Addressing Gaps in Research to Reduce Disparities and Advance Health Equity

The US Preventive Services Task Force (USPSTF) works to improve the health of people nationwide by making evidence-based recommendations for preventive services.1 To fulfill this mission, the USPSTF routinely highlights the most critical evidence gaps for creating actionable preventive services recommendations about screening, behavioral counseling, and preventive medications. These evidence gaps are presented in the section on “Research Needs and Gaps” after each recommendation statement, regardless of whether the recommendation receives a letter grade or has insufficient evidence and receives an “I” or “insufficient evidence” statement.

In addition, high-priority research gaps are summarized and presented in the USPSTF’s annual report to Congress. The objective of the Research Needs and Gaps section2 and the Congressional Report is to ensure that high-priority evidence gaps are recognized and addressed in research to inform future USPSTF deliberations.

The National Academies of Sciences, Engineering, and Medicine (NASEM) recently issued a report and taxonomy to assist the USPSTF in classifying and prioritizing the evidence gaps articulated for insufficient evidence statements and other critical prevention evidence gaps.3,4

Three taxonomies are proposed for classifying gaps: foundational evidence, analytic framework, and dissemination and implementation. The foundational evidence taxonomy includes the lack of consistency in the definition or nomenclature of disease conditions, variations in outcome measures across studies, and gaps in studies of screening tests that will better detect disease in asymptomatic individuals. The analytic framework taxonomy addresses gaps in the linkage between screening and detection of disease or the effect of a brief behavioral intervention or preventive medication on health outcomes. The dissemination and implementation taxonomy assesses the scalability of a preventive service and the ability to broadly disseminate the service into primary care settings.

Two other processes are proposed to prioritize classified gaps. The first process requires reviewing several public health criteria, including population effects, time urgency, adoptability, and equity, to determine gap prioritization. The second process requires using an expansion of the population, intervention, comparison, outcome, timing, and setting (PICOTS) framework to identify key research studies needed to address the high-priority evidence gaps. This Viewpoint reviews the evidence gaps reported to Congress in 2021 on improving health inequities in prevention and uses the 3 taxonomies provided by the NASEM to classify these gaps.

USPSTF’s 2021 Annual Report to Congress Emphasizing Health Inequities

To ensure that priority evidence gaps remain at the forefront of the preventive health research agenda, the USPSTF produces an annual report to Congress. In the 2021 report,5 the USPSTF conveyed increasing concerns about widespread inequities in preventive care based on sex, racial and ethnic groups,6 and high social needs populations.7 These inequities lead to a higher incidence of preventable diseases and a lower likelihood of receiving appropriate treatments.

Timely use of comparative cohort studies with diverse participants is a potential approach to identify variations in net benefit across high-risk groups. Consequently, the USPSTF’s 2021 annual report to Congress underscored important research gaps related to achieving health equity from recent recommendations on cardiovascular disease and cancer prevention.8

Closing Evidence Gaps in Clinical Prevention—A NASEM Report

The NASEM report, commissioned by the Agency for Healthcare Research and Quality and the National Institutes of Health,3 had 2 aims: to discuss the types of research studies needed to inform different evidence gaps and to propose pathways for prevention research funders to accelerate research to close important research gaps focusing on all 3 types of USPSTF recommendations (ie, screening, behavioral counseling interventions, and preventive medications). The NASEM report suggested that systematic use of these
taxonomies would elucidate the areas most in need of further research when the USPSTF develops recommendation statements or identifies that there is insufficient evidence to provide a recommendation and issues an insufficient evidence statement.

The USPSTF also proposes applying the NASEM taxonomy framework to equity gaps to make these equally transparent to funders and the research community. The eTable in the Supplement applies the 3 taxonomies (foundational evidence, analytic framework, and dissemination and implementation) and the categories within each taxonomy to the 2021 USPSTF congressionally reported evidence gaps. Because the focus was on grade A and B recommendations, there were few gaps in foundational evidence for selected examples.

For colorectal cancer screening in adults aged 45 to 49 years, for example, there are analytic gaps that contribute to age-related inequities in detecting disease. As another analytic gap, additional efforts are needed to identify the social determinants contributing to disproportionately higher colorectal cancer incidence and mortality in Black adults that can inform interventions to increase implementation and uptake of screening. As an example of a dissemination and implementation gap, there is a need to improve effective and equitable implementation of clinical guidelines for aspirin use in pregnancy. Another analytic example is the need to determine if the effectiveness of different dosages of aspirin in preventing preeclampsia varies in populations disproportionately affected by the condition, such as Black, Hispanic, and Indigenous persons who are affected by structural racism.

By applying these taxonomies, it is clear that many of the gaps in foundational knowledge identified by the USPSTF did not include sufficient representation of diverse underserved populations in primary prevention evidence. Examples of foundational knowledge missing representation include prevention randomized clinical trials, testing of psychometric properties of screening tests, and evidence on disease prevalence and progression. This lack of representation, in turn, makes it difficult to judge if current analytic evidence for the effect of a preventive service on health outcomes in well-served groups should be generalized to those less served or if further foundational studies are required. Prevention funders face numerous ethical and financial challenges in closing foundational gaps identified by this new analysis procedure. Closing a foundational gap for underserved subgroups is likely to require the inclusion of evidence from robust comparative cohort or interrupted time series studies with sufficient participant diversity and modeling, rather than conducting additional foundational randomized clinical trials when equipoise no longer exists.

Conclusions

The taxonomy developed by the NASEM could provide the USPSTF with a systematic approach to classifying and prioritizing evidence gaps for funders and researchers, reducing the time needed for study results that can reduce health inequities. In addition, greater inclusion of populations disproportionately affected by disease in research could help the USPSTF issue recommendations that improve the quality of preventive care. These improvements, in turn, could lead to improved access to and use of these preventive services, reduced disparities in health care, and increased health equity.