

Cross-Cutting Themes to Advance the Science of Minority Health and Health Disparities

The National Institutes of Health (NIH) engaged in a two-year science visioning process to identify research strategies to address the gaps and opportunities in the science of minority health and health disparities. The goal of the NIH science visioning process was to help scientists contribute to a common mission: conceptualizing the best science to promote minority health as well as reduce and eliminate health disparities. Thirty research strategies were identified across three pillars guiding the science visioning: methods and measurement, etiology, and interventions (Table 1). The articles in this special issue are arranged according to these three pillars and highlight how these strategies can advance the science of minority health and health disparities. This editorial discusses themes that emerged across the three pillars to provide synergy between methods, etiology, and interventions to advance the science of minority health and health disparities.

ADDRESS CAUSES OF HEALTH DISPARITIES

Health disparities are caused by many factors and operate at multiple levels. Thus, addressing health disparities requires an understanding of the complexity and pathways linking upstream and downstream factors. Complex systems modeling

approaches aim to address complexity such as nonlinear trajectories, feedback loops, and temporal changes. Therefore, the capability of complex systems analysis should be advanced to examine multifaceted, multilevel etiology and to predict how interventions work to reduce health disparities (Table 1; Strategies 4 and 5). Furthermore, leveraging geographic identifiers and investigating place will provide insights into how determinants from physical, built, and social environments converge to generate disparities or promote health (Table 1; Strategies 10, 11, and 14). Another promising area of research is investigating biological mechanisms and physiological systems that are highly responsive to social and environmental exposures (Table 1; Strategy 15). Interventions that address multiple levels, ranging from the individual to the structural, as well as interventions that address risk factors common across multiple health conditions are also needed (Table 1; Strategy 22).

ADDRESS SOCIAL DETERMINANTS OF HEALTH

Almost all measures of social determinants of health show a stepwise gradient with health—as social determinants of health improve, so do health outcomes. However, this pattern may not be

the same for non-White populations. The promotion of common outcome measures and adoption of standard measures of social determinants of health in all data collection systems, including electronic health records, will allow unprecedented research opportunities for understanding and intervening on social determinants of health in diverse settings, ranging from the clinic to schools and businesses (Table 1; Strategies 1, 9, and 21). Furthermore, advancing the understanding of the mechanisms for how social determinants of health influence health behaviors is important (Table 1; Strategy 13). An important reason for differences between White and non-White populations is racism and discrimination. Thus, strengthening the conceptualization, measurement, and understanding of interpersonal, internalized, and structural racism as a social determinants of health is essential (Table 1; Strategy 12). Health care is an

underused setting for addressing social determinants of health, but in light of structural racism, it also should be examined for its role in both perpetuating and reducing health disparities (Table 1; Strategies 18–20 and 25).

VIEW HEALTH THROUGH A LIFE COURSE CONTINUUM

Health disparities are often the result of earlier exposures to adverse events and risk factors. Life course perspectives theorize how socially patterned physical, environmental, and socioeconomic exposures at different stages of human development shape health within and across generations. Health disparities research needs to more broadly incorporate life course perspectives, such as assessing the lived experience and considering whether time, opportunities, and agency are racialized (Table 1; Strategy 17). To that end, longitudinal designs remain important, as is advancing composite measures and measures of cumulative exposures to integrate a life course perspective into cross-sectional research

ABOUT THE AUTHORS

Nancy L. Jones and Rina Das are with the Division of Extramural Scientific Programs, National Institute on Minority Health and Health Disparities (NIMHD), Bethesda, MD. Nancy Breen and Tilda Farhat are with the Office of Science Policy, Strategic Planning, Analysis, Reporting, and Data, NIMHD, Bethesda, MD. Richard Palmer is with the Office of Extramural Research Administration, NIMHD, Bethesda, MD. The authors are also Guest Editors for this supplement issue.

Correspondence should be sent to Nancy Jones, National Institute on Minority Health and Health Disparities, 6707 Democracy Blvd, Bethesda, MD 20892 (e-mail: nancy.jones@nih.gov). Reprints can be ordered by clicking on the “Reprints” link at www.ajph.org.

This editorial was accepted December 22, 2018.

Note. The content is the responsibility of authors and does not necessarily represent the official views of the National Institutes of Health or the government of the United States.

doi: 10.2105/AJPH.2019.304950

TABLE 1—Strategies to Promote the Advancement of Health Disparities Science

Methods and Measurement	
Indicators for measuring health disparities	<p>Strategy 1. Promote adoption of common outcomes to quantify health disparities processes across different diseases and conditions and develop sentinel indicators.</p> <p>Strategy 2. Develop a set of indicators that reflects the complexity of population characteristics and that can be adjusted to capture changing US demographics.</p> <p>Strategy 3. Make explicit the assumptions and values that may be implicit in health disparity outcomes.</p>
Methods for analyzing health determinants contributing to health disparities	<p>Strategy 4. Strengthen and promote analytic methods, particularly models, that will enable a better understanding of causes of health disparities.</p> <p>Strategy 5. Push the limits of systems modeling to increase its ability to predict relationships between health disparities and health determinants and to assess health disparities interventions.</p> <p>Strategy 6. Identify and strengthen rigorous quantitative and qualitative methods to enable analysis on small populations and subpopulations.</p>
Evaluating health disparities research	<p>Strategy 7. Evaluate health disparities programs and experiments, including policy interventions and natural experiments, preferably using research designs that can lead to causal inference.</p> <p>Strategy 8. Expand the reach of interventions by using findings from successful interventions to estimate whether the intervention is likely to reduce disparities further along the disease continuum or in a different population.</p>
Health disparities in the era of big data	<p>Strategy 9. Leverage and foster linkages between existing and emerging data sources, including big data, to magnify the data's analytic capacity and to more swiftly translate health disparities findings into health disparities reductions.</p> <p>Strategy 10. Develop and define best practices for incorporating and using geographic identifiers in health disparities research to promote place-based research.</p>
Etiology	
Social determinants	<p>Strategy 11. Advance identification and understanding of how protective factors and resilience promote health at the individual, community, and population levels.</p> <p>Strategy 12. Strengthen the understanding of how racism and discrimination are conceptualized and measured, and how they contribute to health disparities, with emphasis on internalized and structural racism.</p> <p>Strategy 13. Elucidate mechanisms for how social determinants influence health behaviors that lead to health disparities.</p>
Biological pathways and mechanisms	<p>Strategy 14. Assess how place and neighborhoods structure health disparities geographically.</p> <p>Strategy 15. Determine the pathways and mechanisms through which environmental, economic, sociocultural, and behavioral factors influence biological systems and pathogenesis that leads to health disparities.</p>
Life course approaches	<p>Strategy 16. Integrate life course into health disparities research, including research on biological pathways and mechanisms.</p> <p>Strategy 17. Identify mechanisms of intergenerational transmission of disease leading to health disparities, which take into account biological, behavioral, social, cultural, and life course perspectives.</p>
Health services	<p>Strategy 18. Examine the impact of delivery models on population health.</p> <p>Strategy 19. Identify the mechanisms by which patient-clinician communication and biases affect disparities in health outcomes.</p> <p>Strategy 20. Determine how to improve diagnostic and medical guidelines, screening criteria, and standards of care through incorporating considerations of patient characteristics.</p>
Interventions	
Guiding principles	<p>Strategy 21. Promote interventions that address the structural drivers of health disparities, as well as consider the interplay with behavioral and biological factors.</p> <p>Strategy 22. Support interventions that address common modifiable risk factors associated with multiple health conditions and disease outcomes to reduce health disparities.</p> <p>Strategy 23. Incorporate a life course perspective by intervening at critical windows of malleability and plasticity during the lifespan and determining opportunities for altering the intergenerational transmission of advantage and disadvantage to prevent and reduce health disparities.</p>

Continued

TABLE 1—Continued

Multilevel approaches	<p>Strategy 24. Leverage electronic information and communication technologies to deliver and evaluate interventions that have the greatest potential to reduce health disparities by removing accessibility and health literacy barriers, facilitating tailoring and personalization, and decreasing cost.</p> <p>Strategy 25. Promote interventions that address the social determinants of health within health care systems.</p>
Methods and evaluation	<p>Strategy 26. Use study designs and intervention research approaches best suited to accommodate the complexity of health disparities research while upholding principles of validity and rigor.</p> <p>Strategy 27. Evaluate the effectiveness of community- and practice-derived interventions that maintain and improve health or prevent disease.</p> <p>Strategy 28. Assess the relative and interactive contributions of multilevel intervention components as well as the mechanisms through which an intervention affects health outcomes.</p>
Dissemination and implementation (scalability)	<p>Strategy 29. Examine key dissemination and implementation issues during intervention design, development, and evaluation (e.g., cost, resources, fidelity, adaptation, feasibility, acceptability) to inform subsequent implementation and scaling up in health disparities populations.</p> <p>Strategy 30. Build the science of adapting interventions to different contexts including cultures, delivery systems, and social environments.</p>

designs (Table 1; Strategy 16). Leveraging existing and emerging data sources and fostering linkages between health and nonhealth sectors (e.g., education, labor, housing, and transportation) will improve the ability to assess the lived experience over time (Table 1; Strategies 9 and 24). Finally, aligning interventions with critical windows of malleability and plasticity during the lifespan, and determining opportunities for altering the intergenerational transmission of health advantage and disadvantages to prevent and reduce health disparities should be advanced (Table 1; Strategy 23).

INCORPORATE SPECIFIC APPROACHES

Broad implementation of “non-culturally congruent” interventions across diverse settings can exacerbate health disparities for diverse populations and subpopulations. After-the-fact approaches for adapting and tailoring interventions wastes

precious time and resources. Thus, engaging communities through the research continuum, building the science of intervention adaptation for diverse contexts, and promoting the science of practice-based interventions is important for developing interventions for all populations. Rigorous quantitative and qualitative methods are needed to enable analysis on small populations and subpopulations (Table 1; Strategy 6). Moreover, building the science of adaption for different contexts, including cultures, delivery systems, and social environments, is also crucial (Table 1; Strategy 30). Furthermore, a collaborative, practice-based intervention model that originates from the community needs to be promoted (Table 1; Strategy 27). Such a model will build on the research evidence of effective interventions that are initially developed in real-world settings and have built-in organizational and community feasibility and acceptability, and, therefore, may have greater potential to be adopted and sustained in other settings.

EVALUATE HEALTH DISPARITIES RESEARCH

Evaluation is underused in health disparities research, thus missing crucial opportunities to assess progress, design interventions for later stages of implementation, and leverage natural experiments such as policy changes (Table 1; Strategy 7). Central to evaluation is using study designs and intervention research approaches best suited to accommodate the complexity of health disparities and making explicit the assumptions and values underlying the analysis (Table 1; Strategies 3 and 26). Moreover, evaluation methods to accommodate interventions and designs unique to health disparities research are also needed (Table 1; Strategy 8). For example, methods are needed for evaluating adaptations of practice-based interventions that are often restricted by cost and feasibility in underresourced communities. Evaluating such interventions can facilitate consideration of external factors that affect participation or outcomes. Another area for

development is the evaluation of intervention components at multiple levels, thereby enhancing the ability to assess the relative, interactive, and mechanistic effects of intervention components that span multiple social-ecological levels and facilitating translation, scalability, and dissemination of best practices (Table 1; Strategies 28 and 29).

TRANSFORMING THE SCIENCE

Advancing the science of minority health and health disparities is vital for the health of the nation. The US population demographics are changing dramatically. By 2055, there will be no single racial or ethnic majority. Thus, it is important for the science both to continue to address socially disadvantaged populations historically underrepresented in research, and to anticipate the increasing diversity (Table 1; Strategy 2). Minority health and health disparities research is positioned to capitalize on rich transdisciplinary scientific

knowledge, theories, conceptual models, and methods to cover the gamut of disciplines, diseases and conditions, life stages, health care delivery modes, and population focuses. The science visioning was the first step. Now researchers, policymakers, and funders must put the strategies into action to enhance the understanding of the causes of health disparities, improve methods and measurements, and inform the design and implementation of interventions to reduce disparities. **AJPH**

Nancy L. Jones, PhD

Nancy Breen, PhD

Rina Das, PhD

Tilda Farhat, PhD, MPH

Richard Palmer DrPH, JD

CONTRIBUTORS

All authors have participated in the conceptualization, writing, and editing of the manuscript and approved the final version.

ACKNOWLEDGMENTS

This work was supported by the NIMHD.

CONFLICTS OF INTEREST

No conflicts of interest.