myocardial infarction data from the Myocardial INfarction and Depression-Intervention Trial (MIND-IT). Int J Cardiol. 2006 Apr 28;109(1):88-94. X-1,X-6,X-8
3107. Van Puymbroeck M and Rittman MR. Quality-of-life predictors for caregivers at 1 and 6 months poststroke: Results of path analyses. J Rehabil Res Dev. 2005 Nov-Dec;42(6):747-60. X-1,X-2,X-6,X-8
3108. van Steenkiste B, van der Weijden TM, Stoffers JH, et al. Patients' responsiveness to a decision support tool for primary prevention of cardiovascular diseases in primary care. Patient Educ Couns. 2008 Jul;72(1):63-70. X-1,X-2,X-6
3109. Van Voorhees BW, Paunesku D, Gollan J, et al. Predicting future risk of depressive episode in adolescents: the Chicago Adolescent Depression Risk Assessment (CADRA). Ann Fam Med. 2008 Nov-Dec;6(6):503-11. X-1,X-6
3110. van Walraven C, Hart RG, Wells GA, et al. A clinical prediction rule to identify patients with atrial fibrillation and a low risk for stroke while taking aspirin. Arch Intern Med. 2003 Apr 28;163(8):936-43. X-1,X-6
3111. Van Werkhoven JM, Schuijf JD, Jukema JW, et al. Multi-slice computed tomography coronary angiography: anatomic vs functional assessment in clinical practice. Minerva Cardioangiol. 2008 Apr;56(2):215-26. X-1C,X-1F,X-1G,X-2,X-4,X-5,X-6,,X-7,X-8,X-9
3112. Vanagas G, Kinduris S and Buivydaite K. Assessment of validity for EuroSCORE risk stratification system. Scand Cardiovasc J. 2005 Apr;39(1-2):67-70. X-1B,X-2,X-8(CABG, 100%)
3113. Vanninen E, Kuikka JT, Aikia M, et al. Heterogeneity of cerebral blood flow in symptomatic patients undergoing carotid endarterectomy. Nucl Med Commun. 2003 Aug;24(8):893-900. X-1,X-2,X-8
3114. Varas-Lorenzo C, Maguire A, Castellsague J, et al. Quantitative assessment of the gastrointestinal and cardiovascular risk-benefit of celecoxib compared to individual NSAIDs at the population level. Pharmacoepidemiol Drug Saf. 2007 Apr;16(4):366-76. X-1,X-6
3115. Varela G, Cordovilla R, Jimenez MF, et al. Utility of standardized exercise oximetry to predict cardiopulmonary morbidity after lung resection. Eur J Cardiothorac Surg. 2001 Mar;19(3):351-4. X-1,X-7
3116. Varga A, Gruber N, Forster T, et al. Atherosclerosis of the descending aorta predicts cardiovascular events: a transesophageal echocardiography study. Cardiovasc Ultrasound. 2004;2:21. X-1D,X-1F,X-2,X-6,X-8(~15%)
3117. Vargas RB, Mangione CM, Asch S, et al. Can a chronic care model collaborative reduce heart disease risk in patients with diabetes? J Gen Intern Med. 2007 Feb;22(2):215-22. X-1,X-6,X-8
3118. Varosy PD, Shlipak MG, Vittinghoff E, et al. Fracture and the risk of coronary events in women with heart disease. Am J Med. 2003 Aug 15;115(3):196-202. X-1,X-8
3119. Vartdal T, Brunvand H, Pettersen E, et al. Early prediction of infarct size by strain Doppler echocardiography after coronary reperfusion. J Am Coll Cardiol. 2007 Apr 24;49(16):1715-21. X-1,X-2,X-6,X-7,X-8
3120. Vasan RS, Massaro JM, Wilson PW, et al. Antecedent blood pressure and risk of cardiovascular disease: the Framingham Heart Study. Circulation. 2002 Jan 1;105(1):48-53. X-1F,X-2

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3121. Vasan RS, Sullivan LM, Wilson PW, et al. Relative importance of borderline and elevated levels of coronary heart disease risk factors. Ann Intern Med. 2005 Mar 15;142(6):393-402. X-1F,X-2
3122. Vasu S, Gruberg L and Brown DL. The impact of advanced chronic kidney disease on in-hospital mortality following percutaneous coronary intervention for acute myocardial infarction. Catheter Cardiovasc Interv. 2007 Nov 1;70(5):701-5. X-1,X-6,X-8
3123. Veeger NJ, Panday GF, Voors AA, et al. Excellent long-term clinical outcome after coronary artery bypass surgery using three pedicled arterial grafts in patients with three-vessel disease. Ann Thorac Surg. 2008 Feb;85(2):508-12. X-1,X-5,X-8
3124. Veenhuyzen GD, Singh SN, McAreavey D, et al. Prior coronary artery bypass surgery and risk of death among patients with ischemic left ventricular dysfunction. Circulation. 2001 Sep 25;104(13):1489-93. X-1,X-2,X-8
3125. Vendrell J, Fernandez-Real JM, Gutierrez C, et al. A polymorphism in the promoter of the tumor necrosis factor-alpha gene (-308) is associated with coronary heart disease in type 2 diabetic patients. Atherosclerosis. 2003 Apr;167(2):257-64. X-1,X-5,X-6
3126. Venkatachalm L, Georgievski AB, Al Yazeedi W, et al. Length of stay in in-patient rehabilitation after stroke in Qatar. ScientificWorldJournal. 2008;8:547-55. X-1,X-5,X-6,X-7,X-8
3127. Venkataraman R, Hage FG, Dorfman T, et al. Role of myocardial perfusion imaging in patients with end-stage renal disease undergoing coronary angiography. Am J Cardiol. 2008 Dec 1;102(11):1451-6. X-1,X-2,X-6,X-7
3128. Verdecchia P, Angeli F, Reboldi G, et al. Improved cardiovascular risk stratification by a simple ECG index in hypertension. Am J Hypertens. 2003 Aug;16(8):646-52. X-1,X-2
3129. Verdecchia P, Porcellati C, Reboldi G, et al. Left ventricular hypertrophy as an independent predictor of acute cerebrovascular events in essential hypertension. Circulation. 2001 Oct 23;104(17):2039-44. X-1F,X-2
3130. Verdecchia P, Reboldi G, Porcellati C, et al. Risk of cardiovascular disease in relation to achieved office and ambulatory blood pressure control in treated hypertensive subjects. J Am Coll Cardiol. 2002 Mar 6;39(5):878-85. X-1,X-2,X-8
3131. Vergopoulos A, Knoblauch H and Schuster H. DNA testing for familial hypercholesterolemia: improving disease recognition and patient care. Am J Pharmacogenomics. 2002;2(4):253-62. X-1,X-2,X-4,X-5,X-6
3132. Verma S. C-reactive protein incites atherosclerosis. Can J Cardiol. 2004 Aug;20 Suppl B:29B-31B. X-1,X-2,X-4,X-5,X-6
3133. Verma S, Szmitko PE and Ridker PM. C-reactive protein comes of age. Nat Clin Pract Cardiovasc Med. 2005 Jan;2(1):29-36; quiz 58. X-2,X-4,X-5,X-6,X-7,X-8
3134. Verma S, Wang CH, Li SH, et al. The relationship between soluble CD40 ligand levels and Framingham coronary heart disease risk score in healthy volunteers. Atherosclerosis. 2005 Oct;182(2):361-5. X-1E,X-1F,X-2,X-5,X-6,X-8
3135. Verma S, Wang CH, Lonn E, et al. Cross-sectional evaluation of brachial artery flow-mediated vasodilation and C-reactive protein in healthy individuals. Eur Heart J. 2004 Oct;25(19):1754-60. X-1F,X-2,X-6
3136. Vermeer SE, Algra A, Franke CL, et al. Long-term prognosis after recovery from primary intracerebral hemorrhage. Neurology. 2002 Jul 23;59(2):205-9. X-1,X-8
3137. Vermeulen EG, Rauwerda JA, Erix P, et al. Normohomocysteinaemia and vitamin-treated hyperhomocysteinaemia are associated with similar risks of cardiovascular events in

patients with premature atherothrombotic cerebrovascular disease. A prospective cohort study. Neth J Med. 2000 Apr;56(4):138-46. X-1,X-8
3138. Vermeulen MJ, Tu JV and Schull MJ. ICD-10 adaptations of the Ontario acute myocardial infarction mortality prediction rules performed as well as the original versions. J Clin Epidemiol. 2007 Sep;60(9):971-4. X-2,X-6,X-8
3139. Vernick W and Fleisher LA. Risk stratification. Best Pract Res Clin Anaesthesiol. 2008 Mar;22(1):1-21. X-2,X-4,X-5,X-6,X-7,X-8
3140. Verrier RL, Nearing BD, La Rovere MT, et al. Ambulatory electrocardiogram-based tracking of T wave alternans in postmyocardial infarction patients to assess risk of cardiac arrest or arrhythmic death. J Cardiovasc Electrophysiol. 2003 Jul;14(7):705-11. X-1,X-5,X-7,X-8
3141. Viazzi F, Leoncini G, Parodi D, et al. Impact of target organ damage assessment in the evaluation of global risk in patients with essential hypertension. J Am Soc Nephrol. 2005 Mar;16 Suppl 1:S89-91. X-1C,X-2,X-5,X-6
3142. Vikse BE, Irgens LM, Bostad L, et al. Adverse perinatal outcome and later kidney biopsy in the mother. J Am Soc Nephrol. 2006 Mar;17(3):837-45. X-1,X-2,X-6
3143. Vila N, Millan M, Ferrer X, et al. Levels of alpha1-antitrypsin in plasma and risk of spontaneous cervical artery dissections: a case-control study. Stroke. 2003 Sep;34(9):E168-9. X-1,X-2,X-5,X-6,X-7,X-8
3144. Villella M, Villella A, Santoro L, et al. Ergometric score systems after myocardial infarction: prognostic performance of the Duke Treadmill Score, Veterans Administration Medical Center Score, and of a novel score system, GISSI-2 Index, in a cohort of survivors of acute myocardial infarction. Am Heart J. 2003 Mar;145(3):475-83. X-1,X-6,X-8
3145. Villeneuve PJ, Burnett RT, Shi Y, et al. A time-series study of air pollution, socioeconomic status, and mortality in Vancouver, Canada. J Expo Anal Environ Epidemiol. 2003 Nov;13(6):427-35. X-1,X-5,X-6
3146. Villuendas R and Kadish AH. Cardiac magnetic resonance for risk stratification: the sudden death risk portrayed. Prog Cardiovasc Dis. 2008 Sep-Oct;51(2):128-34. X-2,X-6
3147. Vinereanu D. Risk factors for atherosclerotic disease: present and future. Herz. 2006 Dec;31 Suppl 3:5-24. X-1,X-2,X-4,X-5,X-6
3148. Virani SS, Polsani VR and Nambi V. Novel markers of inflammation in atherosclerosis. Curr Atheroscler Rep. 2008 Apr;10(2):164-70. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3149. Virdis A and Schiffrin EL. Vascular inflammation: a role in vascular disease in hypertension? Curr Opin Nephrol Hypertens. 2003 Mar;12(2):181-7. X-1,X-4
3150. Viskin S, Ish-Shalom M, Koifman E, et al. Ventricular flutter induced during electrophysiologic studies in patients with old myocardial infarction: clinical and electrophysiologic predictors, and prognostic significance. J Cardiovasc Electrophysiol. 2003 Sep;14(9):913-9. X-1,X-6,X-8
3151. Viswanathan A, Rakich SM, Engel C, et al. Antiplatelet use after intracerebral hemorrhage. Neurology. 2006 Jan 24;66(2):206-9. X-1,X-8
3152. Vivekananthan DP, Bhatt DL, Chew DP, et al. Effect of clopidogrel pretreatment on periprocedural rise in C-reactive protein after percutaneous coronary intervention. Am J Cardiol. 2004 Aug 1;94(3):358-60. X-1
3153. Vlaar PJ, Rihal CS, Singh M, et al. Safety and efficacy of drug-eluting stent for ST-segment elevation myocardial infarction in an unselected consecutive cohort. Catheter Cardiovasc Interv. 2008 May 1;71(6):764-9. X-1,X-2,X-8

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3154. Voetsch B, Benke KS, Damasceno BP, et al. Paraoxonase 192 Gln-->Arg polymorphism: an independent risk factor for nonfatal arterial ischemic stroke among young adults. Stroke. 2002 Jun;33(6):1459-64. X-1,X-2,X-5,X-8
3155. Vogel RA. The changing view of hormone replacement therapy. Rev Cardiovasc Med. 2003 Spring;4(2):68-71. X-1,X-4
3156. Vogel RA and Benitez RM. Noninvasive assessment of cardiovascular risk: from Framingham to the future. Rev Cardiovasc Med. 2000 Summer;1(1):34-42. X-2,X-4,X-5,X-6
3157. Vojdani A. Antibodies as predictors of complex autoimmune diseases. Int J Immunopathol Pharmacol. 2008 Apr-Jun;21(2):267-78. X-1,X-2
3158. Voko Z, Hollander M, Koudstaal PJ, et al. How do American stroke risk functions perform in a Western European population? Neuroepidemiology. 2004 Sep-Oct;23(5):247-53. X-2
3159. Volcik KA, Ballantyne CM, Braun MC, et al. Association of the complement factor H Y402H polymorphism with cardiovascular disease is dependent upon hypertension status: The ARIC study. Am J Hypertens. 2008 May;21(5):533-8. X-1
3160. Volpato S, Guralnik JM, Ferrucci L, et al. Cardiovascular disease, interleukin-6, and risk of mortality in older women: the women's health and aging study. Circulation. 2001 Feb 20;103(7):947-53. X-1,X-6
3161. von Beckerath N, Koch W, Mehilli J, et al. Glycoprotein Ia C807T polymorphism and risk of restenosis following coronary stenting. Atherosclerosis. 2001 Jun;156(2):463-8. X-1,X-2,X-8
3162. von Beckerath N, Schusterschitz Y, Koch W, et al. G protein beta 3 subunit 825T allele carriage and risk of coronary artery disease. Atherosclerosis. 2003 Mar;167(1):135-9. X-1,X-5,X-6
3163. von Kummer R. Early major ischemic changes on computed tomography should preclude use of tissue plasminogen activator. Stroke. 2003 Mar;34(3):820-1. X-1
3164. Vos LE, Oren A, Bots ML, et al. Does a routinely measured blood pressure in young adolescence accurately predict hypertension and total cardiovascular risk in young adulthood? J Hypertens. 2003 Nov;21(11):2027-34. X-1,X-6
3165. Vos LE, Oren A, Bots ML, et al. Birth size and coronary heart disease risk score in young adulthood. The Atherosclerosis Risk in Young Adults (ARYA) study. Eur J Epidemiol. 2006;21(1):33-8. X-1,X-2,X-6,X-9
3166. Voss R, Cullen P, Schulte H, et al. Prediction of risk of coronary events in middle-aged men in the Prospective Cardiovascular Munster Study (PROCAM) using neural networks. Int J Epidemiol. 2002 Dec;31(6):1253-62; discussion 1262-64. X-1
3167. Vrentzos GE, Papadakis JA, Ganotakis ES, et al. Predicting coronary heart disease risk using the Framingham and PROCAM equations in dyslipidaemic patients without overt vascular disease. Int J Clin Pract. 2007 Oct;61(10):1643-53. X-1G,X-2,X-5,X-6
3168. Vukovich TC, Mustafa S, Rumpold H, et al. Evaluation of a turbidimetric Denka Seiken C-reactive protein assay for cardiovascular risk estimation and conventional inflammation diagnosis. Clin Chem. 2003 Mar;49(3):511-2. X-1F,X-2,X-5,X-6,X-7,X-8,X-9
3169. Wachtell K, Okin PM, Olsen MH, et al. Regression of electrocardiographic left ventricular hypertrophy during antihypertensive therapy and reduction in sudden cardiac death: the LIFE Study. Circulation. 2007 Aug 14;116(7):700-5. X-1,X-2,X-6
3170. Wackers FJ. Diabetes and coronary artery disease: the role of stress myocardial perfusion imaging. Cleve Clin J Med. 2005 Jan;72(1):21-5, 29-33. X-1,X-2,X-4,X-5,X-6,X-7,X-8

3171. Waggoner JR, 3rd, Wass CT, Polis TZ, et al. The effect of changing transfusion practice on rates of perioperative stroke and myocardial infarction in patients undergoing carotid endarterectomy: a retrospective analysis of 1114 Mayo Clinic patients. Mayo Perioperative Outcomes Group. Mayo Clin Proc. 2001 Apr;76(4):376-83. X-1,X-6,X-8
3172. Wagner J, Lacey K, Chyun D, et al. Development of a questionnaire to measure heart disease risk knowledge in people with diabetes: the Heart Disease Fact Questionnaire. Patient Educ Couns. 2005 Jul;58(1):82-7. X-1,X-5,X-6
3173. Wahl A, Paetsch I, Roethemeyer S, et al. High-dose dobutamine-atropine stress cardiovascular MR imaging after coronary revascularization in patients with wall motion abnormalities at rest. Radiology. 2004 Oct;233(1):210-6. X-1,X-2,X-5,X-6,X-7,X-8
3174. Waisbren EC, Stevens LM, Avery EG, et al. Changes in mitral regurgitation after replacement of the stenotic aortic valve. Ann Thorac Surg. 2008 Jul;86(1):56-62. X-1,X-2,X-5,X-6,X-8
3175. Walldius G, Aastveit AH and Jungner I. Stroke mortality and the apoB/apoA-I ratio: results of the AMORIS prospective study. J Intern Med. 2006 Mar;259(3):259-66. X-2
3176. Wallis EJ, Ramsay LE, Haq IU, et al. Is coronary risk an accurate surrogate for cardiovascular risk for treatment decisions in mild hypertension? A population validation. J Hypertens. 2001 Apr;19(4):691-6. X-1F,X-2,X-5,X-6
3177. Wallis EJ, Ramsay LE, Ul Haq I, et al. Coronary and cardiovascular risk estimation for primary prevention: validation of a new Sheffield table in the 1995 Scottish health survey population. BMJ. 2000 Mar 11;320(7236):671-6. X-1,X-2,X-5,X-6
3178. Wallner S, Watzinger N, Lindschinger M, et al. Effects of intensified lifestyle modification on the need for further revascularization after coronary angioplasty. Eur J Clin Invest. 1999 May;29(5):372-9. X-1,X-6,X-8
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3185. Wang J, Zhang S, Jin Y, et al. Elevated levels of platelet-monocyte aggregates and related circulating biomarkers in patients with acute coronary syndrome. Int J Cardiol. 2007 Feb 14;115(3):361-5. X-1,X-5,X-6,X-7
3186. Wang JJ, Liew G, Wong TY, et al. Retinal vascular calibre and the risk of coronary heart disease-related death. Heart. 2006 Nov;92(11):1583-7. X-1F,X-2,X-8

Appendix O. List of Excluded Studies

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3188. Wang TJ, Evans JC, Benjamin EJ, et al. Natural history of asymptomatic left ventricular systolic dysfunction in the community. Circulation. 2003 Aug 26;108(8):977-82. X-1,X-6,X-8
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3190. Wang TJ, Massaro JM, Levy D, et al. A risk score for predicting stroke or death in individuals with new-onset atrial fibrillation in the community: the Framingham Heart Study. JAMA. 2003 Aug 27;290(8):1049-56. X-2
3191. Wang Y, Lim LL, Heller RF, et al. A prediction model of 1-year mortality for acute ischemic stroke patients. Arch Phys Med Rehabil. 2003 Jul;84(7):1006-11. X-1,X-6,X-8
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3193. Wannamethee SG and Shaper AG. Taking up regular drinking in middle age: effect on major coronary heart disease events and mortality. Heart. 2002 Jan;87(1):32-6. X-2,X-8
3194. Wannamethee SG, Shaper AG, Lennon L, et al. Height loss in older men: associations with total mortality and incidence of cardiovascular disease. Arch Intern Med. 2006 Dec 11-25;166(22):2546-52. X-1,X-2
3195. Warensjo E, Sundstrom J, Vessby B, et al. Markers of dietary fat quality and fatty acid desaturation as predictors of total and cardiovascular mortality: a population-based prospective study. Am J Clin Nutr. 2008 Jul;88(1):203-9. X-1,X-2
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3197. Warren MP. A comparative review of the risks and benefits of hormone replacement therapy regimens. Am J Obstet Gynecol. 2004 Apr;190(4):1141-67. X-1,X-2,X-4,X-5,X-6
3198. Watanabe H, Tanabe N, Makiyama Y, et al. ST-segment abnormalities and premature complexes are predictors of new-onset atrial fibrillation: the Niigata preventive medicine study. Am Heart J. 2006 Oct;152(4):731-5. X-1,X-6
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3200. Watanabe Y, Ozasa K, Ito Y, et al. Medical history of circulatory diseases and colorectal cancer death in the JACC Study. J Epidemiol. 2005 Jun;15 Suppl 2:S168-72. X-1,X-6,X-8
3201. Waterhouse DF, Cahill RA, Sheehan F, et al. Prediction of calculated future cardiovascular disease by monocyte count in an asymptomatic population. Vasc Health Risk Manag. 2008;4(1):177-87. X-1F,X-1G,X-2,X-5,X-6
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3203. Waters DD, Schwartz GG, Olsson AG, et al. Effects of atorvastatin on stroke in patients with unstable angina or non-Q-wave myocardial infarction: a Myocardial Ischemia Reduction with Aggressive Cholesterol Lowering (MIRACL) substudy. Circulation. 2002 Sep 24;106(13):1690-5. X-1,X-8
3204. Wattanasuwan N, Khan IA, Gowda RM, et al. Effect of acute myocardial infarction on cholesterol ratios. Chest. 2001 Oct;120(4):1196-9. X-1,X-2,X-6,X-7,X-8
3205. Waugh N, Black C, Walker S, et al. The effectiveness and cost-effectiveness of computed tomography screening for coronary artery disease: systematic review. Health Technol Assess. 2006 Oct;10(39):iii-iv, ix-x, 1-41. X-1,X-2,X-4,X-5
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3208. Wechsler LR, Roberts R, Furlan AJ, et al. Factors influencing outcome and treatment effect in PROACT II. Stroke. 2003 May;34(5):1224-9. X-1,X-6
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3210. Wei L, MacDonald TM, Watson AD, et al. Effectiveness of two statin prescribing strategies with respect to adherence and cardiovascular outcomes: observational study. Pharmacoepidemiol Drug Saf. 2007 Apr;16(4):385-92. X-1
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3212. Weimar C, Goertler M, Rother J, et al. Predictive value of the Essen Stroke Risk Score and Ankle Brachial Index in acute ischaemic stroke patients from 85 German stroke units. J Neurol Neurosurg Psychiatry. 2008 Dec;79(12):1339-43. X-1,X-2,X-8
3213. Weimar C, Goertler M, Rother J, et al. Systemic risk score evaluation in ischemic stroke patients (SCALA): a prospective cross sectional study in 85 German stroke units. J Neurol. 2007 Nov;254(11):1562-8. X-5,X-6,X-8
3214. Weintraub WS. Is an invasive interventional strategy of value in non-ST-elevation acute coronary syndromes? Nat Clin Pract Cardiovasc Med. 2008 Dec;5(12):754-5. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3215. Weintraub WS, Mahoney EM, Ghazzal ZM, et al. Trends in outcome and costs of coronary intervention in the 1990s. Am J Cardiol. 2001 Sep 1;88(5):497-503. X-1,X-2,X-6,X-8
3216. Weir CJ, Muir SW, Walters MR, et al. Serum urate as an independent predictor of poor outcome and future vascular events after acute stroke. Stroke. 2003 Aug;34(8):1951-6. X-1,X-2,X-6,X-8
3217. Weir N and Dennis MS. Towards a national system for monitoring the quality of hospital-based stroke services. Stroke. 2001 Jun;32(6):1415-21. X-1,X-2,X-6,X-8
3218. Weisfeldt ML and Zieman SJ. Advances in the prevention and treatment of cardiovascular disease. Health Aff (Millwood). 2007 Jan-Feb;26(1):25-37. X-1,X-2,X-4,X-5,X-6,X-7,X-8,X-9

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3219. Weiss ES, Chang DD, Joyce DL, et al. Optimal timing of coronary artery bypass after acute myocardial infarction: a review of California discharge data. J Thorac Cardiovasc Surg. 2008 Mar;135(3):503-11, 511 e1-3. X-1,X-2,X-6,X-8
3220. Welborn TA, Knuiman MW and Vu HT. Body mass index and alternative indices of obesity in relation to height, triceps skinfold and subsequent mortality: the Busselton health study. Int J Obes Relat Metab Disord. 2000 Jan;24(1):108-15. X-1,X-5,X-6
3221. Wells RG, Vetter C and Laud P. Intracranial hemorrhage in children younger than 3 years: prediction of intent. Arch Pediatr Adolesc Med. 2002 Mar;156(3):252-7. X-1
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3223. Wen CP, Tsai SP, Chen CJ, et al. The mortality risks of smokers in Taiwan: Part I: cause-specific mortality. Prev Med. 2004 Sep;39(3):528-35. X-1
3224. Wennberg DE, Makenka DJ, Sengupta A, et al. Percutaneous transluminal coronary angioplasty in the elderly: epidemiology, clinical risk factors, and in-hospital outcomes. The Northern New England Cardiovascular Disease Study Group. Am Heart J. 1999 Apr;137(4 Pt 1):639-45. X-1,X-6,X-8
3225. Werner GS. Simultaneous Doppler and pressure recordings to assess microvascular dysfunction in chronic total coronary occlusions--potential for recovery during follow-up. Z Kardiol. 2002;91 Suppl 3:120-5. X-1,X-6
3226. Werner N, Wassmann S, Ahlers P, et al. Endothelial progenitor cells correlate with endothelial function in patients with coronary artery disease. Basic Res Cardiol. 2007 Nov;102(6):565-71. X-1,X-2,X-6,X-7,X-8
3227. Wesorick DH and Eagle KA. The preoperative cardiovascular evaluation of the intermediate-risk patient: new data, changing strategies. Am J Med. 2005 Dec;118(12):1413. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3228. West JC, Napoliello DA, Costello JM, et al. Preoperative dobutamine stress echocardiography versus cardiac arteriography for risk assessment prior to renal transplantation. Transpl Int. 2000;13 Suppl 1:S27-30. X-2,X-7
3229. Westerhout CM, Fu Y, Lauer MS, et al. Short- and long-term risk stratification in acute coronary syndromes: the added value of quantitative ST-segment depression and multiple biomarkers. J Am Coll Cardiol. 2006 Sep 5;48(5):939-47. X-1D,X-8(100%)
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3231. Wexberg P, Pacher R, Rodler S, et al. Intimal hyperplasia and coronary flow reserve after heart transplantation: association with big endothelin-1. J Heart Lung Transplant. 2002 Dec;21(12):1257-63. X-1,X-2,X-5,X-6,X-7,X-8
3232. Weyman AE. The year in echocardiography. J Am Coll Cardiol. 2007 Mar 20;49(11):1212-9. X-1
3233. White CM, Sander S, Coleman CI, et al. Impact of epicardial anterior fat pad retention on postcardiothoracic surgery atrial fibrillation incidence: the AFIST-III Study. J Am Coll Cardiol. 2007 Jan 23;49(3):298-303. X-1,X-2,X-6,X-7,X-8
3234. White HD, Palmeri ST, Sleeper LA, et al. Electrocardiographic findings in cardiogenic shock, risk prediction, and the effects of emergency revascularization: results from the SHOCK trial. Am Heart J. 2004 Nov;148(5):810-7. X-1,X-7,X-8

3235. Whitfield MD, Gillett M, Holmes M, et al. Predicting the impact of population level risk reduction in cardio-vascular disease and stroke on acute hospital admission rates over a 5 year period--a pilot study. Public Health. 2006 Dec;120(12):1140-8. X-1,X-2,X-5,X-6
3236. Whitmer RA, Sidney S, Selby J, et al. Midlife cardiovascular risk factors and risk of dementia in late life. Neurology. 2005 Jan 25;64(2):277-81. X-1,X-6
3237. Whooley MA, Kiefe CI, Chesney MA, et al. Depressive symptoms, unemployment, and loss of income: The CARDIA Study. Arch Intern Med. 2002 Dec 9-23;162(22):2614-20. X-1,X-6
3238. Wichterle D, Camm AJ and Malik M. Turbulence slope after atrial premature complexes is an independent predictor of mortality in survivors of acute myocardial infarction. J Cardiovasc Electrophysiol. 2004 Dec;15(12):1350-6. X-1,X-8
3239. Wichterle D, Simek J, Camm J, et al. Predictive characteristics of holter-based postinfarction risk stratifiers appear superior to electrophysiological testing. Pacing Clin Electrophysiol. 2005 Jan;28 Suppl 1:S182-6. X-1,X-8
3240. Wichterle D, Simek J, La Rovere MT, et al. Prevalent low-frequency oscillation of heart rate: novel predictor of mortality after myocardial infarction. Circulation. 2004 Sep 7;110(10):1183-90. X-1,X-6,X-8
3241. Wijeysundera DN, Karkouti K, Dupuis JY, et al. Derivation and validation of a simplified predictive index for renal replacement therapy after cardiac surgery. JAMA. 2007 Apr 25;297(16):1801-9. X-1,X-6
3242. Wijnhoud AD, Franckena M, van der Lugt A, et al. Inadequate acoustical temporal bone window in patients with a transient ischemic attack or minor stroke: role of skull thickness and bone density. Ultrasound Med Biol. 2008 Jun;34(6):923-9. X-1,X-2,X-5,X-6,X-7,X-8
3243. Wilhelmsen L, Pyorala K, Wedel H, et al. Risk factors for a major coronary event after myocardial infarction in the Scandinavian Simvastatin Survival Study (4S). Impact of predicted risk on the benefit of cholesterol-lowering treatment. Eur Heart J. 2001 Jul;22(13):1119-27. X-1,X-2,X-8
3244. Will BP, Nobrega KM, Berthelot JM, et al. First do no harm: extending the debate on the provision of preventive tamoxifen. Br J Cancer. 2001 Nov 2;85(9):1280-8. X-1,X-4,X-5,X-6
3245. Williams DO, Abbott JD and Kip KE. Outcomes of 6906 patients undergoing percutaneous coronary intervention in the era of drug-eluting stents: report of the DEScover Registry. Circulation. 2006 Nov 14;114(20):2154-62. X-1,X-2,X-6,X-8
3246. Williams GR and Jiang JG. Development of an ischemic stroke survival score. Stroke. 2000 Oct;31(10):2414-20. X-1,X-8
3247. Williams JE, Nieto FJ, Sanford CP, et al. Effects of an angry temperament on coronary heart disease risk : The Atherosclerosis Risk in Communities Study. Am J Epidemiol. 2001 Aug 1;154(3):230-5. X-1F,X-2
3248. Williams ML, Morris MT, 2nd, Ahmad U, et al. Racial differences in compliance with NCEP-II recommendations for secondary prevention at a Veterans Affairs medical center. Ethn Dis. 2002 Winter;12(1):S1-58-62. X-1,X-2,X-6,X-8
3249. Williams PT. The illusion of improved physical fitness and reduced mortality. Med Sci Sports Exerc. 2003 May;35(5):736-40. X-1,X-5,X-6
3250. Wilsgaard T, Jacobsen BK, Schirmer H, et al. Tracking of cardiovascular risk factors: the Tromso study, 1979-1995. Am J Epidemiol. 2001 Sep 1;154(5):418-26. X-6

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3251. Wilson AM, Kimura E, Harada RK, et al. Beta2-microglobulin as a biomarker in peripheral arterial disease: proteomic profiling and clinical studies. Circulation. 2007 Sep 18;116(12):1396-403. X-1,X-5,X-6,X-7
3252. Wilson AM, Ryan MC and Boyle AJ. The novel role of C-reactive protein in cardiovascular disease: risk marker or pathogen. Int J Cardiol. 2006 Jan 26;106(3):291-7. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3253. Wilson PW, D'Agostino RB, Parise H, et al. Metabolic syndrome as a precursor of cardiovascular disease and type 2 diabetes mellitus. Circulation. 2005 Nov 15;112(20):3066-72. X-1F,X-2
3254. Wilson PW, Nam BH, Pencina M, et al. C-reactive protein and risk of cardiovascular disease in men and women from the Framingham Heart Study. Arch Intern Med. 2005 Nov 28;165(21):2473-8. X-1F
3255. Wilson PW and Narayan KM. Low-cost strategies to predict cardiovascular disease. Nat Clin Pract Cardiovasc Med. 2008 Sep;5(9):518-9. X-2,X-4,X-5,X-6,X-7,X-8
3256. Wilson S, Johnston A, Robson J, et al. Predicting coronary risk in the general population--is it necessary to measure high-density lipoprotein cholesterol? J Cardiovasc Risk. 2003 Apr;10(2):137-41. X-1F,X-2,X-5,X-6,X-8
3257. Windhagen-Mahnert B and Kadish AH. Application of noninvasive and invasive tests for risk assessment in patients with ventricular arrhythmias. Cardiol Clin. 2000 May;18(2):243-63, vii. X-5
3258. Windhausen F, Hirsch A, Sanders GT, et al. N-terminal pro-brain natriuretic peptide for additional risk stratification in patients with non-ST-elevation acute coronary syndrome and an elevated troponin T: an Invasive versus Conservative Treatment in Unstable coronary Syndromes (ICTUS) substudy. Am Heart J. 2007 Apr;153(4):485-92. X-1,X-8
3259. Windhausen F, Hirsch A, Tijssen JG, et al. ST-segment deviation on the admission electrocardiogram, treatment strategy, and outcome in non-ST-elevation acute coronary syndromes A substudy of the Invasive versus Conservative Treatment in Unstable coronary Syndromes (ICTUS) Trial. J Electrocardiol. 2007 Sep-Oct;40(5):408-15. X-1,X-8
3260. Winkelmayer WC, Glynn RJ, Levin R, et al. Determinants of delayed nephrologist referral in patients with chronic kidney disease. Am J Kidney Dis. 2001 Dec;38(6):1178-84. X-1,X-2,X-5,X-6
3261. Wintermark M, Dillon WP, Smith WS, et al. Visual grading system for vasospasm based on perfusion CT imaging: comparisons with conventional angiography and quantitative perfusion CT. Cerebrovasc Dis. 2008;26(2):163-70. X-1,X-2,X-7,X-8
3262. Wison S, Foo K, Cunningham J, et al. Renal function and risk stratification in acute coronary syndromes. Am J Cardiol. 2003 May 1;91(9):1051-4. X-1,X-6
3263. Witczak B, Hartmann A and Svennevig JL. Multiple risk assessment of cardiovascular surgery in chronic renal failure patients. Ann Thorac Surg. 2005 Apr;79(4):1297-302. X-1,X-2,X-5,X-7,X-8
3264. Witt N, Wong TY, Hughes AD, et al. Abnormalities of retinal microvascular structure and risk of mortality from ischemic heart disease and stroke. Hypertension. 2006 May;47(5):975-81. X-1,X-2,X-5,X-8
3265. Wittkowski KM, Haider A, Sehayek E, et al. Bioinformatics tools enabling u-statistics for microarrays. Conf Proc IEEE Eng Med Biol Soc. 2006;1:3464-9. X-1,X-2,X-4,X-5,X-6,X-7,X-8

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3266. Wittlinger T, Martinovic I, Moosdorf R, et al. Imaging of calcified coronary arteries with multislice computed tomography. Asian Cardiovasc Thorac Ann. 2006 Aug;14(4):321-7. X-1,X-6,X-7
3267. Wiviott SD, Morrow DA, Frederick PD, et al. Application of the Thrombolysis in Myocardial Infarction risk index in non-ST-segment elevation myocardial infarction: evaluation of patients in the National Registry of Myocardial Infarction. J Am Coll Cardiol. 2006 Apr 18;47(8):1553-8. X-1,X-8
3268. Wiviott SD, Morrow DA, Frederick PD, et al. Performance of the thrombolysis in myocardial infarction risk index in the National Registry of Myocardial Infarction-3 and -4: a simple index that predicts mortality in ST-segment elevation myocardial infarction. J Am Coll Cardiol. 2004 Aug 18;44(4):783-9. X-1,X-8
3269. Woertgen C, Ullrich OW, Rothoerl RD, et al. Comparison of the Claassen and Fisher CT classification scale to predict ischemia after aneurysmatic SAH? Zentralbl Neurochir. 2003;64(3):104-8. X-1,X-6
3270. Wojner AW and Alexandrov AV. Predictors of tube feeding in acute stroke patients with dysphagia. AACN Clin Issues. 2000 Nov;11(4):531-40. X-1,X-6,X-8
3271. Wolak A, Ayzenberg Y, Cafri C, et al. Can enoxaparin safely replace unfractionated heparin during coronary intervention in acute coronary syndromes? Int J Cardiol. 2004 Aug;96(2):151-5. X-1,X-2,X-6,X-7,X-8
3272. Wolak A, Yaroslavtsev S, Amit G, et al. Grade 3 ischemia on the admission electrocardiogram predicts failure of ST resolution and of adequate flow restoration after primary percutaneous coronary intervention for acute myocardial infarction. Am Heart J. 2007 Mar;153(3):410-7. X-1,X-6,X-7,X-8
3273. Wolber T, Maeder M, Weilenmann D, et al. Integration of B-type natriuretic peptide levels with clinical data and exercise testing for predicting coronary artery disease. Am J Cardiol. 2006 Sep 15;98(6):764-7. X-1,X-5,X-7,X-8
3274. Wolf R, Habel F, Heiermann M, et al. Cardiac risk of coronary patients after reintegration into occupations with heavy physical exertion. Z Kardiol. 2005 Apr;94(4):265-73. X-1,X-7,X-8
3275. Wolf SL, Catlin PA, Ellis M, et al. Assessing Wolf motor function test as outcome measure for research in patients after stroke. Stroke. 2001 Jul;32(7):1635-9. X-1,X-2,X-6,X-7,X-8
3276. Wolk R, Berger P, Lennon RJ, et al. Body mass index: a risk factor for unstable angina and myocardial infarction in patients with angiographically confirmed coronary artery disease. Circulation. 2003 Nov 4;108(18):2206-11. X-1,X-6,X-8
3277. Wong CF, Little MA, Vinjamuri S, et al. Technetium myocardial perfusion scanning in prerenal transplant evaluation in the United kingdom. Transplant Proc. 2008 Jun;40(5):1324-8. X-1,X-2,X-5,X-6,X-7
3278. Wong CW, Christen T, Pfenniger A, et al. Do allelic variants of the connexin37 1019 gene polymorphism differentially predict for coronary artery disease and myocardial infarction? Atherosclerosis. 2007 Apr;191(2):355-61. X-1,X-5,X-8
3279. Wong DT, Cheng DC, Kustra R, et al. Risk factors of delayed extubation, prolonged length of stay in the intensive care unit, and mortality in patients undergoing coronary artery bypass graft with fast-track cardiac anesthesia: a new cardiac risk score. Anesthesiology. 1999 Oct;91(4):936-44. X-1,X-6,X-8

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3280. Wong E, Freiberg M, Tracy R, et al. Epidemiology of cytokines: the Women On the Move through Activity and Nutrition (WOMAN) Study. Am J Epidemiol. 2008 Aug 15;168(4):443-53. X-1,X-6
3281. Wong KS and Li H. Long-term mortality and recurrent stroke risk among Chinese stroke patients with predominant intracranial atherosclerosis. Stroke. 2003 Oct;34(10):2361-6. X-1F,X-2,X-8
3282. Wong KY, McSwiggan S, Kennedy NS, et al. B-type natriuretic peptide identifies silent myocardial ischaemia in stroke survivors. Heart. 2006 Apr;92(4):487-9. X-1,X-5,X-6,X-7,X-8
3283. Wong ND, Gransar H, Shaw LJ, et al. Comparison of atherosclerotic calcification burden in persons with the cardiometabolic syndrome and diabetes. J Cardiometab Syndr. 2006 Spring;1(2):90-4. X-1,X-2,X-6
3284. Wong ND, Sciammarella M, Arad Y, et al. Relation of thoracic aortic and aortic valve calcium to coronary artery calcium and risk assessment. Am J Cardiol. 2003 Oct 15;92(8):951-5. X-1,X-5,X-6
3285. Wong TY. Is retinal photography useful in the measurement of stroke risk? Lancet Neurol. 2004 Mar;3(3):179-83. X-1,X-2,X-4,X-5,X-6
3286. Wong YK, Dawkins S, Grimes R, et al. Improving the positive predictive value of exercise testing in women. Heart. 2003 Dec;89(12):1416-21. X-1,X-5,X-8
3287. Woo D, Sauerbeck LR, Kissela BM, et al. Genetic and environmental risk factors for intracerebral hemorrhage: preliminary results of a population-based study. Stroke. 2002 May;33(5):1190-5. X-1,X-2,X-5,X-8
3288. Woo YM, McLean D, Kavanagh D, et al. The influence of pre-operative electrocardiographic abnormalities and cardiovascular risk factors on patient and graft survival following renal transplantation. J Nephrol. 2002 Jul-Aug;15(4):380-6. X-1,X-2,X-6,X-8
3289. Wood GN, Keevil B, Gupta J, et al. Serum troponin T measurement in patients with chronic renal impairment predicts survival and vascular disease: a 2 year prospective study. Nephrol Dial Transplant. 2003 Aug;18(8):1610-5. X-1,X-2,X-7
3290. Woods SE, Noble G, Smith JM, et al. The influence of gender in patients undergoing coronary artery bypass graft surgery: an eight-year prospective hospitalized cohort study. J Am Coll Surg. 2003 Mar;196(3):428-34. X-1,X-6,X-8
3291. Worthley MI, Unger SA, Mathew TH, et al. Usefulness of tachycardic-stress perfusion imaging to predict coronary artery disease in high-risk patients with chronic renal failure. Am J Cardiol. 2003 Dec 1;92(11):1318-20. X-5,X-6
3292. Wouters SC, Noyez L, Verheugt FW, et al. Preoperative prediction of early mortality and morbidity in coronary bypass surgery. Cardiovasc Surg. 2002 Oct;10(5):500-5. X-1,X-8
3293. Wu AH, Aaronson KD, Bolling SF, et al. Impact of mitral valve annuloplasty on mortality risk in patients with mitral regurgitation and left ventricular systolic dysfunction. J Am Coll Cardiol. 2005 Feb 1;45(3):381-7. X-1,X-8
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3295. Wu C, Hannan EL, Walford G, et al. Utilization and outcomes of unprotected left main coronary artery stenting and coronary artery bypass graft surgery. Ann Thorac Surg. 2008 Oct;86(4):1153-9. X-1,X-2,X-5,X-8

3296. Wu EB, Hodson F and Chambers JB. A simple score for predicting coronary artery disease in patients with chest pain. QJM. 2005 Nov;98(11):803-11. X-1C,X-5,X-6,X-8(CAD)
3297. Wu HY, Chen LL, Zheng J, et al. Simple anthropometric indices in relation to cardiovascular risk factors in Chinese type 2 diabetic patients. Chin J Physiol. 2007 Jun 30;50(3):135-42. X-6
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3299. Wu O, Koroshetz WJ, Ostergaard L, et al. Predicting tissue outcome in acute human cerebral ischemia using combined diffusion- and perfusion-weighted MR imaging. Stroke. 2001 Apr;32(4):933-42. X-1,X-8
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3304. Wylie JV, Murphy SA, Morrow DA, et al. Validated risk score predicts the development of congestive heart failure after presentation with unstable angina or non-ST-elevation myocardial infarction: results from OPUS-TIMI 16 and TACTICS-TIMI 18. Am Heart J. 2004 Jul;148(1):173-80. X-1,X-8
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3307. Xu G, Liu X, Wu W, et al. Recurrence after ischemic stroke in chinese patients: impact of uncontrolled modifiable risk factors. Cerebrovasc Dis. 2007;23(2-3):117-20. X-1,X-2,X-8
3308. Xu J, Eilat-Adar S, Loria C, et al. Dietary fat intake and risk of coronary heart disease: the Strong Heart Study. Am J Clin Nutr. 2006 Oct;84(4):894-902. X-1F,X-2
3309. Yaman O, Gulpinar O, Hasan T, et al. Erectile dysfunction may predict coronary artery disease: relationship between coronary artery calcium scoring and erectile dysfunction severity. Int Urol Nephrol. 2008;40(1):117-23. X-1,X-2,X-5,X-6,X-7
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3311. Yamashina A, Tomiyama H, Arai T, et al. Brachial-ankle pulse wave velocity as a marker of atherosclerotic vascular damage and cardiovascular risk. Hypertens Res. 2003 Aug;26(8):615-22. X-5

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3312. Yan AT, Jong P, Yan RT, et al. Clinical trial--derived risk model may not generalize to real-world patients with acute coronary syndrome. Am Heart J. 2004 Dec;148(6):1020-7. X-1,X-8
3313. Yan AT, Shayne AJ, Brown KA, et al. Characterization of the peri-infarct zone by contrast-enhanced cardiac magnetic resonance imaging is a powerful predictor of post-myocardial infarction mortality. Circulation. 2006 Jul 4;114(1):32-9. X-1,X-7,X-8
3314. Yan AT, Yan RT, Kennelly BM, et al. Relationship of ST elevation in lead aVR with angiographic findings and outcome in non-ST elevation acute coronary syndromes. Am Heart J. 2007 Jul;154(1):71-8. X-1,X-5,X-6
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3317. Yan AT, Yan RT, Tan M, et al. Long-term prognostic value and therapeutic implications of continuous ST-segment monitoring in acute coronary syndrome. Am Heart J. 2007 Apr;153(4):500-6. X-1,X-6,X-8
3318. Yanase T, Nasu S, Mukuta Y, et al. Evaluation of a new carotid intima-media thickness measurement by B-mode ultrasonography using an innovative measurement software, intimascope. Am J Hypertens. 2006 Dec;19(12):1206-12. X-5,X-6
3319. Yang JH, Gwon HC, Cho SJ, et al. Comparison of coronary artery bypass grafting with drug-eluting stent implantation for the treatment of multivessel coronary artery disease. Ann Thorac Surg. 2008 Jan;85(1):65-70. X-1,X-2,X-8
3320. Yang X, Ma RC, So WY, et al. Development and validation of a risk score for hospitalization for heart failure in patients with Type 2 diabetes mellitus. Cardiovasc Diabetol. 2008;7:9. X-1,X-8
3321. Yang X, Sun K, Zhang W, et al. Prevalence of and risk factors for peripheral arterial disease in the patients with hypertension among Han Chinese. J Vasc Surg. 2007 Aug;46(2):296-302. X-1,X-5
3322. Yap AG, Baladi N, Allman G, et al. Coronary artery bypass surgery on small patients. J Invasive Cardiol. 2000 May;12(5):242-6; discussion 247. X-1,X-2,X-6,X-8
3323. Yap CH, Mohajeri M, Ihle BU, et al. Validation of Euroscore model in an Australian patient population. ANZ J Surg. 2005 Jul;75(7):508-12. X-1,X-8
3324. Yap CH, Reid C, Yii M, et al. Validation of the EuroSCORE model in Australia. Eur J Cardiothorac Surg. 2006 Apr;29(4):441-6; discussion 446. X-1,X-8
3325. Yap S, Boers GH, Wilcken B, et al. Vascular outcome in patients with homocystinuria due to cystathionine beta-synthase deficiency treated chronically: a multicenter observational study. Arterioscler Thromb Vasc Biol. 2001 Dec;21(12):2080-5. X-1,X-2,X-5
3326. Yarali H, Yildirir A, Aybar F, et al. Diastolic dysfunction and increased serum homocysteine concentrations may contribute to increased cardiovascular risk in patients with polycystic ovary syndrome. Fertil Steril. 2001 Sep;76(3):511-6. X-1,X-2,X-5,X-6,X-7
3327. Yarnell J, Yu S, Patterson C, et al. Family history, longevity, and risk of coronary heart disease: the PRIME Study. Int J Epidemiol. 2003 Feb;32(1):71-7. X-1F,X-2

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3328. Yarnell JW, Patterson CC, Sweetnam PM, et al. Haemostatic/inflammatory markers predict 10-year risk of IHD at least as well as lipids: the Caerphilly collaborative studies. Eur Heart J. 2004 Jun;25(12):1049-56. X-1
3329. Yatskar L, Selzer F, Feit F, et al. Access site hematoma requiring blood transfusion predicts mortality in patients undergoing percutaneous coronary intervention: data from the National Heart, Lung, and Blood Institute Dynamic Registry. Catheter Cardiovasc Interv. 2007 Jun 1;69(7):961-6. X-1,X-2,X-6,X-8
3330. Yau TM, Fedak PW, Weisel RD, et al. Predictors of operative risk for coronary bypass operations in patients with left ventricular dysfunction. J Thorac Cardiovasc Surg. 1999 Dec;118(6):1006-13. X-1,X-8
3331. Yeboah J, Crouse JR, Hsu FC, et al. Brachial flow-mediated dilation predicts incident cardiovascular events in older adults: the Cardiovascular Health Study. Circulation. 2007 May 8;115(18):2390-7. X-1D,X-1F,X-2,X-8(20%)
3332. Yeh ET. C-reactive protein is an essential aspect of cardiovascular risk factor stratification. Can J Cardiol. 2004 Aug;20 Suppl B:93B-96B. X-1,X-2,X-4,X-5,X-6,X-7,X-8
3333. Yende S and Wunderink R. Validity of scoring systems to predict risk of prolonged mechanical ventilation after coronary artery bypass graft surgery. Chest. 2002 Jul;122(1):239-44. X-1,X-6,X-8
3334. Yeo WW and Yeo KR. Predicting CHD risk in patients with diabetes mellitus. Diabet Med. 2001 May;18(5):341-4. X-4
3335. Yi G, Poloniecki J, Dickie S, et al. Can the assessment of dynamic QT dispersion on exercise electrocardiogram predict sudden cardiac death in hypertrophic cardiomyopathy? Pacing Clin Electrophysiol. 2000 Nov;23(11 Pt 2):1953-6. X-5,X-6,X-7,X-8
3336. Yikona JI, Wallis EJ, Ramsay LE, et al. Coronary and cardiovascular risk estimation in uncomplicated mild hypertension. A comparison of risk assessment methods. J Hypertens. 2002 Nov;20(11):2173-82. X-1F,X-2,X-5,X-6,X-9
3337. Yildirim A, Soylu O, Dagdeviren B, et al. Sympathetic overactivity in patients with left ventricular aneurysm in early period after anterior myocardial infarction: does sympathetic activity predict aneurysm formation? Angiology. 2007 Jun-Jul;58(3):275-82. X-1,X-2,X-5,X-6,X-7
3338. Yilmaz MB, Cihan G, Guray Y, et al. Role of mean platelet volume in triagging acute coronary syndromes. J Thromb Thrombolysis. 2008 Aug;26(1):49-54. X-1,X-2,X-5,X-6,X-8
3339. Yip HK, Liou CW, Chang HW, et al. Link between platelet activity and outcomes after an ischemic stroke. Cerebrovasc Dis. 2005;20(2):120-8. X-1,X-7,X-8
3340. Yip HK, Wu CJ, Chang HW, et al. Prognostic value of circulating levels of endothelin-1 in patients after acute myocardial infarction undergoing primary coronary angioplasty. Chest. 2005 May;127(5):1491-7. X-1,X-7,X-8
3341. Yip YB, Wong TK, Chung JW, et al. Cardiovascular disease: application of a composite risk index from the Telehealth System in a district community. Public Health Nurs. 2004 Nov-Dec;21(6):524-32. X-1G,X-2,X-5,X-8
3342. Yokokawa H, Goto A, Watanabe K, et al. Evaluation of atherosclerosis-associated factors and pulse wave velocity for predicting cerebral infarction: a hospital-based, case-control study in Japan. Intern Med J. 2007 Mar;37(3):161-7. X-1,X-5,X-7,X-8

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3343. Yologlu S, Sezgin AT, Sezgin N, et al. Comparison of different regression analyses for identifying risk factors in obese and nonobese patients with coronary artery disease. Angiology. 2007 Oct-Nov;58(5):543-9. X-1E,X-1F,X-2,X-5,X-6,X-8
3344. Yoneyama K, Tsuboya A, Kogo M, et al. Predictors of restenosis after coronary artery stenting. Minerva Cardioangiol. 2008 Jun;56(3):295-305. X-1,X-6,X-7,X-8
3345. Yong M, Diener HC, Kaste M, et al. Long-term outcome as function of blood pressure in acute ischemic stroke and effects of thrombolysis. Cerebrovasc Dis. 2007;24(4):349-54. X-1,X-6,X-8
3346. Yoon BW, Bae HJ, Kang DW, et al. Intracranial cerebral artery disease as a risk factor for central nervous system complications of coronary artery bypass graft surgery. Stroke. 2001 Jan;32(1):94-9. X-1,X-6,X-8
3347. Yoshinaga K, Chow BJ, Williams K, et al. What is the prognostic value of myocardial perfusion imaging using rubidium-82 positron emission tomography? J Am Coll Cardiol. 2006 Sep 5;48(5):1029-39. X-1D,X-2,X-8(>54%)
3348. Youn YN, Kwak YL and Yoo KJ. Can the EuroSCORE predict the early and mid-term mortality after off-pump coronary artery bypass grafting? Ann Thorac Surg. 2007 Jun;83(6):2111-7. X-1,X-8
3349. Young QR, Ignaszewski A, Fofonoff D, et al. Brief screen to identify 5 of the most common forms of psychosocial distress in cardiac patients: validation of the screening tool for psychological distress. J Cardiovasc Nurs. 2007 Nov-Dec;22(6):525-34. X-1,X-2,X-5,X-6,X-7,X-8
3350. Yu CM and Sanderson JE. Plasma brain natriuretic peptide--an independent predictor of cardiovascular mortality in acute heart failure. Eur J Heart Fail. 1999 Mar;1(1):59-65. X-1,X-7,X-8
3351. Yu L and Ioannou GN. Survival of liver transplant recipients with hemochromatosis in the United States. Gastroenterology. 2007 Aug;133(2):489-95. X-1,X-6
3352. Yu S, Yarnell JW, Sweetnam P, et al. High density lipoprotein subfractions and the risk of coronary heart disease: 9-years follow-up in the Caerphilly Study. Atherosclerosis. 2003 Feb;166(2):331-8. X-1,X-2,X-5
3353. Yung KC and Piccirillo JF. The incidence and impact of comorbidity diagnosed after the onset of head and neck cancer. Arch Otolaryngol Head Neck Surg. 2008 Oct;134(10):1045-9. X-1,X-2,X-7
3354. Yuo TH, Goodney PP, Powell RJ, et al. "Medical high risk" designation is not associated with survival after carotid artery stenting. J Vasc Surg. 2008 Feb;47(2):356-62. X-1,X-2,X-5,X-6,X-8
3355. Yusuf S, Mehta SR, Chrolavicius S, et al. Effects of fondaparinux on mortality and reinfarction in patients with acute ST-segment elevation myocardial infarction: the OASIS-6 randomized trial. JAMA. 2006 Apr 5;295(13):1519-30. X-1,X-2,X-8
3356. Yuyun MF, Adler AI and Wareham NJ. What is the evidence that microalbuminuria is a predictor of cardiovascular disease events? Curr Opin Nephrol Hypertens. 2005 May;14(3):271-6. X-1,X-2,X-4,X-5,X-7,X-8
3357. Yuyun MF, Khaw KT, Luben R, et al. Microalbuminuria and stroke in a British population: the European Prospective Investigation into Cancer in Norfolk (EPIC-Norfolk) population study. J Intern Med. 2004 Feb;255(2):247-56. X-1E,X-1F,X-2

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3358. Zabel M and Malik M. Predictive value of T-wave morphology variables and QT dispersion for postmyocardial infarction risk assessment. J Electrocardiol. 2001;34 Suppl:27-35. X-1,X-8
3359. Zabel M, Malik M, Hnatkova K, et al. Analysis of T-wave morphology from the 12-lead electrocardiogram for prediction of long-term prognosis in male US veterans. Circulation. 2002 Mar 5;105(9):1066-70. X-1
3360. Zacharias A, Schwann TA, Riordan CJ, et al. Is hospital procedure volume a reliable marker of quality for coronary artery bypass surgery? A comparison of risk and propensity adjusted operative and midterm outcomes. Ann Thorac Surg. 2005 Jun;79(6):1961-9. X-1,X-5,X-8
3361. Zacharias A, Schwann TA, Riordan CJ, et al. Late results of conventional versus all-arterial revascularization based on internal thoracic and radial artery grafting. Ann Thorac Surg. 2009 Jan;87(1):19-26 e2. X-1,X-2,X-8
3362. Zafarmand MH, van der Schouw YT, Grobbee DE, et al. Peroxisome proliferator-activated receptor gamma-2 P12A polymorphism and risk of acute myocardial infarction, coronary heart disease and ischemic stroke: a case-cohort study and meta-analyses. Vasc Health Risk Manag. 2008;4(2):427-36. X-1E,X-1F,X-2,X-5
3363. Zafrir N, Mats I, Solodky A, et al. Characteristics and outcome of octogenarian population referred for myocardial perfusion imaging: comparison with non-octogenarian population with to gender. Clin Cardiol. 2006 Mar;29(3):117-20. X-1F,X-2,X-6,X-8
3364. Zairis MN, Adamopoulou EN, Manousakis SJ, et al. The impact of hs C-reactive protein and other inflammatory biomarkers on long-term cardiovascular mortality in patients with acute coronary syndromes. Atherosclerosis. 2007 Oct;194(2):397-402. X-1,X-8
3365. Zairis MN, Ambrose JA, Manousakis SJ, et al. The impact of plasma levels of C-reactive protein, lipoprotein (a) and homocysteine on the long-term prognosis after successful coronary stenting: The Global Evaluation of New Events and Restenosis After Stent Implantation Study. J Am Coll Cardiol. 2002 Oct 16;40(8):1375-82. X-1,X-8
3366. Zairis MN, Papadaki OA, Manousakis SJ, et al. C-reactive protein and multiple complex coronary artery plaques in patients with primary unstable angina. Atherosclerosis. 2002 Oct;164(2):355-9. X-1,X-2,X-5,X-6,X-8
3367. Zalenski RJ, Grzybowski M, Ross MA, et al. ECG scores for a triage of patients with acute myocardial infarction transported by the emergency medical system. J Electrocardiol. 2000;33 Suppl:245-9. X-1,X-5,X-8
3368. Zalewski J, Undas A, Godlewski J, et al. No-reflow phenomenon after acute myocardial infarction is associated with reduced clot permeability and susceptibility to lysis. Arterioscler Thromb Vasc Biol. 2007 Oct;27(10):2258-65. X-1,X-2,X-5,X-8
3369. Zaliunas R, Babarskiene MR, Luksiene D, et al. The risk of cardiovascular death following the first acute ischaemic syndrome: experience in Kaunas between 1997 and 2001. Acta Cardiol. 2007 Aug;62(4):329-37. X-1,X-2,X-8
3370. Zaliunas R, Babarskiene MR, Slapikas R, et al. Informative value of clinical markers for the risk of cardiovascular death in postinfarction chronic heart failure. Acta Cardiol. 2005 Aug;60(4):395-401. X-1,X-8
3371. Zaman MJ, Sanders J, Crook AM, et al. Cardiothoracic ratio within the "normal" range independently predicts mortality in patients undergoing coronary angiography. Heart. 2007 Apr;93(4):491-4. X-1,X-5

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3372. Zareba W, Moss AJ, Jackson Hall W, et al. Clinical course and implantable cardioverter defibrillator therapy in postinfarction women with severe left ventricular dysfunction. J Cardiovasc Electrophysiol. 2005 Dec;16(12):1265-70. X-1,X-6,X-8
3373. Zaroff JG, diTommaso DG and Barron HV. A risk model derived from the National Registry of Myocardial Infarction 2 database for predicting mortality after coronary artery bypass grafting during acute myocardial infarction. Am J Cardiol. 2002 Jul 1;90(1):1-4. X-1,X-8
3374. Zaroff JG, Pawlikowska L, Miss JC, et al. Adrenoceptor polymorphisms and the risk of cardiac injury and dysfunction after subarachnoid hemorrhage. Stroke. 2006 Jul;37(7):1680-5. X-1,X-7,X-8
3375. Zebis LR, Christensen TD, Thomsen HF, et al. Practical regimen for amiodarone use in preventing postoperative atrial fibrillation. Ann Thorac Surg. 2007 Apr;83(4):1326-31. X-1,X-6,X-8
3376. Zebrack JS, Muhlestein JB, Horne BD, et al. C-reactive protein and angiographic coronary artery disease: independent and additive predictors of risk in subjects with angina. J Am Coll Cardiol. 2002 Feb 20;39(4):632-7. X-1,X-8
3377. Zee RY, Brophy VH, Cheng S, et al. Polymorphisms of the phosphodiesterase 4D, cAMP-specific (PDE4D) gene and risk of ischemic stroke: a prospective, nested case-control evaluation. Stroke. 2006 Aug;37(8):2012-7. X-1,X-5,X-8
3378. Zee RY, Cheng S, Erlich HA, et al. Intercellular adhesion molecule 1 (ICAM1) Lys56Met and Gly241Arg gene variants, plasma-soluble ICAM1 concentrations, and risk of incident cardiovascular events in 23,014 initially healthy white women. Stroke. 2007 Dec;38(12):3152-7. X-1E,X-1F,X-2
3379. Zee RY, Cook NR, Cheng S, et al. Multi-locus candidate gene polymorphisms and risk of myocardial infarction: a population-based, prospective genetic analysis. J Thromb Haemost. 2006 Feb;4(2):341-8. X-1G
3380. Zee RY, Hoh J, Cheng S, et al. Multi-locus interactions predict risk for post-PTCA restenosis: an approach to the genetic analysis of common complex disease. Pharmacogenomics J. 2002;2(3):197-201. X-1,X-6,X-8
3381. Zeljkovic A, Spasojevic-Kalimanovska V, Vekic J, et al. Does simultaneous determination of LDL and HDL particle size improve prediction of coronary artery disease risk? Clin Exp Med. 2008 Jun;8(2):109-16. X-2,X-5,X-7,X-8
3382. Zellweger MJ, Weinbacher M, Zutter AW, et al. Long-term outcome of patients with silent versus symptomatic ischemia six months after percutaneous coronary intervention and stenting. J Am Coll Cardiol. 2003 Jul 2;42(1):33-40. X-1,X-2,X-8
3383. Zethelius B, Berglund L, Sundstrom J, et al. Use of multiple biomarkers to improve the prediction of death from cardiovascular causes. N Engl J Med. 2008 May 15;358(20):2107-16. X-1
3384. Zeymer U, Schroder K, Wegscheider K, et al. ST resolution in a single electrocardiographic lead: a simple and accurate predictor of cardiac mortality in patients with fibrinolytic therapy for acute ST-elevation myocardial infarction. Am Heart J. 2005 Jan;149(1):91-7. X-1,X-8
3385. Zhan RY, Tong Y, Shen JF, et al. Study of clinical features of amyloid angiopathy hemorrhage and hypertensive intracerebral hemorrhage. J Zhejiang Univ Sci. 2004 Oct;5(10):1262-9. X-1,X-5,X-7

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3386. Zhang M, Li J, Cai YM, et al. A risk-predictive score for cardiogenic shock after acute myocardial infarction in Chinese patients. Clin Cardiol. 2007 Apr;30(4):171-6. X-1,X-6,X-8
3387. Zhang R, Brennan ML, Fu X, et al. Association between myeloperoxidase levels and risk of coronary artery disease. JAMA. 2001 Nov 7;286(17):2136-42. X-1,X-2,X-5,X-6,X-8
3388. Zhang R, Kofidis T, Kamiya H, et al. Creatine kinase isoenzyme MB relative index as predictor of mortality on extracorporeal membrane oxygenation support for postcardiotomy cardiogenic shock in adult patients. Eur J Cardiothorac Surg. 2006 Oct;30(4):617-20. X-1,X-6
3389. Zhang SM, Manson JE, Rexrode KM, et al. Use of oral conjugated estrogen alone and risk of breast cancer. Am J Epidemiol. 2007 Mar 1;165(5):524-9. X-1,X-2,X-6
3390. Zhang X, Liu X, He ZX, et al. Long-term prognostic value of exercise 99mTc-MIBI SPET myocardial perfusion imaging in patients after percutaneous coronary intervention. Eur J Nucl Med Mol Imaging. 2004 May;31(5):655-62. X-1,X-8
3391. Zhang X, Shu XO, Signorello LB, et al. Correlates of high serum C-reactive protein levels in a socioeconomically disadvantaged population. Dis Markers. 2008;24(6):351-9. X-1,X-2,X-5,X-6
3392. Zhang ZM, Prineas RJ, Case D, et al. Comparison of the prognostic significance of the electrocardiographic QRS/T angles in predicting incident coronary heart disease and total mortality (from the atherosclerosis risk in communities study). Am J Cardiol. 2007 Sep 1;100(5):844-9. X-1E,X-1F,X-2
3393. Zhou Z and Hu D. An epidemiological study on the prevalence of atrial fibrillation in the Chinese population of mainland China. J Epidemiol. 2008;18(5):209-16. X-1,X-2,X-5
3394. Zhu H and Hill MD. Stroke: the Elixhauser Index for comorbidity adjustment of in-hospital case fatality. Neurology. 2008 Jul 22;71(4):283-7. X-1,X-2,X-6,X-8
3395. Zhu H, Yan W, Ge D, et al. Relationships of cardiovascular phenotypes with healthy weight, at risk of overweight, and overweight in US youths. Pediatrics. 2008 Jan;121(1):115-22. X-1,X-2,X-5,X-6
3396. Zhu S, St-Onge MP, Heshka S, et al. Lifestyle behaviors associated with lower risk of having the metabolic syndrome. Metabolism. 2004 Nov;53(11):1503-11. X-1,X-2,X-5,X-6
3397. Zimmerli LU, Schiffer E, Zurbig P, et al. Urinary proteomic biomarkers in coronary artery disease. Mol Cell Proteomics. 2008 Feb;7(2):290-8. X-1,X-5,X-6,X-8
3398. Zingone B, Gatti G, Rauber E, et al. Early and late outcomes of cardiac surgery in octogenarians. Ann Thorac Surg. 2009 Jan;87(1):71-8. X-1,X-2,X-8
3399. Ziskind AA, Lauer MA, Bishop G, et al. Assessing the appropriateness of coronary revascularization: the University of Maryland Revascularization Appropriateness Score (RAS) and its comparison to RAND expert panel ratings and American College of Cardiology/American Heart Association guidelines with regard to assigned appropriateness rating and ability to predict outcome. Clin Cardiol. 1999 Feb;22(2):67-76. X-1,X-6,X-8
3400. Zitser-Gurevich Y, Simchen E, Galai N, et al. Effect of perioperative complications on excess mortality among women after coronary artery bypass: the Israeli Coronary Artery Bypass Graft Study (ISCAB). J Thorac Cardiovasc Surg. 2002 Mar;123(3):517-24. X-1,X-8
3401. Zodpey SP and Tiwari RR. A risk scoring system for prediction of haemorrhagic stroke. Indian J Public Health. 2005 Oct-Dec;49(4):218-22. X-5,X-7

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3402. Zoppini G, Verlato G, Zamboni C, et al. Pulse pressure and mortality from cerebrovascular diseases in type 2 diabetic patients: the Verona Diabetes Study. Cerebrovasc Dis. 2007;23(1):20-6. X-1F,X-2,X-8
3403. Zubkov AY, Mandrekar JN, Claassen DO, et al. Predictors of outcome in warfarin-related intracerebral hemorrhage. Arch Neurol. 2008 Oct;65(10):1320-5. X-1,X-2,X-7,X-8
3404. Zulli R, Donati P, Nicosia F, et al. Increased QT dispersion: a negative prognostic finding in chronic obstructive pulmonary disease. Intern Emerg Med. 2006;1(4):279-86. X-1,X-2