The U.S. Preventive Services Task Force (USPSTF) makes recommendations about clinical preventive services. The USPSTF examines chains of direct and indirect evidence to demonstrate the effectiveness of a clinical preventive service. Missing links across the chains of evidence reflect gaps in the research. Evidence gaps can occur for preventive services that receive a letter grade recommendation and those that receive an I statement (insufficient evidence). This article describes the types of evidence gaps that the USPSTF encounters across its various recommendations and how the USPSTF identifies and communicates these gaps to researchers and policymakers, who can help generate the needed evidence. Common types of evidence gaps include limited evidence in primary care settings and populations, a lack of appropriate health outcomes, limited evidence linking behavior change to health outcomes, and a lack of evidence for effective preventive services in diverse populations. The USPSTF annual report to Congress focuses on the evidence gaps of new recommendations from the past year and is sent to leading research funding agencies. The Office of Disease Prevention at NIH uses this report to help direct future funding opportunities that may address these evidence gaps. The USPSTF plays a critical role in highlighting the information needed to advance the science to optimize the use of clinical preventive services in primary care.

From the 1Center for Evidence and Practice Improvement, Agency for Healthcare Research and Quality, Rockville, Maryland; 2College of Public Health, University of Iowa, Iowa City, Iowa; 3Department of Family Medicine, University of Washington, Seattle, Washington; 4Pima County Department of Health, Tucson, Arizona; 5Department of Medicine, Columbia University Medical Center, New York, New York; and 6Department of Family and Community Medicine, Virginia Tech Carilion School of Medicine, Roanoke, Virginia

Address correspondence to: Iris R. Mabry-Hernandez, MD, MPH, Center for Evidence and Practice Improvement, Agency for Healthcare Research and Quality, 5600 Fishers Lane, Mail Stop 06E53A, Rockville MD 20857. E-mail: iris.mabry-hernandez@ahrq.hhs.gov.

This article is part of a supplement issue titled Advancing the U.S. Preventive Services Task Force Methods: Important Considerations in Making Evidence-Based Guidelines.

0749-3797/$36.00
https://doi.org/10.1016/j.amepre.2017.08.014

Am J Prev Med 2018;54(1S1):S95–S103. Published by Elsevier Inc. on behalf of American Journal of Preventive Medicine. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).
Figure 1. Generic analytic framework for a screening preventive service.

Note: Numbers correspond to the following key questions:
1. Is there evidence that randomizing a cohort of persons to screening or not screening results in greater reduced morbidity and mortality than the observed harms from screening and treatment?
2. Who are the persons at risk for the condition?
3. What are the performance characteristics of the screening test for the condition?
4. Does treatment of the screen detected condition result in improved intermediate outcomes?
5. Does treatment of the screen detected condition result in reduced morbidity and mortality?
6. Does an improvement in intermediate outcomes lead to improved health outcomes?
7. What are the harms associated with screening and diagnostic testing for the condition?
8. What are the harms associated with treatment of the condition?

literature review, which evaluates the benefits and harms of the preventive service. The USPSTF seeks direct evidence to show that a clinical preventive service results in improved health outcomes. If direct evidence of effectiveness is not available, the USPSTF examines the chain of indirect evidence, including evidence about the accuracy of screening tests, the efficacy and harms of early treatment, and the association between changes in intermediate outcomes due to treatment and changes in health outcomes. When there is sufficient evidence, the USPSTF assigns each of its recommendations a letter grade (A, B, C, or D) based on the certainty of the evidence and the balance of benefits and harms of the preventive service. When the USPSTF does not have enough direct or indirect evidence to make a recommendation, it issues an “I” (insufficient evidence) statement for that clinical preventive service. The I statement is not a recommendation for or against providing a preventive service but rather identifies critical evidence gaps that can be addressed by future research and ultimately result in a more definitive recommendation. Evidence gaps can also occur in preventive services that receive a letter grade.

COMMON EVIDENCE GAPS

Primary Care Settings and Populations

The USPSTF develops recommendations for preventive services provided in or referable from primary care settings. For many conditions and preventive interventions, research conducted in primary care settings and in asymptomatic primary care patients is limited. Available research on clinical preventive services (e.g., screening or behavioral counseling) is often conducted in select patient populations (e.g., high risk) recruited from specialty care settings. The USPSTF often finds that this evidence is not applicable to primary care patients and practices because the risk factors, epidemiology, and natural history of the condition may be substantially different in patients in primary care than in a specialty or academic setting. Similarly, available treatment trials are often not conducted in primary care settings or in primary care patients. Thus, both the data on screening test accuracy and the effectiveness of treatment are limited in their applicability to primary care and prevention. As a result, USPSTF recommendations frequently call for further evidence from primary care.

Health Outcomes and Harms

The USPSTF gives greater weight to evidence of an effect on health outcomes (i.e., conditions that affect how long a patient lives or the quality of a patient’s life) than evidence of an effect on intermediate outcomes (i.e., pathological, physiological, psychological, social, or behavioral measures). Ideally, high-quality evidence is available to demonstrate effects on health outcomes, such as death, disease-specific death, disability, or quality of life. However, many studies look instead at intermediate outcomes, process measures, or surrogates of the outcomes of interest to patients.

To address this gap in the evidence, the USPSTF looks for evidence demonstrating an association between changes in intermediate outcomes due to treatment and changes in health outcomes. A preventive service that has a proven effect on an intermediate outcome does not necessarily establish an effect on health outcomes that are perceptible to patients. The evidence needed to support the link between intermediate and health outcomes is often lacking or of poor quality.

Some of the most important evidence is on adverse effects (e.g., harms from screening or treatment). Inadequate evidence on the harms of screening and interventions is common. Many studies may be powered and designed to detect the benefits of a preventive service but not harms, which may occur less frequently yet still have significant consequences. Studies often do not assess the harms of preventive services, such as patient labeling, anxiety, unintended behavior changes, or opportunity costs. Finally, the USPSTF considers the consequences of overdiagnosis, diagnostic workup, and treatment of a condition that is unlikely to cause symptoms or harm during the patient’s lifetime. Research is needed to better
understand the effect of false-positive results on patient labeling, anxiety, and behavior changes for patients who receive false-positive results or are diagnosed with less severe forms of the disease.

**Behavioral Counseling Interventions**

Research gaps in the evidence on behavioral counseling occur across many of the areas identified above; often, the USPSTF finds evidence on changing behavior but limited evidence linking that behavior change to health outcomes. For example, the USPSTF concluded that there was insufficient direct evidence to assess the balance of benefits and harms of primary care interventions to prevent maltreatment in children who do not have signs or symptoms of suspected maltreatment (I statement).\(^7\)

Research gaps also exist in the evidence on the effectiveness of the elements of behavioral counseling interventions or their delivery.\(^8-\text{10}\) For example, the USPSTF recommendation on smoking cessation identified research gaps related to the effectiveness of newer delivery platforms, such as web-based programs, mobile or smartphone applications, and text-messaging programs.\(^11\) The lack of description of components of behavioral counseling interventions, such as essential intervention elements, materials used in the intervention, procedures and processes, intervention providers and their expertise level, and the type of intervention delivery,\(^12\) often prevents the USPSTF from being able to make a recommendation about the specific components of these complex interventions. Additionally, there is a lack of evidence comparing different behavioral interventions or identifying which components are critical.\(^8-\text{10}\)

The USPSTF recognizes this and has identified a number of research gaps for behavioral counseling topics in a previous article.\(^8-\text{10}\)

**Diverse Populations**

As the USPSTF assesses the evidence for a preventive service, it may issue separate grades for separate populations. These populations are defined by sex, age, race, ethnicity, or factors such as behavior or family history.\(^13\)

Although several clinical preventive services are well studied in the general population, a lack of evidence for specific subpopulations known to be at higher risk for a condition often prevents the USPSTF from consistently developing separate recommendations for these groups. Vulnerable populations may be uniquely affected by a preventive service (e.g., they may experience compromised access, respond differentially, be less likely to receive follow-up and treatment, or experience a different set of harms).\(^13\) A lack of good-quality evidence for these populations prevents the USPSTF from making specific, separate recommendations for diverse populations. For example, the USPSTF recommends screening for colorectal cancer in asymptomatic adults (A grade for adults aged 50–75 years; C grade for adults aged 76–85 years).\(^14\)

African American adults have the highest colorectal cancer incidence and mortality rates compared with other racial/ethnic groups. Although the causes for these disparities are unclear, studies have documented inequalities in screening, diagnostic follow-up, and treatment. Studies also suggest that equivalent treatment of colorectal cancer results in similar outcomes.\(^13\) Greater inclusion of diverse populations in research will help provide the evidence needed for the USPSTF to issue specific recommendations that can be used to improve the quality of preventive care for diverse populations.

Prevention has always been a primary focus in the health care of children and adolescents. Developing age-appropriate recommendations for preventive services for children and adolescents is especially important because the spectrum of health conditions that affect children differs from adults and changes with age. In addition, many of the health conditions that are prevalent in adults develop in childhood, potentially providing an early window for prevention of many common chronic diseases. Children and adolescents are rapidly developing physically and psychologically. This creates unique windows for studying the effects of interventions and makes measuring outcomes in children and adolescents difficult, given the heterogeneity in development.\(^15,16\)

Frequently, research studies in children and adolescents only measure intermediate outcomes because many health conditions in children and adolescents do not lead to serious illness or death until later in life. As a result, it can take decades to see the effect of interventions in children and adolescents, and the key evidence needed to link intermediate to long-term outcomes, given the long time horizon, is often not available. Therefore, the challenge for researchers is identifying and measuring relevant intermediate outcomes that are associated with long-term health outcomes.\(^15,16\)

Another challenge is considering “non-traditional” health-related outcomes, such as educational attainment or quality of life, in addition to illness or death as appropriate measures of child and adolescent health. Additional evidence is needed to fully understand the effect of these non-traditional outcomes on health and well-being.\(^15,16\) More evidence linking these non-traditional outcomes to health outcomes is needed.

As life expectancy increases, the importance of preventive services in older adults has grown. Variations in life expectancy, vulnerability to harms, and patient preferences, as well as competing risks for illness and death, make it difficult to develop prevention recommendations for older adults. There is scarce research on
and considerable heterogeneity in how older adults value clinical prevention and shared decision making about preventive services. Research is needed to understand the influence of multiple comorbid conditions and to identify and measure appropriate outcomes that are consistent with the older patient’s goals. More evidence is needed on which older patients will (and will not) benefit from preventive services. This evidence could help clinicians determine when and for whom to stop preventive services.\textsuperscript{17–19}

Women and girls have unique healthcare needs throughout their life span that may present with different symptoms constellations and clinical findings in the primary care setting compared with men. The USPSTF takes a broader view of women’s health that includes the prevention of diseases or conditions beyond pregnancy and reproductive health. In general, women are included in USPSTF recommendations that apply to adults. For a particular disease or condition, women may differ from men in risk, how the disease is expressed, how the disease progresses, or treatment response to an intervention.\textsuperscript{20} However, these differences may not translate into specific recommendations for women if there is a lack of evidence to show a difference in the magnitude of net benefit for a preventive service. For example, most of the USPSTF’s recommendations on prevention of cardiovascular disease are based on studies that often exclude or have limited numbers of women. As long as women remain underrepresented in studies, evidence gaps regarding the benefits and harms of preventive services will persist.

**EVIDENCE GAPS IN IMPLEMENTING RECOMMENDATIONS**

Although the use of implementation research is not within the scope of the USPSTF’s deliberations, it notes that there are critical questions about how to best implement recommended clinical preventive services in primary care practices. Additional implementation and translational research will increase the value of the USPSTF’s work and would be helpful in its deliberations.\textsuperscript{21}

For many important health problems, including obesity, cardiovascular disease, and drug and alcohol misuse, effective prevention requires programs of care that are sustained, intensive, and multimodal and that use interprofessional approaches. A high priority for research is how to adapt complex interventions that have demonstrated effectiveness in healthcare settings with advanced systems and resources to real-world clinical settings. For example, the USPSTF’s recommendation on screening for depression in adults (B grade) is based largely on evidence from trials conducted in large, integrated healthcare systems that focused on retraining primary care nursing staff, collaborating with mental health specialists, and using registry technology—all of which may be difficult to implement in a small primary care practice.\textsuperscript{22} Similar evidence gaps exist for counseling interventions.

Research is needed to show how effective interventions can be modified and implemented in primary care practices. Another key area of implementation research is how to help primary care practices and health systems build capacity to deliver effective interventions. Other important areas of implementation research include how primary care health professionals can incorporate new evidence to change practice, share evidence with patients to empower them to make healthcare decisions, and use health information technology to increase the number of patients who receive recommended clinical preventive services (e.g., increasing access to intensive interventions in rural settings).

**ADDRESSING IDENTIFIED EVIDENCE GAPS**

**U.S. Preventive Services Task Force Annual Report to Congress**

To help summarize the evidence gaps that the USPSTF identifies when making its recommendations, the USPSTF provides an annual report to Congress highlighting new recommendations from the past year, evidence gaps, and future research needs. As part of the process, the USPSTF reviews all of its recommendation statements from the previous year and prioritizes potential areas of focus by using several criteria, including public health importance, disease burden, and potential for the recommendation to affect clinical practice. The reports to Congress also highlight evidence gaps for specific populations and age groups. Some reports to Congress have themes dedicated to specific populations, such as children and adolescents, women, and older adults. Table 1 lists some of the evidence gaps that have been emphasized in recent years.

The USPSTF also disseminates the annual report to Congress to leading research funding agencies and makes it publicly available through its website at www.upttiveservicestaskforce.org/Page/Name/reports-to-congress. The USPSTF hopes that these reports will encourage funders and researchers to address these critical gaps.

**Collaboration With NIH**

The USPSTF, the Agency for Healthcare Research and Quality (AHRQ), and NIH work closely together to identify key evidence gaps that may be addressed through current and future federal research funding opportunities.\textsuperscript{23} The NIH Office of Disease Prevention works with
Table 1. Research Needs Highlighted in the USPSTF in Annual Reports to Congress

<table>
<thead>
<tr>
<th>Category</th>
<th>Research Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health conditions and substance abuse</td>
<td></td>
</tr>
<tr>
<td>Suicide risk</td>
<td>1. Accuracy and effectiveness of screening tests 2. Effect of treatment on health outcomes in screen-detected patients 3. Screening in high-risk ethnic groups and populations</td>
</tr>
<tr>
<td>Tobacco use</td>
<td>1. Interventions to prevent use of other tobacco products, such as smokeless or dissolvable tobacco 2. Effectiveness of interventions among diverse populations of children and adolescents</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>1. Role of primary care professionals in preventing and reducing drug use in children and adolescents 2. Effectiveness of primary care–based interventions, including tailored counseling and behavioral counseling with and without parental involvement 3. Interventions that use social media, cell phones, and the Internet</td>
</tr>
<tr>
<td>Obesity and cardiovascular health</td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td>1. Effectiveness of specific components of behavioral interventions 2. Long-term weight loss maintenance and possible harms of treatment 3. Weight management in diverse populations of children and adolescents 4. Behavioral interventions in younger children (age 5 years) and overweight children</td>
</tr>
<tr>
<td>Lipid disorders</td>
<td>1. Effects of treatment on health outcomes in childhood or adulthood 2. Long-term harms of lipid-lowering medications in children and adolescents</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>1. Accuracy and reliability of blood pressure screening tools among children and adolescents of different ages and characteristics 2. Relationship between elevated blood pressure in childhood and hypertension in adulthood 3. Effectiveness of drug and lifestyle interventions and effects of treatment on future adult hypertension and cardiovascular disease 4. Medication harms</td>
</tr>
<tr>
<td>Behavior and development</td>
<td></td>
</tr>
<tr>
<td>Speech and language delay and disorders</td>
<td>1. Prevalence of speech and language delays and disorders 2. Effects of screening on outcomes</td>
</tr>
<tr>
<td>Infectious disease</td>
<td></td>
</tr>
<tr>
<td>Dental caries</td>
<td>1. Accuracy of risk assessment tools to identify children who are most likely to benefit from preventive interventions 2. Benefits and harms of preventive interventions in high-risk children 3. Effectiveness of family education about best oral health practices</td>
</tr>
<tr>
<td>Sexually transmitted infections</td>
<td>1. Long-term harms of HIV antiretroviral therapy 2. Interventions to prevent sexually transmitted infections in low-risk adolescents and high-risk adolescent males 3. Effectiveness of screening strategies to identify high-risk adolescents</td>
</tr>
<tr>
<td>Cancer prevention</td>
<td></td>
</tr>
<tr>
<td>Skin cancer</td>
<td>1. Effective interventions in primary care for young children aged &lt; 10 years and their families 2. Development of tools to encourage behavior change</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>1. Overall effect of human papillomavirus vaccination on cervical cancer</td>
</tr>
<tr>
<td>Injury and child maltreatment</td>
<td></td>
</tr>
<tr>
<td>Child maltreatment and neglect</td>
<td>1. Screening strategies to identify children who are at risk or currently experiencing neglect 2. Prevention of abuse in older children</td>
</tr>
</tbody>
</table>

(continued on next page)
### Table 1. Research Needs Highlighted in the USPSTF in Annual Reports to Congress (continued)

<table>
<thead>
<tr>
<th>Category</th>
<th>Research Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision disorders</td>
<td>1. Benefits and harms of vision screening in children aged &lt;3 years</td>
</tr>
</tbody>
</table>
| Intimate partner violence       | 1. Newer screening approaches, such as computerized screening and audio questionnaires  
2. Development and validation of an accepted definition for standard of abuse  
3. Screening and intervention trials focused on the prevention of abuse in elderly, vulnerable, and middle-aged women                                                                                                                                                                                                                                                                            |
| Illicit drug use                | 1. Treatment outcomes for pregnant women  
2. Accuracy and clinical usefulness of screening questionnaires designed for primary care practice settings  
3. Effectiveness of screening in screen-detected patients  
4. Effectiveness of treatment on social and legal problems, long-term health outcomes, and morbidity                                                                                                                                                                                                                                                                 |
| Suicide risk                    | 1. Development of a risk assessment tool to better identify people at risk for suicide  
2. Effectiveness of tailored therapies in people at high risk  
3. Linkages between clinical and community resources to help people at risk for suicide                                                                                                                                                                                                                                                                                                                   |
| Thyroid dysfunction             | 1. Understanding the natural history of untreated, asymptomatic thyroid dysfunction  
2. Effectiveness and harms of treating thyroid dysfunction in adults without symptoms  
3. Treatment trials of watchful waiting using health outcomes, such as cardiovascular-related morbidity                                                                                                                                                                                                                                                                                                               |
| Vitamin D deficiency            | 1. Determining the level that defines vitamin D deficiency and the optimal method of measurement in different populations  
2. Benefits and harms of screening for and treatment of vitamin D deficiency  
3. Benefits of early treatment in specific vitamin D–deficient populations, such as nonwhite racial groups                                                                                                                                                                                                                                                                                        |
| Vitamin D and calcium supplementation | 1. Benefits of daily supplementation with higher doses of vitamin D and calcium in reducing the risk of fractures in postmenopausal women  
2. Effectiveness of different preparations of vitamin D or different calcium formulations  
3. Effectiveness of vitamin D supplementation in diverse populations                                                                                                                                                                                                                                                                                                                                 |
| Osteoporosis                    | 1. Effects of screening on outcomes during menopause  
2. Incidence of major osteoporosis-related fractures in nonwhite women  
3. Optimal screening intervals  
4. Accuracy of risk assessment tools for predicting fractures in younger postmenopausal women                                                                                                                                                                                                                                                                                                               |
| Breast cancer                   | 1. Effects of new technology (3-D mammography) on improving long-term health outcomes  
2. Long-term health outcomes in women with dense breasts who receive additional testing beyond mammography  
3. Improving the accuracy and reliability of breast density assessment                                                                                                                                                                                                                                                                                                                                     |
| Ovarian cancer                  | 1. Effectiveness of new screening methods and treatment strategies on improving benefits and reducing harms                                                                                                                                                                                                                                                                                                                                                           |
| Cervical cancer                 | 1. Optimal approach to screening using new technologies  
2. Harms of different screening and treatment options, including long-term risks to future pregnancies  
3. Effect of human papillomavirus vaccination on cervical cancer screening                                                                                                                                                                                                                                                                                                                        |
NIH Institutes, Centers, and Offices to inform them of USPSTF I statements and to facilitate research collaborations that might address these gaps. The Office of Disease Prevention conducts an annual survey to determine how NIH is addressing these critical gaps. The survey collects information about grants, contracts, funding announcements, workshops and conferences, and other activities related to USPSTF recommendations. Survey results are summarized and shared with the NIH Institutes, Centers, and Offices to identify opportunities for further investment, expanded effort, and collaborations. Survey results are also shared with AHRQ and the USPSTF to raise awareness of current NIH research and to inform the USPSTF regarding new research findings. These collaborative efforts help the USPSTF make decisions about when to update recommendations when new study results become available.

**Additional Collaboration Opportunities**

AHRQ, the agency mandated by Congress to support the work of the USPSTF, coordinates with the Patient-Centered Outcomes Research Institute to make it aware of research gaps identified by the USPSTF. The increasing availability of clinical data through electronic health records, as well as research infrastructure through research networks such as PCORnet and the NIH collaboration, can serve as platforms that allow rigorous studies to answer key questions. Use of practice-based research networks can allow the development of evidence from representative primary care practices. These platforms can provide the foundation for pragmatic trials and cohort studies and allow inclusion of a representative sample of at-risk subpopulations. They can also provide the infrastructure to study the effectiveness of new electronic prevention methods and to build the needed evidence base.

---

**Table 1. Research Needs Highlighted in the USPSTF in Annual Reports to Congress (continued)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Research Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 – Key evidence gaps for clinical preventive services</td>
<td></td>
</tr>
</tbody>
</table>
| Autism spectrum disorder                                                | 1. Effectiveness of screening all children without signs or symptoms, including in populations with low SES and in racial/ethnic-minority populations  
2. Effect of screening on intermediate and long-term health outcomes  
3. Effect of treatment on patient outcomes for children whose autism is detected through universal screening programs |
| Chlamydia and gonorrhea                                                 | 1. Effectiveness of different screening strategies for identifying men who are at increased risk for infection  
2. Subgroups for whom screening may be effective  
3. Effectiveness of screening in reducing the spread of chlamydia and gonorrhea, as well as co-testing for other sexually transmitted infections and different screening intervals |
| Tobacco smoking cessation (electronic nicotine delivery systems [ENDS]) in adults | 1. Effectiveness of ENDS on achieving smoking abstinence  
2. Side effects of ENDS  
3. Safety, benefits, and harms of ENDS  
4. Effect of ENDS use (and co-use with tobacco) on subsequent tobacco use, especially in people trying to quit |
| Vitamin supplementation (nutrients and multivitamins) to prevent cancer and cardiovascular disease | 1. Effectiveness of vitamin supplementation (single nutrient or nutrient pair) in the general population, including women and minority groups  
2. Benefit of targeting supplementation toward people who are high-risk for nutrient deficiency rather than the general population  
3. New and innovative research methods for examining effects of nutrients that account for the unique complexities of nutritional research  
4. Standardized methods to determine blood nutrient levels  
5. Thresholds for sufficiency and insufficiency |
| Aspirin use to prevent cardiovascular disease and colorectal cancer      | 1. Role of aspirin therapy in racial/ethnic subpopulations  
2. Benefits and harms of aspirin therapy in adults younger than age 50 years or older than age 70 years  
3. Differential effects of sex, race/ethnicity, age, and genetic factors on risk for colorectal cancer and the effect of screening  
| Skin cancer                                                             | 1. Effectiveness of the clinical visual skin examination  
2. Possible harms of skin cancer screening, particularly for overdiagnosis and overtreatment |
implementation science of what increases uptake of preventive services to help achieve the goal of improving population health.

CONCLUSIONS

The USPSTF develops its recommendations based on the current state of the science and the best available evidence. By issuing I statements, the USPTF indicates where evidence is insufficient to make an accurate assessment of the benefits and harms of a given intervention. Patients and clinicians must often make decisions in the face of insufficient evidence, and understanding the current state of the evidence in the context of other factors that influence choice can inform decision making.

Dissemination of these findings can inform research agendas and the design and conduct of research to close critical evidence gaps. The USPSTF’s annual report to Congress draws on I statements to inform important research priorities. In addition, the USPSTF, along with AHRQ, works with NIH and its Office of Disease Prevention to enhance coordination in identifying key evidence gaps that may be addressed through future funding opportunities for research. The USPSTF routinely updates its recommendations, and in recent years has been able to make recommendations in areas that previously received an I statement (e.g., screening for obesity in children, screening for hepatitis C virus infection). However, there are often methodologic issues in study design and feasibility that present challenges to conducting the research that provides the needed evidence, including the large sample size required for trials, long lead time for outcomes, and inadequate representation of specific at-risk populations. USPSTF I statements play a critical role in highlighting the information needed to advance the science to optimize the use of clinical preventive services in primary care.

ACKNOWLEDGMENTS

Publication of this article was supported by the Agency for Healthcare Research and Quality (AHRQ) through contract #HHSA290201600006C. The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The U.S. Congress mandates that AHRQ support the operations of the USPSTF. The findings and conclusions in this document are those of the authors, who are responsible for its content, and do not necessarily represent the views of AHRQ. No statement in this report should be construed as an official position of AHRQ or the U.S. Department of Health and Human Services. No financial disclosures were reported by the authors of this paper.

We would like to thank the following people for their insights and assistance: Alex Krist, MD, MPH, Tracy Wolff, MD, MPH, Lisa S. Nicolella, MA, and Ryan C. Gottfredson, DO, MPH.

REFERENCES


