

# Screening and Preventive Interventions for Oral Health in Adults

## US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

**IMPORTANCE** Oral health is fundamental to health and well-being across the life span. Dental caries (cavities) and periodontal disease (gum disease) are common and often untreated oral health conditions that affect eating, speaking, learning, smiling, and employment potential. Untreated oral health conditions can lead to tooth loss, irreversible tooth damage, and other serious adverse health outcomes.

**OBJECTIVE** The US Preventive Services Task Force (USPSTF) commissioned a systematic review to evaluate screening and preventive interventions for oral health conditions in adults.

**POPULATION** Asymptomatic adults 18 years or older.

**EVIDENCE ASSESSMENT** The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for oral health conditions (eg, dental caries or periodontal disease) performed by primary care clinicians in asymptomatic adults. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of preventive interventions for oral health conditions (eg, dental caries or periodontal disease) performed by primary care clinicians in asymptomatic adults.

**RECOMMENDATIONS** The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of routine screening performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease, in adults. (I statement) The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of preventive interventions performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease, in adults. (I statement)

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**Author/Group Information:** The US Preventive Services Task Force (USPSTF) members are listed at the end of this article.

**Corresponding Author:** Michael J. Barry, MD, Informed Medical Decisions Program, Massachusetts General Hospital, 100 Cambridge St, 16th Floor, Boston, MA 02114 (chair@uspstf.net).

## Summary of Recommendations

Population	Recommendation	Grade
Asymptomatic adults aged ≥18 years	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of routine screening performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease, in adults.	I
Asymptomatic adults aged ≥18 years	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of preventive interventions performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease, in adults.	I

USPSTF indicates US Preventive Services Task Force.

See the Summary of Recommendations figure.

## Preamble

The US Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services

for patients without obvious related signs or symptoms to improve the health of people nationwide.

It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.

Table 1. Summary of USPSTF Rationale

Rationale	Assessment
Detection	Inadequate evidence about the accuracy of screening for oral health performed by primary care clinicians in identifying asymptomatic adults who have or are at increased risk for oral health conditions (eg, dental caries or periodontal disease).
Benefits of early detection and preventive interventions	<ul style="list-style-type: none"> <li>• Inadequate evidence to assess the benefits of screening for oral health conditions (eg, dental caries or periodontal disease) performed by primary care clinicians in preventing negative oral health outcomes (eg, tooth loss) in asymptomatic adults.</li> <li>• Inadequate evidence to assess the benefits of preventive interventions performed by primary care clinicians for oral health outcomes (eg, tooth loss) in asymptomatic adults.</li> </ul>
Harms of early detection and preventive interventions	<ul style="list-style-type: none"> <li>• Inadequate evidence to assess the harms of screening for oral health conditions by primary care clinicians in asymptomatic adults.</li> <li>• Inadequate evidence to assess the harms of preventive interventions performed by primary care clinicians for oral health conditions (eg, dental caries or periodontal disease) in asymptomatic adults.</li> </ul>
USPSTF assessment	<ul style="list-style-type: none"> <li>• Due to a lack of evidence, the USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening by primary care clinicians for oral health conditions (eg, dental caries or periodontal disease) in asymptomatic adults.</li> <li>• Due to a lack of evidence, the USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of preventive interventions by primary care clinicians for oral health outcomes (eg, tooth loss) in asymptomatic adults.</li> </ul>

Abbreviation: US Preventive Services Task Force.

*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. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.*

*The USPSTF is committed to mitigating the health inequities that prevent many people from fully benefiting from preventive services. Systemic or structural racism results in policies and practices, including health care delivery, that can lead to inequities in health. The USPSTF recognizes that race, ethnicity, and gender are all social rather than biological constructs. However, they are also often important predictors of health risk. The USPSTF is committed to helping reverse the negative impacts of systemic and structural racism, gender-based discrimination, bias, and other sources of health inequities, and their effects on health, throughout its work.*

## Importance

Oral health is fundamental to health and well-being across the life span.<sup>1,2</sup> Dental caries (cavities) and periodontal disease (gum disease) are common and often untreated oral health conditions that affect eating, speaking, learning, smiling, and employment potential.<sup>1-4</sup> In the US, oral health disparities are shaped by inequities in the affordability and accessibility of dental care and other disadvantages related to social determinants of health (eg, living in an underserved rural area).<sup>1,2,4</sup> Dental caries and periodontitis disproportionately affect persons living in poverty; Asian, Black, Hispanic/Latino, Native American/Alaska Native, and Native Hawaiian/Pacific Islander adults; pregnant persons; adults with disabilities; adults 65 years or older or living in institutional settings; adults living in rural and urban underserved areas; adults without insurance or with public insurance; and adults experiencing homelessness.<sup>1,2</sup> Untreated oral health conditions can lead to tooth loss, irreversible tooth damage, and other serious adverse health outcomes.<sup>1,5</sup>

## USPSTF Assessment of Magnitude of Net Benefit

Due to a lack of evidence, the USPSTF concludes that the current **evidence is insufficient** to assess the balance of benefits and harms of screening for oral health conditions (eg, dental caries or periodontal disease) performed by primary care clinicians in asymptomatic adults.

Due to a lack of evidence, the USPSTF concludes that the current **evidence is insufficient** to assess the balance of benefits and harms of preventive interventions for oral health conditions (eg, dental caries or periodontal disease) performed by primary care clinicians in asymptomatic adults.

See **Table 1** 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.<sup>6</sup>

## Practice Considerations

### Patient Population Under Consideration

This recommendation applies to asymptomatic adults aged 18 years or older.

### Condition Definitions

Dental caries refers to a multifactorial disease process resulting in demineralization of the teeth.<sup>7,8</sup> Periodontal disease refers to inflammation of the gingival tissue, or gingivitis, which affects the hard and soft tissue that supports the teeth and can progress to periodontitis involving bone loss.<sup>1,9</sup> Oral health conditions for this recommendation statement refer to clinical health outcomes focused on the presence and severity of dental caries, dental caries burden (number of affected teeth), presence and severity of periodontal disease, tooth loss, and morbidity, quality of life, functional status, and harms of screening and treatment related to these conditions.<sup>1</sup>

Figure. Clinician Summary of USPSTF Recommendation: Screening and Preventive Interventions for Oral Health in Adults

<p><b>What does the USPSTF recommend?</b></p>	<p><b>For asymptomatic adults 18 years or older:</b>                  The evidence is insufficient to assess the balance of benefits and harms of routine screening performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease.  <b>Grade: I statement</b>                  The evidence is insufficient to assess the balance of benefits and harms of preventive interventions performed by primary care clinicians for oral health conditions, including dental caries or periodontal-related disease.  <b>Grade: I statement</b></p>
<p><b>To whom does this recommendation apply?</b></p>	<p>This recommendation applies to asymptomatic adults 18 years or older.</p>
<p><b>What's new?</b></p>	<p>This is a new USPSTF recommendation.</p>
<p><b>How to implement this recommendation?</b></p>	<ul style="list-style-type: none"> <li>• The USPSTF found insufficient evidence to recommend for or against routine screening or preventive interventions for oral health conditions in the primary care setting for adults.</li> <li>• The USPSTF is calling for more research on addressing oral health in nondental primary care settings, particularly in persons who are more likely to experience oral health conditions and on social factors that contribute to disparities in oral health.</li> <li>• In the absence of evidence, primary care clinicians should use their clinical expertise to decide whether to perform these services.</li> </ul>
<p><b>What additional information should clinicians know about this recommendation?</b></p>	<ul style="list-style-type: none"> <li>• The USPSTF has a separate existing recommendation for children younger than 5 years that recommends prescribing oral fluoride supplements starting at age 6 months for children younger than 5 years whose water supply is deficient in fluoride and applying varnish to the primary teeth of all children younger than 5 years starting at the age of primary tooth eruption.</li> <li>• Dental caries refers to a multifactorial disease process resulting in demineralization of the teeth.</li> <li>• Periodontal disease refers to inflammation of the gingival tissue, or gingivitis, which affects the hard and soft tissue that support the teeth and can progress to periodontitis involving bone loss.</li> <li>• The evidence review focused on dental caries and periodontitis as the most common oral health conditions and the most potentially amenable to primary care interventions.</li> </ul>
<p><b>Why is this recommendation and topic important?</b></p>	<ul style="list-style-type: none"> <li>• Dental caries is the most common condition in adults worldwide; more than 90% of US adults are affected by dental caries, and an estimated 26% have untreated dental caries.</li> <li>• Untreated dental caries can lead to serious infections and tooth loss.</li> <li>• Untreated periodontitis can contribute to destruction of tissues that support the teeth and is the leading cause of tooth loss in older adults.</li> <li>• In the US, oral health disparities are shaped by unequally affordable and accessible dental care and other disadvantages related to social determinants of health (eg, living in a rural area).</li> <li>• Dental caries and periodontitis disproportionately affect persons living in poverty; Asian, Black, Hispanic/Latino, Native American/Alaska Native, and Native Hawaiian/Pacific Islander adults; pregnant persons; adults with disabilities; older adults; adults living in rural and urban underserved areas; adults without insurance or with public insurance; and adults experiencing homelessness.</li> </ul>
<p><b>What are other relevant USPSTF recommendations?</b></p>	<ul style="list-style-type: none"> <li>• The USPSTF has issued recommendations on routine screening and interventions to prevent dental caries in children younger than 5 years.</li> <li>• The USPSTF has issued recommendations on routine screening and preventive interventions for oral health in children and adolescents aged 5 to 17 years.</li> </ul>
<p><b>What are additional tools and resources?</b></p>	<ul style="list-style-type: none"> <li>• The Health Resources and Services Administration's oral health factsheet (<a href="https://www.hrsa.gov/sites/default/files/hrsa/oral-health/oral-health-2016-factsheet.pdf">https://www.hrsa.gov/sites/default/files/hrsa/oral-health/oral-health-2016-factsheet.pdf</a>) and report on <i>Integration of Oral Health and Primary Care Practice</i> (<a href="https://www.hrsa.gov/sites/default/files/hrsa/oral-health/integration-oral-health.pdf">https://www.hrsa.gov/sites/default/files/hrsa/oral-health/integration-oral-health.pdf</a>) emphasize optimal collaborations between primary care clinicians and oral health professionals.</li> <li>• The US Department of Health and Human Services' <i>Report of the Surgeon General</i> (<a href="https://www.nidcr.nih.gov/sites/default/files/2017-10/hck1ocv.%40www.surgeon.fullrpt.pdf">https://www.nidcr.nih.gov/sites/default/files/2017-10/hck1ocv.%40www.surgeon.fullrpt.pdf</a>) and the National Institutes of Health's report <i>Oral Health in America: Advances and Challenges</i> (<a href="https://www.nidcr.nih.gov/sites/default/files/2021-12/Oral-Health-in-America-Advances-and-Challenges.pdf">https://www.nidcr.nih.gov/sites/default/files/2021-12/Oral-Health-in-America-Advances-and-Challenges.pdf</a>) comprehensively describe the importance of oral health to overall health and highlight advances and challenges toward improving oral health in the US.</li> <li>• The Community Preventive Services Task Force recommends fluoridation of community water sources to reduce dental caries (<a href="https://www.thecommunityguide.org/findings/dental-caries-cavities-community-water-fluoridation">https://www.thecommunityguide.org/findings/dental-caries-cavities-community-water-fluoridation</a>).</li> </ul>
<p><b>Where to read the full recommendation statement?</b></p>	<p>Visit the USPSTF website (<a href="https://www.uspreventiveservicestaskforce.org/uspstf/">https://www.uspreventiveservicestaskforce.org/uspstf/</a>) or the JAMA website (<a href="https://jamanetwork.com/collections/44068/united-states-preventive-services-task-force">https://jamanetwork.com/collections/44068/united-states-preventive-services-task-force</a>) 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.</p>

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.

The USPSTF focused on dental caries and periodontitis as the most common oral health conditions and the most potentially amenable to primary care interventions.

### Screening Tests and Interventions

For the purposes of the review, screening included clinical assessments (eg, physical examination) and standardized risk prediction tools or a combination of approaches by primary care clinicians to identify adults who have existing oral health conditions or adults who might benefit most from interventions to prevent future negative oral health outcomes due to increased risk.<sup>1</sup> Interventions that were reviewed focused on preventing future dental caries and included counseling and health education toward reducing the burden of bacteria in the mouth, decreasing the frequency of refined sugar intake, and promoting resistance to caries in the teeth through use of fluoride, dental sealants, silver diamine fluoride solution,<sup>1,10</sup> and xylitol.<sup>1</sup> The USPSTF found insufficient evidence to recommend for or against screening or preventive interventions for oral health conditions in the primary care setting for adults and suggests primary care clinicians use their clinical expertise to decide whether to perform these services.

### Suggestions for Practice Regarding the I Statement

In deciding whether to routinely screen or deliver interventions for oral health conditions, primary care clinicians should consider the following.

#### Potential Preventable Burden

Dental caries is the most common condition in adults worldwide; more than 90% of US adults are affected by dental caries, and an estimated 26% have untreated dental caries.<sup>1,2</sup> Untreated dental caries can lead to serious infections and tooth loss.<sup>1,8</sup> An estimated 42% of US adults older than 30 years have periodontal disease, increasing to nearly 60% at age 65 years or older.<sup>1,11</sup> Untreated periodontitis can contribute to destruction of tissues that support the teeth and is the leading cause of tooth loss in older adults.<sup>1,9,12,13</sup>

Older adults are more likely to have medical conditions or use medications causing xerostomia (dry mouth), which contributes to oral health conditions.<sup>1,14</sup> Frequent intake of dietary sugars in foods and beverages, suboptimal fluoride exposure, oral hygiene practices (eg, lack of toothbrushing and flossing), tobacco use, unhealthy alcohol use, and methamphetamine use increase the risk of oral health conditions.<sup>1</sup> According to 2009-2016 National Health and Nutrition Examination Survey data, people who smoke have a higher incidence of periodontal disease (62%) compared with adults 30 years or older overall (42%).<sup>1,11</sup>

Social determinants of health (nonbiological factors) associated with increased risk of oral health conditions include low socioeconomic status, lack of dental insurance, and living in communities with dental professional shortages, affecting access to dental care.<sup>1</sup> For older adults, physical limitations and loss of dental coverage upon retirement can increase barriers to dental care.<sup>5</sup>

#### Potential Harms

Potential screening approaches in primary care (eg, oral clinical assessments or standardized risk assessment instruments) to identify persons with early untreated dental caries or periodontal disease or persons at increased future risk are noninvasive and would seem unlikely to cause serious harms, but evidence is lacking. Health

education and counseling to encourage routine oral hygiene and reduce modifiable risk factors (eg, frequent intake of refined sugars or tobacco use) are also noninvasive.

#### Current Practice

The USPSTF found little evidence on current practices in primary care for routine screening or performing interventions to prevent dental caries or periodontitis in adults. In its review of the evidence, the USPSTF found that preventive interventions are generally performed in dental settings by dental professionals. There are well-known significant barriers to providing oral health services in the primary care setting, including variable clinician access and familiarity with interventions.<sup>1</sup> Primary care clinicians may need additional training and specific equipment to deliver screening and preventive interventions, have reimbursement challenges, and encounter administrative obstacles to making dental referrals and linking patients to dental care.<sup>1</sup> The USPSTF recommends oral fluoride supplements starting at age 6 months for children younger than 5 years with water sources deficient in fluoride and administration of varnish to the primary teeth of all children younger than 5 years after tooth eruption.<sup>15</sup> It is unknown how frequently fluoride is administered in older children and adults.

#### Additional Tools and Resources

The Health Resources and Services Administration's oral health fact-sheet (<https://www.hrsa.gov/sites/default/files/hrsa/oral-health/oral-health-2016-factsheet.pdf>) and report on *Integration of Oral Health and Primary Care Practice* (<https://www.hrsa.gov/sites/default/files/hrsa/oral-health/integration-oral-health.pdf>) emphasize optimal collaborations between primary care clinicians and oral health professionals.

The US Department of Health and Human Services' *Report of the Surgeon General* (<https://www.nidcr.nih.gov/sites/default/files/2017-10/hck1ocv.%40www.surgeon.fullrpt.pdf>) and the National Institutes of Health's report *Oral Health in America: Advances and Challenges* (<https://www.nidcr.nih.gov/sites/default/files/2021-12/Oral-Health-in-America-Advances-and-Challenges.pdf>) comprehensively describe the importance of oral health to overall health and highlight advances and challenges toward improving oral health in the US.

The Community Preventive Services Task Force recommends fluoridation of community water sources to reduce dental caries (<https://www.thecommunityguide.org/findings/dental-caries-cavities-community-water-fluoridation>).

#### Other Related USPSTF Recommendations

The USPSTF has issued recommendations on screening and interventions to prevent dental caries in children younger than 5 years<sup>15</sup>; screening for oral cancer<sup>16</sup>; interventions for tobacco smoking cessation in adults, including pregnant persons<sup>17</sup>; and screening and preventive interventions for oral health in children and adolescents aged 5 to 17 years.<sup>18</sup>

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## Supporting Evidence

### Scope of Review

The USPSTF commissioned a systematic evidence review<sup>1,19</sup> to evaluate the benefits and harms of screening and preventive interventions

for oral health conditions in adults. The USPSTF previously addressed counseling to prevent dental and periodontal disease (1996). Concurrently, the USPSTF commissioned a systematic evidence review to evaluate the benefits and harms of oral health screening and preventive interventions in children and adolescents aged 5 to 17 years<sup>20</sup>; this recommendation is addressed in a separate statement.<sup>21</sup>

### Accuracy of Screening Tests

The USPSTF found limited evidence on available and appropriate screening instruments or clinical risk assessments to identify adults with oral health conditions in the primary care setting. The review identified 6 studies (n = 1281) of self-reported questionnaires on perceived dental health designed to distinguish between persons with and without periodontitis, but most questionnaires included whether there was a history of periodontitis, making them less relevant for screening in asymptomatic persons or those with previously unrecognized oral periodontitis.<sup>1,19</sup> The questionnaires demonstrated moderate discrimination (area under summary receiver operating characteristic curve, 0.79 [95% CI, 0.75-0.83]).<sup>1,19</sup> The evidence review did not identify any questionnaires designed to identify adults with dental caries.

The single primary care study<sup>22</sup> (n = 86) evaluating the accuracy of clinical examination to identify dental caries found high specificity for dental caries and periodontitis (range, 0.80-0.93) but low sensitivity for periodontitis (0.56 [95% CI, 0.38-0.74] and 0.42 [95% CI, 0.24-0.56] for 2 examiners) and variable sensitivity for dental caries (0.33 [95% CI, 0.12-0.62] and 0.83 [95% CI, 0.52-0.96]).<sup>1,19</sup>

The review found no evidence on the accuracy of risk assessment tools to identify adults at increased risk of future oral health outcomes.

### Effectiveness of Screening

For evidence on whether screening prevented negative oral health outcomes in adults in the primary care setting, the review identified a single study in pregnant persons<sup>23</sup> (n = 477) that compared no screening with a dental screening approach involving 2 questions and an optional oral cavity visual inspection by midwives. There were no statistically significant group differences in number of decayed teeth or filled teeth, and measures of periodontitis and birth outcomes in both groups were similar.<sup>1,19,23</sup>

### Harms of Screening

The same single study<sup>22</sup> (n = 477) evaluating screening vs no screening in pregnant persons did not report examining harms of screening.<sup>1,19</sup>

### Effectiveness of Preventive Interventions

The USPSTF sought evidence on interventions implemented in a primary care setting that could prevent a broad collection of oral health conditions; however, the evidence review identified studies focused on dental caries interventions performed by dental health professionals in a dental setting. The USPSTF also sought evidence on the effectiveness of oral health behavioral counseling in a primary care setting to prevent oral health outcomes but found no such evidence.<sup>1,19</sup>

The following discussion focuses on preventive medications. Studies often had significant methodological limitations (eg, high attrition, unclear randomization, or uncertain applicability to the US) and did not report analysis by race, socioeconomic status, or other important social determinants of health. Studies inconsistently reported community water fluoridation levels or whether partici-

pants received oral health education, precluding evaluation of the effectiveness of these factors on oral health outcomes. The review did not find evidence evaluating the effects of interventions on non-oral health outcomes such as cardiovascular or cognitive outcomes, quality of life, or functional status.<sup>1,19</sup>

### Topical Fluoride

The review found no evidence on fluoride interventions provided by primary care clinicians. Five trials (n = 971) in adults reported on the effects of topical fluorides (varnish or gel/solution) applied by dental professionals to prevent dental caries.<sup>1,19</sup> In the single randomized clinical trial<sup>24</sup> (n = 104) of older adults in residential and nursing homes, application of fluoride varnish (sodium fluoride 22 600 ppm) every 3 months was associated with a statistically nonsignificant reduction in dental caries at 1 year (mean difference in new active dental caries or fillings, 0.7; *P* > .05), but at 2 and 3 years, group differences were statistically significant (mean difference, 1.8; *P* < .001 and mean difference, 1.6; *P* < .001, respectively).<sup>1,19</sup> In addition, fluoride varnish was associated with decreased risk of developing new dental caries (relative risk, 0.25 [95% CI, 0.10-0.63]), translating to a number needed to treat of 3.1 (95% CI, 2.1-7.7).<sup>1,19</sup> A nonrandomized cluster trial<sup>25</sup> (n = 232) of older adults in long-term care facilities found no group differences in dental caries burden (based on DMFT/DFT [Decayed, Missing, and Filled Teeth/Decayed, Filled Teeth] score) at 1 year (adjusted mean difference, -0.04 [95% CI, -0.10 to 0.03]).<sup>1,19</sup> The 3 additional trials of other topical fluoride approaches (sodium fluoride 2% solution, stannous fluoride [30%] paste followed by aqueous solution, and acidulated phosphate fluoride [1.2%] at varied time frames) obtained inconsistent results.<sup>1,19</sup>

### Sealants, Silver Diamine Fluoride, and Xylitol

The review found no studies on the effectiveness of sealants vs no sealants to prevent dental caries in primary care. Two trials (n = 178) evaluating light-cured resin-based sealants in young adults applied by dental professionals were of limited quality and yielded imprecise results.<sup>1,19</sup> Three trials (n = 590) examined the effectiveness of silver diamine fluoride solution to reduce dental caries or fillings in older adults.<sup>1,19</sup> Fluoride exposure (ie, oral health behaviors) was reported in 1 study and not reported in 2 studies.<sup>1,19</sup> In older adults, evidence suggests that silver diamine fluoride may be more effective than placebo to reduce new root dental caries or fillings (mean difference, -0.33 to -1.3 at 24 to 30 months).<sup>1</sup> Silver diamine fluoride may also reduce likelihood of developing new root dental caries (adjusted odds ratio, 0.4 [95% CI, 0.3-0.7] and relative risk, 0.19 [95% CI, 0.07-0.46] in 2 randomized clinical trials; n = 478).<sup>1,19</sup> No evidence was found evaluating the effects of xylitol to prevent dental caries or periodontitis.<sup>1,19</sup>

### Harms of Preventive Interventions

The review found very limited evidence on the harms of interventions. Of the 9 studies reviewed assessing preventive interventions, 1 trial evaluating fluoride varnish or silver diamine fluoride (vs placebo) stated "no major side effects or discomfort was reported."<sup>1,19,24</sup> Eight other trials did not report examining for harms.<sup>1,19</sup>

### Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF website from May 23, 2023, to June 20,

**Table 2. Research Needs and Gaps in Screening and Preventive Interventions for Oral Health in Adults**

To fulfill its mission to improve health by making evidence-based recommendations for preventive services, the USPSTF routinely highlights the most critical evidence gaps for making actionable preventive services recommendations. The USPSTF often needs additional evidence to create the strongest recommendations for everyone and especially for persons with the greatest burden of disease.

In this table, the USPSTF summarizes the key bodies of evidence needed for the USPSTF to make recommendations for screening and preventive interventions for oral health in adults. For each of the evidence gaps listed below, research must focus on screening and preventive interventions that can be performed in nondental primary care settings and be inclusive of populations with a high prevalence of oral health conditions, including Asian, Black, Hispanic/Latino, Native American/Alaska Native, and Hawaiian Native/Pacific Islander persons and persons with social determinants that contribute to disparities in oral health. For additional information on research needed to address these evidence gaps, see the Research Gaps Taxonomy table on the USPSTF website ([https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/WGyw9FcXJDcAM\\_Uj\\_uwPBW](https://www.uspreventiveservicestaskforce.org/home/getfilebytoken/WGyw9FcXJDcAM_Uj_uwPBW)).

**Screening for oral health in adults**

Research is needed to assess the effectiveness and harms of primary care-based oral health screening strategies on oral health outcomes.

Research is needed on the diagnostic accuracy of oral health examinations and risk assessment tools in the primary care setting to identify adults with oral health conditions.

**Preventive interventions for oral health in adults**

Research is needed to develop primary care-based oral health risk assessment tools to accurately identify adults at increased risk of oral health conditions.

Research is needed to assess the effectiveness and harms of preventive interventions in the primary care setting.

- Research is needed to assess the effectiveness and harms of fluoride gel, fluoride varnish, sealants, silver diamine fluoride, and xylitol in the home or primary care setting on oral health conditions, and include the water fluoridation status, oral health behaviors, and education of study participants.
- Research is needed to assess the effectiveness and harms of oral health education and behavioral counseling interventions on oral health outcomes.

Research is needed to identify the effectiveness of strategies that can be delivered in primary care settings to prevent periodontitis and their effects on associated adverse health outcomes such as tooth loss or cognitive or cardiovascular conditions.

2023. Some comments suggested that a recommendation supporting primary care screening and preventive interventions could expand dental care access and positively impact oral health disparities. The USPSTF is committed to advancing health equity and to the provision of equitable clinical preventive services to improve health. The USPSTF carefully considers evidence of benefits and harms, makes recommendations when supported by sufficient evidence, and makes recommendations on primary care-relevant services. However, based on the evidence, the USPSTF cannot recommend for or against oral health screening or preventive interventions for adults in the primary care setting. Primary care clinicians should use their clinical expertise to decide whether to perform these services. The USPSTF is calling for additional research to fill critical evidence gaps on this topic. Several comments agreed that the evidence is too limited to make a recommendation for or against primary care-feasible oral health screening or preventive interventions in adults.

## Research Needs and Gaps

See [Table 2](#) for research needs and gaps related to screening and preventive interventions for oral health in adults.

## Recommendations of Others

The US Department of Health and Human Services' *Report of the Surgeon General (2000)* and the National Institutes of Health's update (2021) emphasize the importance of integrating oral health into primary care medical settings, primarily focusing on counseling, coordination, and referral.<sup>2,14</sup> The National Academy of Medicine's (formerly the Institute of Medicine) and the Health Resources and Services Administration's report *Advancing Oral Health in America (2011)* recommends strategic action for prioritization of oral health within US Department of Health and Human Services agencies and in its partnerships with other stakeholders.<sup>5</sup>

The American Dental Association (2013) recommends professionally applied 2.26% fluoride varnish or 1.23% fluoride gel in adults at elevated risk of developing dental caries.<sup>26</sup> The American Academy of Family Physicians (2018) recommends that primary care clinicians educate patients about risks and benefits of fluoride use.<sup>27</sup> The American College of Obstetricians and Gynecologists (2013) recommends routine counseling about the importance of oral health care during pregnancy and maintaining good oral health habits throughout the life span.<sup>28</sup>

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**The US Preventive Services Task Force (USPSTF) members:** Michael J. Barry, MD; Wanda K. Nicholson, MD, MPH, MBA; Michael Silverstein, MD, MPH; David Chelmon, MD; Tumaini Rucker Coker, MD, MBA; Esa M. Davis, MD, MPH; Katrina E. Donahue, MD, MPH; Carlos Roberto Jaén, MD, PhD, MS; Li Li, MD, PhD, MPH; Gbenga Ogedegbe, MD, MPH; Lori Pbert, PhD; Goutham Rao, MD; John M. Ruiz, PhD; James Stevermer, MD, MSPH; Joel Tsevat, MD, MPH; Sandra Millon Underwood, PhD, RN; John B. Wong, MD.

**Affiliations of The US Preventive Services Task Force (USPSTF) members:** Harvard Medical School, Boston, Massachusetts (Barry);

George Washington University, Washington, DC (Nicholson); Brown University, Providence, Rhode Island (Silverstein); Virginia Commonwealth University, Richmond (Chelmon); University of Washington, Seattle (Coker); University of Maryland School of Medicine, Baltimore (Davis); University of North Carolina at Chapel Hill (Donahue); The University of Texas Health Science Center, San Antonio (Jaén, Tsevat); University of Virginia, Charlottesville (Li); New York University, New York, New York (Ogedegbe); University of Massachusetts Chan Medical School, Worcester (Pbert); Case Western Reserve University, Cleveland, Ohio (Rao); University of Arizona, Tucson (Ruiz); University of Missouri, Columbia (Stevermer); University of Wisconsin, Milwaukee (Underwood); Tufts University School of Medicine, Boston, Massachusetts (Wong).

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