Harmonizing Health Disparities Measurement

Reliable and valid measurement is the foundation of efforts to eliminate health disparities—health differences that adversely affect disadvantaged populations.[1] With increasing availability of data and methodological advances, health disparities researchers have many options for measurement approaches. This editorial urges health disparities researchers and relevant organizations to seek harmonization for cohesion in measurement practice while preserving the flexibility that has facilitated innovation to date, through the implementation of eight recommendations from National Institute on Minority Health and Health Disparities' (NIMHD's) recent Measurement Science workshop.

To harmonize, the health disparities community needs the sort of community-wide, extensive consensus building that has been seen in other fields, such as the Panel on Cost-Effectiveness in Health and Medicine[2] and the Consolidated Standards of Reporting Trials (CONSORT).[3] NIMHD can be the centralizing force that guides research to adopt common indicators, which can align with clinical care to strengthen the science of health disparities. NIMHD has begun to guide the field by launching the Measurement Science Visioning Pillar (NIMHD.gov).

The harmonization and recommendations suggested from the Measurement Science workshop pertain to three overarching components of measuring health disparities: (1) identifying common health disparity outcome indicators, (2) promoting common health disparity indictors and sentinel indicators that harmonize health disparity reporting, and (3) transparency about the value judgments underlying health disparities measures.

COMMON HEALTH DISPARITY OUTCOME INDICATORS

An essential component of measuring health disparities is appraising health outcomes, which requires indicators that quantify health. Indicators allow researchers to establish the baseline and determine the degree to which a health disparity exists. NIMHD proposed common health disparity outcomes such as premature or excessive mortality, faster progression of the disease, higher incidence or prevalence, worse self-reported outcomes of daily functioning or symptoms, and greater burden of disease. NIMHD expanded the domains of influence that contribute to health disparities from "social determinants" to "health determinants," which includes biology.[4] Although some of these outcomes and determinants have known indicators, others still need to be determined. Once established, these indicators should be widely adopted to foster harmonization of health disparities research.

The use of common health disparity indicators is complicated because the field has used health determinants in multiple ways. The same indicator has been utilized as a health outcome in one situation and as a determinant in another. Conceptually, these two types of indicators are distinct when considered in the context of cause and effect: the health outcome is the effect and the health determinant is the hypothesized or demonstrated "cause," which may operate through a complex web of pathways. For example, obesity is potentially caused by many factors, such as physical activity, genetics, and physical environment, and thus can be an indicator of a health outcome (effect). Alternately, obesity is a risk factor for chronic conditions, such as diabetes and cardiovascular diseases, and thus would be an indicator of a health determinant (hypothesized cause). Researchers need to be mindful that most indicators are also determinants and focus on the health outcomes as defined. This construct aligns with recommendations 1 and 2 in the box on page S26.

COMMON HEALTH DISPARITY AND SENTINEL INDICATORS

This editorial recommends collective action by the health disparities research community to develop common health disparity indicators and "sentinel," or early warning, indicators for health disparity reporting.[6] The common health disparity indicators would be a relatively small number of responsive and actionable indicators of health outcomes measured across a common set of population groups (e.g., race/ethnicity, sex/gender, income) and consistently measured over multiple years and across multiple studies. These indicators would allow for better understanding of health disparity outcomes, pooling samples, comparing and synthesizing studies, and conducting meta-analyses, especially important for studies

ABOUT THE AUTHORS

Deborah Duran is with the National Institute on Minority Health and Health Disparities (NIMHD), National Institutes of Health (NIH), Bethesda, MD. Yukiko Asada is with Dalhousie University, Halifax, Nova Scotia. Joseph Millum is with the Clinical Center, NIH, Bethesda, and Fogarty International Center, NIH, Bethesda. Misrak Gezmu is with the National Institute of Allergy and Infectious Disease, NIH, Bethesda.

Correspondence should be sent to Deborah G. Duran, National Institute on Minority Health and Health Disparities, 6707 Democracy Blvd Ste 207, Bethesda, MD, 20892 (e-mail: durande@mail.nih.gov). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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RECOMMENDATIONS TO HARMONIZE HEALTH DISPARITIES MEASUREMENT PRACTICE

Recommendation 1: Differentiate clearly the indicators of health outcomes and the indicators of health determinants in each health disparity study.

Recommendation 2: Develop a common set of responsive and actionable indicators of health outcomes, building on NIMHD's "health disparity outcomes"[5]:

- Premature or excessive mortality, including earlier onset or more aggressive progression;
- Higher incidence or prevalence;
- Worse self-reported outcomes of daily functioning or symptoms;
- Health behaviors and clinical outcomes related to the above;
- Greater burden of disease.

Recommendation 3: Develop a common set of "sentinel," or early warning, indicators for health disparities.

Recommendation 4: Establish a standard set of criteria for using population characteristics with accompanying rationales that support their inclusion in health disparities research.

Recommendation 5: For widely used population characteristics, identify standard population groups and establish a standard approach to define reference groups.

Recommendation 6: Promote sharing of analytical data sets and codes to support scientific reproduction as well as comparison among various health outcome indicators and health disparity populations.

Recommendation 7: Establish guidelines regarding the core considerations for choosing a health disparity measure.

Recommendation 8: State explicitly the value judgments endorsed by the choice of a measure in each health disparity study and develop a culture of explicit discussion.

Note. NIMHD = National Institute on Minority Health and Health Disparities.

of small populations when data needs to be pooled to ensure adequate power for analysis.

"Sentinel" indicators identify the emergence of a health disparity within a complex system and signal the need for further investigation. Health disparity sentinel indicators can build on existing knowledge of fundamental causes of health disparities and enable early identification, like a canary in a coal mine. For example, intermediate health outcome indicators (e.g., obesity) might serve as sentinel indicators because obesity is associated with disparities for a variety of conditions, diseases, and causes of death.[6] Although the idea of sentinel indicators has not been applied to health disparities research, doing so, alongside the development of common population indicators, could harmonize and thus improve health disparities research, especially for early interventions. This construct aligns with recommendations 3 through 5 in the box on this page.

TRANSPARENCY OF VALUE JUDGMENTS

Value judgments invariably underlie measures of health disparity but are rarely acknowledged.[7] For example, the choice between an absolute and a relative measure of disparity involves both a technical and a value judgment. One way to get to the heart of the value judgment is to take an attainment measure of health (e.g., percentage of mammogram uptake) and ask whether the same absolute difference matters more in a sicker than in a healthier population. Using the relative measure to quantify the magnitude of health disparity, the answer would be yes; but using the absolute measure, it would be no.[7] Acknowledging the possibility of contradictory results, the literature currently recommends reporting results using both absolute and relative measures.[5] This practice simply pushes the value judgment that must be made onto the user of the research, which could potentially cause harm from misuse of one over the other in decision-making. Instead, researchers should seek to provide meaningful interpretations. The choice between an absolute and a relative measure of disparity is just one example of many value judgments that underlie measures of disparity.[7] Different choices may yield different results, reflecting different values. For instance, seemingly, the relative measures appear easy to grasp for the scientific community, while the absolute ones are easier to use with lay and policy people.

Individual health disparity researchers should become aware of the value judgments that their choice of measures implicitly endorse and strive to state these value judgments explicitly. By acknowledging the value judgments involved in their choice of measures, the health disparities research community can begin to explore shared values to inform the choice of measures and minimize potential harm from misinterpretation of results. Sharing analytical data sets and codes would also promote scientific reproduction and enable comparisons among relevant populations to reduce health disparities. This construct aligns with recommendations 6 through 8 in the box on this page.

CONCLUSIONS

Diverse measurement practice can lead to difficulty in synthesizing and comparing evidence on health disparities and assessing the overall progress of the field to reduce disparities. NIMHD has standardized a set of health disparity outcomes and expanded the scope of health determinant indicators to include biology. NIMHD's recent visioning process measurement workshop suggested eight recommendations to enhance the measurement of health disparities (see the box on this page). These recommendations foster the separation of determinants from outcomes and promote the use of common population and contributing factor indicators to

measure health disparity outcomes, promote transparent measurement choices, generate reproducible studies, and enable the sharing of data that assess the reduction of health disparities. Experts stressed the need for common and sentinel health disparity indicators to harmonize research for outcomes and advocated for the transparency of value judgments underlying health disparities measures. This editorial urges the health disparities research community to engage in a large-scale consensus building to harmonize key indicators and improve common measurement reporting practices. NIMHD envisions this harmonization will provide researchers with shared data and measurement strategies that may collectively reduce health disparities across impacted populations. AJPH

Deborah Duran, PhD
Yukiko Asada, PhD
Joseph Millum, PhD
Misrak Gezmu, PhD

CONTRIBUTORS

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CONFLICTS OF INTEREST

D. Duran, J. Millum, and M. Gezmu are salaried employees of the NIH. The authors do not have any other financial or competing interests to declare.

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