

Screening for Atrial Fibrillation

US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

IMPORTANCE Atrial fibrillation (AF) is the most common cardiac arrhythmia. The prevalence of AF increases with age, from less than 0.2% in adults younger than 55 years to about 10% in those 85 years or older, with a higher prevalence in men than in women. It is uncertain whether the prevalence of AF differs by race and ethnicity. Atrial fibrillation is a major risk factor for ischemic stroke and is associated with a substantial increase in the risk of stroke. Approximately 20% of patients who have a stroke associated with AF are first diagnosed with AF at the time of the stroke or shortly thereafter.

OBJECTIVE To update its 2018 recommendation, the US Preventive Services Task Force (USPSTF) commissioned a systematic review on the benefits and harms of screening for AF in older adults, the accuracy of screening tests, the effectiveness of screening tests to detect previously undiagnosed AF compared with usual care, and the benefits and harms of anticoagulant therapy for the treatment of screen-detected AF in older adults.

POPULATION Adults 50 years or older without a diagnosis or symptoms of AF and without a history of transient ischemic attack or stroke.

EVIDENCE ASSESSMENT The USPSTF concludes that evidence is lacking, and the balance of benefits and harms of screening for AF in asymptomatic adults cannot be determined.

RECOMMENDATION The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for AF. (I statement)

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Summary of Recommendation

Asymptomatic adults 50 years or older	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for atrial fibrillation.	I
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See the Practice Considerations section for additional information regarding the I statement. USPSTF indicates US Preventive Services Task Force.

See the Summary of Recommendation figure.

Importance

Atrial fibrillation (AF) is the most common cardiac arrhythmia. The prevalence of AF increases with age, from less than 0.2% in adults younger than 55 years to about 10% in those 85 years or older, with a higher prevalence in men than in women.¹ It is uncertain whether the prevalence of AF differs by race and ethnicity. Studies suggest a lower or similar prevalence of AF in Black persons compared with White persons, although it is uncertain whether differential detection of AF by race and ethnicity might play a role in those studies reporting lower prevalence in Black persons.²

Atrial fibrillation is a major risk factor for ischemic stroke and is associated with a substantial increase in the risk of stroke.³ Approximately 20% of patients who have a stroke associated with AF are first diagnosed with AF at the time of the stroke or shortly thereafter.⁴⁻⁶

USPSTF Assessment of Magnitude of Net Benefit

The US Preventive Services Task Force (USPSTF) concludes that evidence is lacking, and the balance of benefits and harms of screening for AF in asymptomatic adults **cannot be determined** (Table).

Table. Summary of USPSTF Rationale

Rationale	Assessment
Detection	<ul style="list-style-type: none"> • Inadequate evidence to assess whether 1-time screening strategies identify adults 50 years or older with previously undiagnosed AF more effectively than usual care. • Adequate evidence that intermittent and continuous screening strategies identify adults 50 years or older with previously undiagnosed AF more effectively than usual care.
Benefits of early detection and intervention and treatment	<ul style="list-style-type: none"> • Inadequate direct evidence on the benefits of screening for AF. • Inadequate evidence on the benefits of treatment of screen-detected AF, particularly paroxysmal AF of short duration.
Harms of early detection and intervention and treatment	<ul style="list-style-type: none"> • Inadequate direct evidence on the harms of screening for AF. • Adequate evidence that treatment of AF with anticoagulant therapy is associated with small to moderate harm, particularly an increased risk of major bleeding.
USPSTF assessment	Evidence is lacking, and the balance of benefits and harms of screening for AF in asymptomatic adults cannot be determined.

Abbreviations: AF, atrial fibrillation; USPSTF, US Preventive Services Task Force.

See the Table for more information on the USPSTF recommendation rationale and assessment and the eFigure in the Supplement for information on the recommendation grade. See the Figure for a summary of the recommendation for clinicians. For more details on the methods the USPSTF uses to determine the net benefit, see the USPSTF Procedure Manual.⁷

Practice Considerations

Patient Population Under Consideration

This recommendation applies to adults 50 years or older without a diagnosis or symptoms of AF and without a history of transient ischemic attack or stroke.

Condition Definition

Clinical AF is an atrial tachyarrhythmia that has traditionally been defined by documentation of the arrhythmia on a standard surface (typically 12-lead) electrocardiogram (ECG). Atrial fibrillation can be persistent or paroxysmal, and symptomatic or asymptomatic. As implantable cardiac devices and the use of portable or wearable cardiac monitoring devices have become more common, a new category of AF, called subclinical AF, has emerged. Subclinical AF refers to device-detected AF that is asymptomatic and not clinically apparent. It may be detected by intracardiac, implantable, or wearable cardiac monitors.^{8,9} The duration of subclinical AF can vary, ranging from a few seconds to more than 24 hours.⁹ Atrial fibrillation burden refers to the amount or percentage of time that is spent in AF. Atrial fibrillation burden is often described as low or high, although there is no exact definition or consensus about what constitutes low vs high AF burden. Clinical AF is known to increase stroke risk,³ but the stroke risk associated with subclinical AF, particularly low-burden or short-duration AF, is less well understood.^{9,10}

Screening Tests

Although the USPSTF did not find sufficient evidence to recommend for or against screening, several technologies have been proposed for screening for AF. ECG records the electrical activity of the heart and can be performed using 12 leads, fewer than 12 leads, or a single lead. Several other medical devices (eg, automated blood pressure cuffs or pulse oximeters) have been designed with

algorithms to detect an irregular heartbeat, which may or may not be AF. Several consumer-oriented devices, such as smartwatches and smartphone apps, are available that aim to detect an irregular heart rhythm using ECG technology or photoplethysmography.² It is important to note that the USPSTF considers pulse palpation to be routine or usual care.

Different intensities (eg, frequencies, intervals, and durations) of screening for AF are also being studied. Screening can be performed once, for example, by using ECG or a device with an AF detection algorithm at a clinician visit. Screening can also be performed intermittently on multiple occasions, for example, by having a patient briefly record their heart rhythm using a portable device several times a day or several times a week for a period of time; or continuously (eg, by having a patient wear a portable monitoring device for several days or weeks). The USPSTF categorizes these as 1-time screening strategies, intermittent screening strategies, and continuous screening strategies, respectively. Continuous screening strategies yield the longest overall duration of screening. Intermittent or continuous screening may be more likely to detect AF but also may be more likely to detect paroxysmal AF that occurs infrequently or is of short duration.¹⁰

Treatment or Intervention

Treatment of AF generally has 2 components—managing symptomatic arrhythmia and preventing stroke. Symptomatic arrhythmia can be managed by controlling the heart rate to minimize symptoms (usually through medication) or by restoring a normal rhythm. Methods for restoring normal rhythm include electrical or pharmacologic cardioversion and surgical or catheter ablation.

To reduce the risk of stroke, anticoagulants are used. Oral anticoagulants include warfarin (a vitamin K antagonist) and target-specific anticoagulants, also known as direct oral anticoagulants.¹¹ In general, guidelines recommend anticoagulant therapy for persons at high risk of stroke.^{12,13} It is important to note that stroke risk stratification instruments (eg, CHA₂DS₂-VASc [congestive heart failure, hypertension, age \geq 75 years {doubled}, diabetes, stroke/transient ischemic attack/thromboembolism {doubled}, vascular disease {prior myocardial infarction, peripheral artery disease, or aortic plaque}, age 65-74 years, sex category {female}]) were developed from populations of patients with clinically diagnosed, not screen-detected, AF.¹⁰

Figure. Clinician Summary: Screening for Atrial Fibrillation

What does the USPSTF recommend?	For adults 50 years or older who do not have signs or symptoms of atrial fibrillation (AF): The USPSTF found that the current evidence is insufficient to assess the balance of benefits and harms of screening for AF. Grade: I statement
To whom does this recommendation apply?	This recommendation applies to adults 50 years or older without a diagnosis of or symptoms of AF and without a history of transient ischemic attack or stroke.
What's new?	<ul style="list-style-type: none"> This updated recommendation is consistent with the 2018 USPSTF recommendation on screening for AF with electrocardiography. This 2021 evidence review included searching for evidence on additional screening methods such as automated blood pressure cuffs, pulse oximeters, and consumer devices such as smartwatches and smartphone apps. However, even with this expanded scope, the USPSTF did not find enough evidence to recommend for or against screening for AF.
How to implement this recommendation?	<ul style="list-style-type: none"> There is insufficient evidence to recommend for or against screening for AF. More research is needed to determine the benefits of screening for AF to prevent strokes. Clinicians should use their clinical judgment regarding whether to screen and how to screen for AF. It is important to note that the USPSTF considers pulse palpation to be part of routine or usual care.
What additional information should clinicians know about this recommendation?	<ul style="list-style-type: none"> The prevalence of AF increases with age, from less than 0.2% in adults younger than 55 years to about 10% in those 85 years or older. Patients with AF have a substantially increased risk of stroke, and strokes associated with AF tend to be more severe than strokes attributed to other causes. However, the stroke risk associated with subclinical AF (AF that is only device-detected, not clinically apparent, and may be of short duration), as might be detected by some screening approaches, is uncertain. It is also unclear whether or when (ie, based on duration or frequency of episodes) subclinical AF warrants anticoagulant therapy.
Why is this recommendation and topic important?	AF is the most common type of irregular heartbeat. It is a major risk factor for stroke and often goes undetected.
What are additional tools and resources?	<ul style="list-style-type: none"> The Centers for Disease Control and Prevention provides information on the prevention of heart disease at https://www.cdc.gov/heartdisease/prevention.htm and useful information about AF at https://www.cdc.gov/heartdisease/atrial_fibrillation.htm The Million Hearts initiative provides information on improving cardiovascular health and preventing heart attack and stroke at https://millionhearts.hhs.gov/index.html
Where to read the full recommendation statement?	Visit the USPSTF website (https://www.uspreventiveservicestaskforce.org/uspstf/) or the JAMA website (https://jamanetwork.com/collections/44068/united-states-preventive-services-task-force) to read the full recommendation statement. This includes more details on the rationale of the recommendation, including benefits and harms; supporting evidence; and recommendations of others.

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision-making to the specific patient or situation.

USPSTF indicates US Preventive Services Task Force.

Suggestions for Practice Regarding the I Statement

Potential Preventable Burden

Atrial fibrillation is the most common type of cardiac arrhythmia. In the US, estimates of the prevalence of clinical AF ranged from 2.7 to 6.1 million in 2010.¹⁴ The prevalence of AF is highly correlated with age. Its prevalence increases from 0.2% among adults younger than 55 years to 10% among those 85 years or older.¹ Additional risk factors for AF include diabetes, previous cardiothoracic surgery, smoking, prior stroke, underlying heart disease, hypertension, sleep apnea, obesity, alcohol/drug use, ECG features such as left ventricular hypertrophy and left atrial enlargement, and hyperthyroidism.¹⁵ The primary rationale for screening for AF in asymptomatic persons is to initiate oral anticoagulant medications in persons at sufficiently high risk to prevent a thromboembolic event.

Patients with clinical AF not receiving anticoagulant therapy have an increased risk of stroke,³ and strokes associated with AF tend to be more severe than strokes attributed to other causes.¹⁶ Atrial fibrillation does not always cause symptoms, and for approximately 20% of patients who have a stroke associated with AF, stroke is the

first sign that they have the condition.¹⁷ However, the current evidence is insufficient for the USPSTF to recommend for or against screening for AF. Additionally, the stroke risk associated with subclinical AF, particularly subclinical AF of shorter duration (less than several to 24 hours) or lower burden (amount or percentage of time spent in AF), as might be detected by some screening approaches, is uncertain, and the duration of subclinical AF that might warrant anticoagulant therapy is unclear.^{9,10}

Potential Harms

The performance of ECG or use of portable or wearable rhythm monitoring devices is not associated with significant harm, although abnormal test results may cause anxiety. Misinterpretation of a screening test result may lead to misdiagnosis and unnecessary treatment. Treatment of AF can include anticoagulant therapy for stroke prevention, which is associated with a risk of bleeding, and pharmacologic, surgical, endovascular (eg, ablation), or combined treatments to control heart rhythm or heart rate. In addition, ECG may detect other abnormalities (either true- or false-positive results)

that can lead to further testing and treatments that have the potential for harm.

Current Practice

Few data are available on the current prevalence of screening for AF with ECG or other modalities in the US.

Additional Tools and Resources

The Centers for Disease Control and Prevention provides information on the prevention of heart disease at <https://www.cdc.gov/heartdisease/prevention.htm> and useful information about AF at https://www.cdc.gov/heartdisease/atrial_fibrillation.htm.

The Million Hearts initiative provides information on improving cardiovascular health and preventing myocardial infarction and stroke at <https://millionhearts.hhs.gov/index.html>.

Other Related USPSTF Recommendations

The USPSTF has made recommendations on many factors related to the prevention of cardiovascular disease and stroke, including screening for high blood pressure,¹⁸ use of statins,¹⁹ counseling on smoking cessation,²⁰ and counseling to promote a healthy diet and physical activity.²¹

Update of Previous USPSTF Recommendation

This recommendation replaces the 2018 USPSTF recommendation statement on screening for AF with ECG. In 2018, the USPSTF concluded that the evidence was insufficient to assess the balance of benefits and harms of using ECG to screen for AF.²² For the current recommendation statement, the USPSTF expanded its review to include other screening tests in addition to ECG. The USPSTF again concludes that the evidence is insufficient to assess the balance of benefits and harms of screening for AF in asymptomatic adults.

Supporting Evidence

Scope of Review

To update its 2018 recommendation statement, the USPSTF commissioned a systematic review^{2,23} of the evidence on the benefits and harms of screening for AF in older adults, the accuracy of screening tests, the effectiveness of screening tests to detect previously undiagnosed AF compared with usual care, and the benefits and harms of anticoagulant therapy for the treatment of screen-detected AF in older adults.

Detection of Previously Undiagnosed AF

The USPSTF reviewed 9 studies on the accuracy of potential screening tests for AF. Two studies^{24,25} of single-lead ECG devices with automated AF detection algorithms used as a 1-time screening test reported sensitivities of 0.88 and 0.99 and specificities of 1.0 and 0.76 when compared with a single 12-lead ECG interpreted by a cardiologist. One study²⁶ of a 6-lead ECG device with AF detection reported sensitivity of 0.95 and specificity of 0.99 vs a single 12-lead ECG interpreted by a cardiologist. Three studies reported 5 com-

parisons of 2 different oscillometric blood pressure monitoring devices with automated AF detection compared with a 12-lead ECG interpreted by a cardiologist.^{25,27,28} In 4 of the comparisons, sensitivity ranged from 0.92 to 1.0 and specificity ranged from 0.90 to 0.95. In the fifth comparison, sensitivity for 1 of the devices was reported as 0.3 and specificity as 0.97.²⁷ The reason for the lower sensitivity reported in that study is uncertain.

One study of a 72-hour continuous Holter monitor compared with an insertable cardiac monitor²⁹ found a sensitivity of 1.0 when considering cases of AF detected during the 72-hour monitoring period covered by both devices. Over the entire duration of insertable cardiac monitoring (mean, 588 days), several additional cases of subclinical paroxysmal AF were detected, giving an overall sensitivity of 0.12 for the 72-hour Holter monitor. The specificity of Holter monitoring was 1.0. Data on the accuracy of screening tests reported in or calculated from randomized clinical trials of screening are discussed below. It is important to note that estimates of sensitivity and specificity for any given test to detect AF may vary depending on the reference standard used (12-lead ECG interpreted by a cardiologist or an insertable cardiac monitor) and with the duration of the reference standard measurement.

The USPSTF found 4 randomized clinical trials that compared different 1-time screening approaches for the detection of AF with usual care or no screening.³⁰⁻³⁶ The mean age of participants in these trials was 74 to 76 years. Of these trials, only 1, the Screening for Atrial Fibrillation in the Elderly (SAFE) trial, found a statistically significant increased detection rate of AF (0.6% absolute increase) when comparing no intervention with ECG; however, there was no difference between clinician reminders for pulse palpation (considered usual care by the USPSTF) and screening with ECG in the detection of new cases of AF.³¹ Fidelity to the intervention was low to modest in all 4 studies, ranging from 11% to 69%.²

Two of these trials reported on measures of accuracy of screening tests. The SAFE trial reported that the sensitivity of ECG interpreted by a general practitioner compared with 12-lead ECG interpreted by a cardiologist ranged from 0.80 to 0.85, and specificity ranged from 0.86 to 0.92.^{30,32} The Detecting and Diagnosing Atrial Fibrillation trial did not report sensitivity or specificity.³⁶ However, in that trial, if the screening test result is considered positive if any of its components (pulse palpation, oscillometric blood pressure measurement with automated AF detection, and single-lead ECG with automated AF detection) were positive, the positive predictive value was 6% and the negative predictive value was 100%.^{2,23}

The USPSTF found 2 trials that used an intermittent screening approach and 2 trials that used a continuous screening approach. The mean age in these trials ranged from 72 to 80 years. The Assessment of Remote Heart Rhythm Sampling Using the AliveCor Heart Monitor to Screen for Atrial Fibrillation (REHEARSE-AF) trial (n = 1001) randomized participants to twice-weekly screening with a single-lead, handheld ECG for 30 seconds or to no screening for 12 months.³⁷ STROKESTOP randomized more than 28 000 persons aged 75 or 76 years in a defined geographical region in Sweden to an index ECG at baseline, followed by 2 weeks of intermittent handheld single-lead ECG monitoring; follow-up was a median of 6.9 years.³⁸ REHEARSE-AF found a statistically significant 2.8% absolute risk increase in detection of AF for screening vs no screening at 12 months. STROKESTOP found a statistically significant 1.0% absolute risk increase in detection of AF at 6 months after

screening, a difference that was maintained through 7 years of follow-up but which was no longer statistically significant (21.3% vs 20.3%; $P = .28$). Approximately 12% of persons enrolled in STROKESTOP had known AF at baseline, and only 13% of AF cases detected after the intervention in the screening group were new cases not known at baseline.

The mHealth Screening to Prevent Strokes (mSToPS) trial ($n = 2659$) randomized participants to screening with 2 14-day episodes of continuous ambulatory ECG monitoring with a patch 3 months apart or to delayed screening.³⁹ SCREEN-AF randomized 856 participants to a similar intervention, with the addition of a home blood pressure monitor with automated AF detection to be used twice daily during each 2-week ECG monitoring period. The mean age of participants in this study was 80 years, and all were required to have hypertension.⁴⁰ These 2 trials reported statistically significant absolute risk increases of 3% and 4.8% in detection of AF for screening vs no screening or delayed screening. The USPSTF found no trials that compared screening for AF with consumer-oriented devices vs no screening.^{2,23}

SCREEN-AF also reported on a measure of screening accuracy. It found that screening with an oscillometric blood pressure monitor with an AF detection feature twice daily over a total of 4 weeks had a sensitivity of 0.35 (95% CI, 0.15-0.59) and specificity of 0.81 (95% CI, 0.77-0.85) compared with continuous ECG monitoring over the same 4 weeks.⁴⁰ The low sensitivity observed for the intermittent blood pressure monitor is likely because a continuous ECG is better suited for identifying paroxysmal AF.

Intermittent or continuous screening approaches may be more likely to detect short episodes of nonpersistent AF. The mSToPS trial reported that the longest individual episode of AF detected during its total of 28 days of monitoring was less than 5 minutes in 7.2% of participants, 5 minutes to 6 hours in 55%, 6 to 24 hours in 25%, and more than 24 hours in 13%.³⁹ In the SCREEN-AF trial the longest individual episode of AF detected was 5 minutes or less in 13% of participants, more than 5 minutes to 6 hours in 43%, more than 6 to 24 hours in 30%, and more than 24 hours in 13%.⁴⁰ It is uncertain to what degree short episodes of subclinical AF increase stroke risk, and the duration of subclinical AF that warrants anticoagulant therapy is unclear.^{9,10}

Benefits of Early Detection and Treatment

The USPSTF found 3 trials, REHEARSE-AF,³⁷ SCREEN-AF,⁴⁰ and STROKESTOP,³⁸ that compared screening with no screening and that reported on health outcomes; however, only STROKESTOP was powered to detect health outcomes. STROKESTOP reported no significant difference in ischemic stroke (the originally specified primary study outcome), systemic embolism, or all-cause mortality in the invitation to screening group compared with the control group at a median follow-up of 6.9 years (hazard ratio, 0.92 [95% CI, 0.83-1.01] for ischemic stroke; 1.10 [95% CI, 0.76 to 1.59] for systemic embolism; and 0.96 [95% CI, 0.92-1.01] for all-cause mortality). The study reported that the rate of a composite end point consisting of ischemic stroke, hemorrhagic stroke, systemic embolism, bleeding leading to hospitalization, and all-cause mortality was significantly lower in the invitation to screening group (5.45 events/100 person-years) compared with the control group (5.68 events/100 person-years), with an unadjusted hazard ratio of 0.96 (95% CI, 0.92-1.00; $P = .045$). STROKESTOP has several limitations, including: the com-

posite end point includes both benefits and harms; the primary trial outcome was originally specified as ischemic stroke in 2012 but was subsequently changed to this composite end point in 2017; and, approximately 12% of persons enrolled in STROKESTOP had known AF at baseline, and approximately 11% had a history of transient ischemic attack, stroke, or systemic embolism. The other 2 studies, REHEARSE-AF³⁷ and SCREEN-AF,⁴⁰ found no significant difference in health outcomes (stroke, transient ischemic attack, systemic embolism, and death) between the screening and no screening groups, although they were not designed or powered to detect these outcomes and events were rare.

The USPSTF found no trials that reported on the benefits of anticoagulant therapy in screen-detected populations. Several trials reported on the benefits of anticoagulant therapy for clinical AF. In a pooled analysis of 5 trials, warfarin treatment over a mean of 1.5 years was associated with reductions in all-cause mortality (pooled relative risk [RR], 0.68 [95% CI, 0.50-0.93]; 2415 participants), ischemic stroke (pooled RR, 0.32 [95% CI, 0.20-0.51]), and moderately to severely disabling stroke (pooled RR, 0.38 [95% CI, 0.19-0.78]) compared with the control group.^{2,23} A network meta-analysis of 21 studies found that all anticoagulant treatments (warfarin or direct oral anticoagulants) were associated with a lower risk of outcomes such as stroke, systemic embolism, and all-cause mortality compared with placebo or control groups.⁴¹

Trials of anticoagulant treatment enrolled participants with clinical, usually long-standing, persistent AF; none focused on participants who were detected by screening.^{2,23} As discussed above, the extent to which short episodes of subclinical (ie, asymptomatic or device-detected) AF increase stroke risk is uncertain, and the duration or burden of AF that warrants anticoagulation therapy is unclear.^{9,10} Thus, the applicability of treatment benefits to screen-detected populations, particularly those with short-duration or low-burden AF, is uncertain.

Harms of Screening and Treatment

Several of the randomized clinical trials discussed above also reported on the harms of screening for AF. In STROKESTOP, the rates of hemorrhagic stroke and hospitalization for major bleeding did not significantly differ between the invitation to screening group and the control group.³⁸ In the SAFE study, anxiety levels were not significantly different between participants randomized to ECG screening vs pulse palpation reminders. Participants who had a positive screening result had higher mean anxiety scores compared with those who had a negative result, although most did not have clinically meaningful levels of anxiety symptoms.³⁰ The mSToPS trial reported incidentally detected, potentially actionable arrhythmias other than AF in 70 participants (2.6% of participants), although the balance of benefits or harms of these findings is unknown.³⁹ Another potential harm of screening is ECG misinterpretation, leading to false-positive results and possibly unnecessary treatment.

The USPSTF reviewed several trials, systematic reviews, and an observational study that reported on harms associated with anticoagulant therapy. Anticoagulant therapy was associated with an increased risk of bleeding, including major bleeding, extracranial bleeding, intracranial bleeding, and minor bleeding events, although the increased risk was not statistically significant for all outcomes.^{2,23} Similar to the body of evidence on the benefits of anticoagulant treatment, the studies reporting on harms were focused on persons with

clinical, usually long-standing, persistent AF; none focused on screen-detected populations.^{2,23} However, the harms of anticoagulant therapy in a screen-detected population would likely be similar; thus, the USPSTF assesses that this evidence is applicable to screen-detected AF.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF website from April 20, 2021, to May 17, 2021. Several comments agreed with the USPSTF recommendation. In response to comments, the USPSTF wants to clarify that the I statement is not a recommendation against screening for AF; it indicates that the evidence is insufficient to recommend either for or against screening. The USPSTF also wants to highlight that it considers pulse palpation to be usual care, as noted in the Practice Considerations and Detection of Previously Undiagnosed AF sections. Some comments noted that the inclusion age for studies on the benefits and harms of screening for AF was lowered to age 50 years for the current recommendation, compared with age 65 years in the prior recommendation. The USPSTF did this to be inclusive of all potential evidence on screening for AF. Lowering the inclusion age was not intended to dilute the evidence in older adults in any way, nor did it. Some comments suggested adding specific research gaps, such as determining the optimal strategy for screening, the optimal populations to screen, or the association between subclinical AF or AF detected on consumer devices and stroke risk. In response, the USPSTF specified understanding the stroke risk associated with AF detected by consumer devices as a research need, and notes that screening with consumer-oriented technologies was an included intervention in the current review. The other suggested research gaps are largely captured by the USPSTF's current

research needs and gaps. The USPSTF added the recently published SCREEN-AF and STROKESTOP studies to those it reviewed for this recommendation.

Research Needs and Gaps

More studies are needed that address the following.

- Randomized trials enrolling asymptomatic persons that directly compare screening with usual care and that assess both health outcomes and harms are needed to understand the balance of benefits and harms of screening for AF. It is important that screening trials enroll sufficient participants of both sexes and diverse racial and ethnic groups to enable assessment of whether the detection of AF or the benefits or harms of screening vary in different population groups.
- How to best optimize the accuracy of screening tests or strategies for AF.
- Understanding the risk of stroke associated with subclinical AF, or AF detected with use of consumer devices, how that risk varies with duration or burden of AF, and the potential benefit of anticoagulation therapy among persons with subclinical AF.

Recommendations of Others

The American Heart Association and the American Stroke Association state that active screening for AF in the primary care setting among persons older than 65 years using pulse assessment followed by ECG, as indicated, can be useful.⁴²

The American Academy of Family Physicians supports the 2018 USPSTF recommendation on screening for AF with ECG.⁴³

ARTICLE INFORMATION

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notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms. Published by JAMA®—Journal of the American Medical Association under arrangement with the Agency for Healthcare Research and Quality (AHRQ). ©2022 AMA and United States Government, as represented by the Secretary of the Department of Health and Human Services (HHS), by assignment from the members of the United States Preventive Services Task Force (USPSTF). All rights reserved.

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