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Development of a Health Equity Framework for the US Preventive Services Task Force

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Abstract

Importance: Clinical practice guidelines can play an important role in mitigating health inequities. The US Preventive Services Task Force (USPSTF) has prioritized addressing health equity and racism in its recommendations.

Objective: To develop a framework that would allow the USPSTF to incorporate a health equity lens that spans the entirety of its recommendation-making process.

Methods: We identified key guidance, policy, and explanatory frameworks related to health equity and mapped their recommendations and findings to current USPSTF methods. We also consulted with USPSTF members, as well as staff from multiple entities supporting the USPSTF portfolio. Based on all the gathered information, we developed a draft health equity framework and checklist, which was then circulated to the USPSTF's key partners for input and review.

Findings: We developed an equity framework that could be applied to all phases of the recommendation process: a) topic nomination, selection and prioritization, b) development of the work plan, c) evidence review, d) evidence deliberation, e) development of the recommendation statement, and f) dissemination of recommendation(s). For each phase, we offer several considerations and checklist items to address. These items include: using health equity as a prioritization criterion and engaging a diverse group of stakeholders at the earliest phases in identifying topics for recommendations; developing necessary equity relevant questions (e.g., beyond effectiveness and harms) to address during the protocol phase; employing methods in synthesizing the evidence and contextual issues in the evidence review related to specific

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populations experiencing a disproportionate burden of disease; examining the magnitude and certainty of net benefit, implementation considerations, risk assessment, and evidence gaps through an equity lens when developing evidence-based recommendations.

Conclusions and Relevance: Executing this entire framework and checklist as described will be challenging and will take additional time and resources. Nonetheless, whether adopted in its entirety or in parts, this framework offers guidance to the USPSTF, as well as other evidence-based guideline entities, in its mission to develop a more transparent, consistent, and intentional approach to addressing health equity in its recommendations.

Introduction

Health equity refers to the absence of unjust, avoidable, or remediable differences in health and well-being among groups of people.¹ Unlike health equality, which focuses solely on equal access to quality health for all, equity requires the application of proportionate universalism. This means providing universal services at a scale and intensity that matches the level of need, ensuring that everyone can attain their maximum potential for health and well-being.²

Following a commissioned report, *Addressing Racism in Preventive Services*³, the United States Preventive Services Task Force (USPSTF) prioritized developing a ‘health equity framework’ to guide its pilot work on incorporating health equity in general into its recommendations.³ Our aim was to develop this framework that would allow the USPSTF to incorporate a health equity lens that spans the recommendation-making process from topic selection to the dissemination of recommendations.

Methods

We developed an equity framework (Table) with an accompanying checklist (eTable 1 in Supplement) that could be used at all phases of the recommendation process: a) topic nomination, selection and prioritization, b) development of the work plan, c) evidence review, d) evidence deliberation, e) development of the recommendation statement, and f) dissemination of recommendation(s).⁴ The full report has additional details on methods and findings.⁴

We identified key guidance, policy, and explanatory frameworks from environmental scans conducted for our prior report,³ and other relevant guidance related to health equity through targeted searches and experts.^{5–11} We started with the Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group’s guidance on explicitly considering health equity in the development of health related guidelines (eTable2 in Supplement)^{3,12} and mapped their recommendations to the current USPSTF methods articulated in the USPSTF Procedure Manual¹³ and subsequently published updates to the USPSTF methods.^{14–21} We then supplemented the cross-walk between GRADE and USPSTF methods with other identified guidance and frameworks addressing health equity.^{22–26}

We also consulted with current and selected past USPSTF members, as well as staff supporting the USPSTF from the Agency for Healthcare Research and Quality, the Scientific Resource Center, the Evidence-based Practice Centers (EPCs), the Dissemination and Implementation (D&I) Work Group, the Communications Team, and JAMA[®], through virtual conferencing, scheduled USPSTF workgroup calls, and electronic communication on draft sections. Based on all the gathered information, we developed a draft health equity framework. This draft was circulated to the USPSTF's key partners for review. The current version of this framework reflects revisions made based on feedback from USPSTF Federal and D&I partners.

Findings

Topic nomination, selection, and prioritization

Health equity should be used as an explicit criterion for the identification of topics using a data driven approach. The USPSTF uses a two-step process for selecting and prioritizing topics, which now explicitly considers equity under a criterion of the 'public health importance' of a topic— defined as the "burden of suffering and expected effectiveness of the preventive service to reduce that burden, including the potential for a Task Force recommendation to address racism and health inequities."¹³ Pertinent health equity information is included in the background documents that brief the USPSTF in selecting topics, and it includes information on: risk factors that intersect with race and/or ethnicity or other disadvantaged populations (e.g., sexual and gender minorities) and that affect prevalence and burden of disease; recommendations for specific populations; any inequities in how preventive services are provided, accessed, or received; and disparities in prevalence of disease, morbidity and mortality.

Guideline developers may need to expand their portfolio of recommendations to include new topics or evolve existing topics to address health inequities. The nomination process should be broadly inclusive to represent the voice of groups most affected by health inequities. This may entail a public nomination process and/or engaging a wide array of partner organizations. The USPSTF continues to bolster its processes around engaging its D&I partners which includes both identification of new topics and soliciting input on existing topics, including ways to evolve existing guidelines to better address the residual burden of disease and existing inequities.

Work plan development

Addressing health equity in guidelines requires explicit considerations at the onset of planning an evidence review to support recommendations. For the USPSTF, topic refinement entails a detailed Work Plan, which documents disparities (e.g., in risk factors, condition morbidity, uptake of clinical service) and important factors that may affect the effectiveness or harms of a given clinical service. Using formal framing devices like PROGRESS-Plus⁶ to identify populations of interest, as well as explanatory conceptual models^{5,10,27–29} to understand upstream drivers of disease, mechanisms resulting in inequities, and mediators and moderators of effectiveness and harms can be helpful.

In addition to answering questions on effectiveness, harms, and test accuracy, it may also be important to address other questions, for example, on patient values of key outcomes, feasibility and acceptability of clinical service(s) and implementation considerations through an equity lens. For the evidence reviews supporting the USPSTF, these issues can be considered in additional non-systematically reviewed “contextual” questions (Box).

Inclusion criteria should specify populations of interest and, if applicable, identify potential differences in the delivery of interventions across populations. Included outcomes may need to include societal, legal, ethical, decision-making, and non-disease-oriented outcomes (e.g., social needs outcomes), as well as unintended consequences that are meaningful to populations experiencing the greatest burden of disease. Identifying and ranking other outcomes of importance to mitigate inequities may necessitate soliciting public or patient input, particularly from groups experiencing a disproportionate burden of disease. Inclusion of well-conducted nonrandomized studies of interventions (NRSIs) for the effectiveness of clinical service(s) could be considered even when robust RCT evidence exists, as RCTs may focus on narrowly defined populations and there may be concern about extrapolating trial findings to populations experiencing health disparities.³⁰ In these instances, the rationale for and limitations of inclusion of NRSIs should be articulated.

A Data Analysis section should also detail the evidence synthesis approach to addressing heterogeneity in populations, settings, and interventions, as well as other health equity considerations as appropriate. The USPSTF has added a section to the Research Plan entitled “Approach to Assessing Health Equity and Variation in Evidence Across Populations” to ensure transparency in the approach to assessing heterogeneity across different populations.

Obtaining feedback with a health equity perspective may be needed at the topic refinement phase. The USPSTF has two mechanisms for obtaining this feedback: 1) key informant interviews or expert review of draft Work Plan for selected topics, and 2) public comment period for the draft Research Plan, during which the USPSTF invites feedback from specific organizations as well as its partner organizations. To solicit feedback specific to health equity, it may be necessary to include guiding questions specific to health equity (e.g., ‘Are there other important questions that should be addressed to help mitigate health disparities?’; ‘Are there important populations that may be [inadvertently] excluded from the review that should be included?’).

Evidence review

Evidence reviews adhere to the methods set forth by the USPSTF¹³ as well as the EPC program.³¹; however, the EPC program does not currently have explicit guidance for addressing health equity in reviews. In the Introduction section, the description of risk factors should be inclusive of social risk factors and state the hypothesized mechanisms of action for generating disparities. In addition, the Methods section should include methods for credibility assessment of subgroup analyses, methods of meta-analyses and investigating heterogeneity, and, when applicable, health equity specific critical appraisal.

Analyses for specific populations should use transparent methods which include pre-specifying specific populations of interest and using formal methods for assessing the credibility of subgroup analyses.²⁰ Credibility assessment should include assessment of the likelihood of spurious findings, confounding, and inadequate power. Stratified analyses and meta-regression may be used to investigate heterogeneity leading to differences in effects between groups of studies. However, caution should be exercised in drawing conclusions about racial and ethnic subgroup differences using this approach.¹¹ Within-study analyses by racial and ethnic group offer the most direct evidence of potential differences across groups.

Evidence report findings should focus on detailing credible subgroup results, including both relative and absolute effects by specific population. When credible subgroup findings are not available, the absence of this information should be noted. Additionally, representation of specific populations should be detailed in the Results section to help understand the representativeness and to judge the applicability of included studies. Reviewers should consider noting if the concern for applicability is about differences in effect modification (i.e., a population may respond differently to an intervention resulting in a different relative effect), or if it is about differences in risk of outcome (i.e., variation in underlying risk resulting in a different absolute effect). Strength or summary of evidence tables may consider the need for separate rows by specific populations or mentioning limitations pertaining to specific populations.

In questions pertaining to risk assessment, critical appraisal should additionally assess for the potential of algorithmic bias using additional health equity specific questions^{32,33} not found in existing critical appraisal tools.³⁴ Findings related to risk assessment should specify for which populations models have been evaluated, and, if applicable, potential limitations and benefits of using “race-aware” risk assessment.

To estimate differences in absolute effects of a given clinical service, reviewers can consider using an outcomes table by specific populations if data allow.³⁵ If data are not derived from included studies, it should be transparent how baseline risks are estimated. Others have proposed using a ‘Health Improvement Distribution Index’ (i.e., proportion of prevalence in specific population to prevalence in overall population) as a multiplier to estimate the absolute effects in specific populations with greater burden of disease.¹¹

Evidence deliberation

Health equity should be considered throughout the evidence deliberation process, and not as an afterthought. The USPSTF uses a codified approach to determining the magnitude and certainty of net benefit for a given clinical preventive service.¹³ Evidence deliberation should ultimately inform whether USPSTF can make: 1) a general recommendation that can be applied across a broad range of populations with certainty that the preventive service is applicable to those disproportionately affected; 2) a general recommendation that can be accompanied with implementation considerations for specific populations to mitigate observed inequities; or 3) a separate recommendation for a specific population when there is evidence of meaningfully different magnitude of net benefit. When there is less certainty about the applicability of the evidence to those disproportionately affected, the USPSTF may

still make a general recommendation and articulate important research gaps related to health equity.

If there are known health disparities across population(s) in relation to a clinical service, decision makers should first assess whether the included evidence in the review is applicable to these specific populations. First, does the included evidence represent diverse populations or is evidence being extrapolated to specific populations of interest? The default assumption should be that the evidence is applicable unless there are compelling reasons to question broader applicability (e.g., differences due to biology/physiology). Other reasons such as sociocultural influences, access, and other health care delivery-related issues impacting the effectiveness or harms of a service, are also important to consider and may inform research gaps and implementation considerations for specific populations. However, these are generally not appropriate reasons to exclude or, for the USPSTF, issue separate recommendations for specific populations.

If there are populations that might be disadvantaged in relation to the condition or clinical service, decision makers should answer ‘What are the differences in benefits or harms by population due to differing baseline risk (absolute differences) and/or variable responsiveness or vulnerability (relative differences) to a clinical service?’. If there are observed differences in the relative effectiveness and harms of a clinical service, the decision maker should assess if there are plausible reasons for effect modification or if differences in relative effects are spurious or due to confounding factors. For the USPSTF, true differences in relative effects of a given preventive service are uncommon and are rarely the driver of observed health disparities.

When relevant, risk assessment should be inclusive of social, as well as clinical, risk factors. When multivariate risk assessment entails using race or ethnicity, decision makers should explicitly state whether multivariate risk assessment may reduce bias or improve fairness compared to alternate approaches (e.g., single risk factor stratification). If there are concerns for algorithmic bias or fairness in multivariate risk assessment, decision makers should explore approaches to mitigate potential concerns and consider providing guidance for mitigating said concerns.²¹

Guideline groups should strive to understand ‘what is the potential impact of their recommendation(s) on health equity?’ and what practice considerations are important to articulate to ensure that inequities are reduced, new inequities are not created, and at a bare minimum that existing inequities are not exacerbated. To address health equity, practice considerations should address the feasibility and resources required to deliver a clinical service. For the USPSTF, considerations may include availability, quality, and sustainability of intervention, as well as health system considerations for delivery of intervention. If there is not equitable distribution, quality, and/or if there are other barriers to delivery of the preventive service (or downstream care), the USPSTF may consider language acknowledging barriers to mitigating health inequities and articulating clinical practice gaps. If the preventive service (or downstream care) is a fixed resource, the USPSTF should consider if their recommendation would potentially exacerbate observed disparities by shifting resources away from disadvantaged populations. Second, if the preventive

service is more intrusive/invasive, and/or there are multiple options for a given preventive service, the USPSTF should consider if the accessibility and acceptability or receipt of the preventive service differ across populations. It is important not to conflate observed low receipt of a preventive service with a lack of acceptability. Third, if the preventive service has suboptimal receipt in clinical practice, the USPSTF can consider the evidence on interventions to increase receipt of the preventive service and include language endorsing effective interventions or directing its stakeholders to organizations with guidance in this area.

When there is limited evidence for specific populations, decision makers should consider articulating what future research is needed to address these gaps. Future research needs related to health equity should be articulated when evidence is lacking in specific populations experiencing health inequities and there is a concern for: 1) differential magnitude of benefit or harm in specific populations, 2) differential certainty of benefit or harm in specific populations, and 3) differential implementation needs of a given clinical service in specific populations. Following the 2022 National Academies of Sciences, Engineering, and Medicine report *Closing Evidence Gaps in Clinical Prevention*,³⁶ the USPSTF bolstered its efforts in calling for future research with attention to health equity related evidence gaps, which can include those derived from non-systematically reviewed evidence (e.g., when mechanisms contributing to disparities are uncertain, when evidence on improving receipt of preventive services is limited).

Recommendation statement and its dissemination

Decisions and the rationale for evidence-based recommendations (or lack thereof) for specific populations as well as practice considerations regarding health equity should be made explicit in public-facing documents. If the recommendation focuses on a specific population based on risk, documentation should note if it is an elevated risk of having the condition, having worse outcomes from the condition, or both. In general, race and/or ethnicity should not be used as a proxy for a risk factor that can otherwise be clinically determined. If the socially constructed category of race is used as a risk factor, attention should be given to communicating why it is a risk factor, to avoid misinterpretation of genetic or heritable differences across socially constructed categories.

Health inequities often result from differences in receipt or delivery of recommended care, therefore health equity considerations around implementation should be included in evidence-based guidelines. For example, if differential receipt of the preventive service is a driver of observed disparities, the USPSTF can include in its recommendation statement interventions to improve the receipt of the preventive service and/or tailoring of the preventive service with any relevant materials to help with implementation in specific populations.

Decision makers may consider the use of ‘good practice statements’ to emphasize health equity considerations in guidelines. A ‘good practice statement’ reflects a high level of certainty that a recommendation will do more good than harm, but where there is no empiric evidence to support the statement because it is implied that a study need not be conducted.³⁷ In general, guidelines should invoke these types of statements sparingly.³⁸ An example from

the World Health Organization (WHO) recommendation on the ‘Prevention and treatment of HIV and other sexually transmitted infections for sex workers in low- and middle-income countries’ is “Health services should be made available, accessible, and acceptable to sex workers based on the principles of avoidance of stigma, nondiscrimination, and the right to health.”³⁹

It is valuable to get feedback with a health equity lens at the draft stages of the recommendation and supporting evidence products as well. The USPSTF has public comment phases for its draft recommendations, which include outreach to its D&I and Federal partners as well as other key stakeholders with content-specific interest and expertise.

Guideline groups should use a variety of communication strategies for dissemination of final recommendations. Strategies and information content will vary depending on audiences but generally should be inclusive of clinicians, health systems, and organizations serving the most affected populations. Communications should provide actionable messages addressing health equity.

Communication of health equity relevant evidence gaps and future research needs may require dedicated strategies and partners. The USPSTF produces a Report to Congress, which calls attention to high-priority research gaps and may consider highlighting research and practice gaps derived from non-systematically reviewed contextual questions related to health equity. The USPSTF works with NIH’s Office of Disease Prevention for future research needs related to its recommendations. Working with additional funding agencies with an interest in health equity could help accelerate addressing important research and clinical practice gaps.

Discussion

A health equity framework is needed to ensure a transparent, consistent, and intentional approach to guideline development for groups experiencing inequities in health. This health equity framework was developed for the USPSTF, although aspects of this framework could be adapted into the processes of other evidence-based healthcare guideline entities. The checklist to operationalize this framework describes an ‘ideal’ of what could be considered for implementation were there no resource limitations (e.g., cost, time, personnel). This framework also recognizes that there are methods and processes that need to be developed to better address looking for the presence of inequities, the drivers of inequities, and interventions to reduce inequities around prevention in primary care. This will require some redesign of methods which we propose can happen incrementally, building on the existing methods and processes of the USPSTF.

Study Limitations

This framework, although meant to be broadly applicable to all populations affected by health inequities, does place an emphasis on racial and ethnic inequities. This emphasis is not to minimize the inequities experienced by other populations but rather reflects the genesis of this framework. In addition, this framework only cursorily addresses social

determinants of health and intersectionality, although it recognizes the importance these drivers of health inequities. There are also several important areas that our framework did not develop, including but not limited to health equity considerations for decision analyses supporting recommendations, facilitating implementation of recommendations in specific populations, as well as monitoring and auditing health after the implementation of recommendations to understand how recommendation(s) affect observed disparities.

Conclusions

Executing this entire framework and checklist as described will be challenging and will take additional time and resources, even if further methods are developed where needed. Nonetheless, whether adopted in its entirety or in parts, the framework offers guidance to the USPSTF in its mission to develop a robust approach to addressing health equity in its portfolio.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Access to Data statement:

Dr. Lin had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Box:**Health equity relevant contextual questions for the USPSTF**

1. What are observed disparities in outcomes and mechanisms leading to these disparities related to a preventive service, particularly if the mechanisms are complex
2. What are resource and feasibility considerations for implementation of a preventive service if intervention is complex, not widely available, resource intensive (or resources not equitably distributed across populations/settings)
3. What is the impact of patient values of outcomes on benefits and harms, particularly if the overall net benefit is small
4. What is the acceptability (patient preferences) and receipt of a preventive service, particularly if there are multiple options for a preventive service, if the intervention is more intrusive, or if there is suboptimal receipt of an intervention
5. What are interventions to increase the receipt of a preventive service, if there is suboptimal receipt of an intervention

Table

Phase (When)	Description (What)	Rationale (Why)
Topic nomination, selection, and prioritization	Consider health equity during the nomination, selection and prioritization process	To elevate/prioritize topics that have significant inequities across different populations
	Solicit/develop new or evolve existing topics with a health equity focus	To expand the USPSTF portfolio to mitigate important inequities relevant to prevention in primary care
		To maximize impact of existing recommendations on mitigating health disparities
Work Plan	Detail health disparities and health inequities by specific populations	To understand the differences in the incidence/prevalence of the condition, its risk factors as well as morbidity and mortality from the condition to inform need for additional CQs or other scoping considerations
		To understand the mechanisms behind these observed disparities to inform possible needed CQs
	Identify evidence since prior recommendation in specific populations	To understand the evidence base in specific populations to inform inclusion criteria
	Visually depict health equity considerations in conceptual framework (in or alongside analytic framework)	To conceptualize preventive services within their broader context, inform possible CQs, and communicate health equity considerations at the Research Plan phase
	Articulate KQs and CQs related to health equity	To include additional information in the evidence review that would help the USPSTF consider the evidence on benefits and harms in the context of specific populations with the greatest burden of illness.
	Develop inclusion criteria that allows for adequate evidence base for all populations	To include evidence in KQ that represent populations typically not or under- represented in clinical research
	Detail analyses by specific population	To identify <i>a priori</i> populations of most relevance to minimize bias and communicate at Research Plan phase
	Obtain health equity specific feedback on Work Plan/Research Plan	To assure Work Plan/Research Plan identify relevant health equity issues, frames these issues correctly, and addresses these issues adequately
Evidence Review	Use preferred terminology	To use inclusive language when referring to specific populations
	Detail health disparities by specific populations	To understand the mechanisms behind observed disparities to frame CQs to inform clinical considerations
	Detail equity related CQs in methods	To highlight important equity issues to be addressed in the report, and be transparent about methods used to answer CQs
	Detail methods for critical appraisal of risk assessment	To be transparent about methods for assessing algorithmic bias in race-aware models
	Detail analyses by specific populations	To be transparent about methods used for subgroup analyses
	Detail populations represented in the included evidence	To assess applicability of evidence to populations experiencing greatest disparities
	Detail results of included studies by specific populations	To allow for a detailed assessment of magnitude of benefits or harms by specific population
	Detail findings of risk assessment models applied in specific populations	To understand model performance and bias as applied to more diverse populations
	Detail findings by specific populations in the summary of evidence	To allow for a summary assessment of magnitude of benefits or harms by specific population
	Detail findings of equity related CQs	To allow for a summary of clinical practice considerations related to health equity
	Summarize findings from KQ and CQ in a health equity subsection (or appendix)	To integrate findings across KQ and CQ for the USPSTF's evidence deliberation

Phase (When)	Description (What)	Rationale (Why)
	Detail limitations and future research needs for specific populations	To be transparent about applicability of findings to specific populations or settings and to facilitate meaningful research for key evidence gaps relating to health equity
	Obtain expert review with health equity lens	To vet the evidence review's framing and findings around health equity
Evidence Deliberation	Deliberate net benefit for populations most affected	To understand if the magnitude and/or certainty of benefits or harms vary by population
	Identify important considerations for implementation that may redress observed inequities	To understand if there are important considerations that should be made when implementing a preventive service to make sure inequities are reduced
	Identify equity relevant limitations of multivariate risk assessment	To determine how best to (or not to) implement multivariate risk assessment for different populations
	Identify important health equity evidence gaps	To determine how best to call for future research needs
Recommendation Statement	Identify important health equity practice gaps	To determine how best to identify practice gaps related to the clinical preventive service
	Detail how recommendation statement applies to specific populations	To communicate important considerations for specific populations to help mitigate health disparities
Dissemination (and Implementation) of Recommendations	Obtain equity specific feedback on draft recommendation and supporting documents	To review the draft recommendation statement, draft evidence review (+/- draft modeling report) with respect to health equity considerations
	Communicate final recommendations for specific populations	To increase the uptake of preventive services in specific populations
	Communicate equity related research and clinical practice gaps organizations, funders, and researchers	To increase research that can address critical health equity evidence gaps

Abbreviations: CQ=Contextual Question; KQ=Key Question