Effective Interventions in Reducing Disparities in Healthcare and Health Outcomes in Selected Conditions

FINAL REPORT

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NATIONAL QUALITY FORUM

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EXECUTIVE SUMMARY

Health and Healthcare disparities result from historical realities and sociopolitical factors. These factors have put many populations at risk of worse health outcomes based on the social conditions in which they live. Eliminating disparities will require the U.S. public health and healthcare system to implement tailored interventions for populations based on their social risk. Numerous effective interventions exist. However, many of these interventions are not yet implemented systematically, and there are few efforts to assess the extent to which they are employed. Performance measurement is an essential tool: It can show if interventions are being implemented and if they are reducing disparities.

With funding from the Department of Health and Human Services, the National Quality Forum (NQF) convened a multistakeholder Committee to develop recommendations on how performance measurement and its associated policy levers can be used to eliminate disparities in health and healthcare. The Disparities Standing Committee will develop its recommendations by focusing on selected conditions: cardiovascular disease, cancer, diabetes and chronic kidney disease, infant mortality/low birthweight, and mental illness. Disparities within these conditions will be reviewed based on the social risk factors outlined in the 2016 National Academy of Medicine (NAM) report, *Accounting for Social Risk Factors in Medicare Payment: Identifying Social Risk Factors*. A separate report will document each of four phases of the project:

- report 1: review the evidence that describes disparities in health and healthcare outcomes;
- report 2: review the evidence of interventions that have been effective in reducing disparities;
- report 3: perform an environmental scan of performance measures and assess gaps in measures that can be used to assess the extent to which stakeholders are deploying effective interventions to reduce disparities; and
- report 4: provide recommendations to reduce disparities through performance measurement.

The first report is available on the NQF Disparities Project webpage. This second report reviews the literature on interventions that have been effective in reducing disparities in the selected conditions. It also presents the second iteration of the Disparities Standing Committee's draft conceptual framework, which illustrates a high-level approach to reduce disparities through measurement. The next iteration will include the levels of the system (i.e., policy, community, organization, provider, and patient) at which interventions are implemented and where performance measures should be identified.

The literature review of effective interventions identified several themes:

- The majority of research focuses on improving outcomes in populations that are socially at risk (in absolute terms), rather than improving outcomes relative to a socially privileged reference group (e.g., non-Hispanic white vs. non-Hispanic African American).
- Interventions tend to be upstream and attempt to reduce the incidence of disease in populations with social risk factors. These interventions largely focus on patient education, life style modification, and culturally

tailored programs. Far fewer interventions address disparities in healthcare.

- Interventions primarily focus on reducing disparities based on race and ethnicity. Few interventions address disparities based on disability status, social relationships, and the residential and community context.
- Many interventions could potentially reduce disparities among several conditions, although usually implemented to address disparities in one condition. In addition, many interventions could also address disparities related to more than one social risk factor.

The Disparities Standing Committee will use the findings of this report to inform the ongoing development of the conceptual framework. In the next phase of the project, the Committee will identify priority areas of measurement based on effective interventions, as well as example performance measures that could be used to assess the extent to which stakeholders are using them.

BACKGROUND AND CONTEXT

The causes of disparities in health and healthcare represent a complex interplay of many social risk factors. Disparities can be caused by structural, financial, environmental, social-political, cultural, community, personal, and healthcare system factors. A recent report from the National Academy of Sciences finds that poverty, structural racism, and discrimination are key drivers of disparities.[1]

Disparities exist both in the delivery of healthcare and in population health outcomes.[2] Although some have hypothesized that policies and interventions focusing on factors beyond healthcare could have the greatest impact on population health, eliminating these disparities will also require a significant effort from the healthcare system. It will require a coordinated effort from all systems (e.g., education, transportation, and housing) that influence the social determinants of health and social risk factors.

Social determinants of health are defined as the "structural determinants and conditions in which people are born, grow, live, work, and age."[3] Social determinants of health include factors like socioeconomic status, education, physical environment, employment, social and community context, and access to healthcare. The growing understanding of the complex causes of disease has led to the concept of social risk factors that include the social and psychological factors that influence health directly through physiological processes and indirectly though behavioral pathways.[4] The National Academy of Medicine (NAM) report, *Accounting for Social Risk Factors in Medicare: Identifying Social Risk Factors,* identified key social risk factors that include socioeconomic position; race, ethnicity, and cultural context; gender; social relationships; and residential and community context. These risk factors are known to affect the health of individuals and the potential outcomes of their healthcare.

A person's income, education, environment, and stress levels can all affect that person's health. However, these risk factors are frequently confounded by the healthcare system itself.[5] Racial and ethnic minorities, people with disabilities, poor people, and people living in rural areas have more limited access to healthcare and receive lower quality healthcare than people without such risk factors. These quality and access issues significantly contribute to disparities in health and healthcare.

Research on health and healthcare disparities has been categorized sequentially by the types of evidence that have emerged over the last several decades. The first generation of research documented the existence of disparities in health and healthcare. The second generation explained the multifactorial causes of disparities. Researchers continue to debate and establish the causal pathways for disparities. The literature points to a mix of clinical and social risk factors. The third

generation of research focuses on identifying solutions to eliminate disparities.[6] Research to identify interventions continues to proliferate and evolve. Researchers have tried to synthesize the literature on effective interventions and broaden the scope of the possible interventions.

A systematic review by Chin et al., while focused on racial and ethnic disparities, found that a multifactorial approach that addresses multiple levers of change is needed to eliminate disparities. Cooper et al. recognized the need to move beyond solely looking at access to care as the way to eliminate disparities.[7] For example, addressing healthcare disparities will require multiple condition-specific interventions along the continuum of care that are tailored to the target population.[8] Eliminating health and healthcare disparities will require interventions at every level of the healthcare system as well as interventions that go outside the healthcare system (e.g., transportation, housing, education, etc.): patient, provider, microsystem, organization, community, and policy. Personal/family, structural, and financial risk factors are among the drivers of disparities.[9] A particular disparity must be carefully assessed to identify key modifiable drivers and tailor solutions to address those drivers at the relevant levels.

Reducing disparities is a key component of promoting health equity. Interventions are needed to counteract social risk factors to achieve health equity. The Agency for Healthcare Research and Quality defines quality care as "doing the right thing for the right patient, at the right time, in the right way to achieve the best possible results." Quality care can be defined as care that is safe, effective, person and family centered, timely, and efficient. However, quality care must also be equitable. Equitable care can be defined as providing equal quality of care for everyone, regardless of factors like race, ethnicity, age, gender, income, location, disability, or other demographic factor.[10]

Quality improvement can be defined as interventions designed to improve patient outcomes over time.[11] However, quality improvement efforts in the healthcare system influence average health outcomes and improve care delivery overall but often fail to reduce the variation in health outcomes and care delivery between groups.[12] Chin et al. stressed that healthcare organizations must create a culture that recognizes disparities and takes action to implement interventions to reduce them.

The healthcare system can use performance measurement as a tool to find and reduce disparities. The Health Resources and Services Administration (HRSA) defines performance measurement as "the regular collection of data to assess whether the correct processes are being performed and desired results are being achieved."[13] First, measurement can be used to assess the outcomes of care for persons with social risk factors and if they are receiving appropriate care. Using relevant structure, process, and outcome measures to identify disparities is the first step to reducing them. Secondly, measurement can assess the effectiveness of interventions to reduce disparities and the use of interventions that directly target disparities.

Unfortunately, no one intervention can eliminate disparities. Addressing disparities in health and healthcare will require interventions that reengineer the systems that cause inequities as well as interventions that target individuals who are at risk. These interventions must be tailored to specific populations and address root causes of disparities.[14,15] This interim report highlights effective interventions that could be the focus of future measurement efforts.

Performance measurement will play an increasingly important role as the healthcare system continues to shift towards care models that reward value over quantity of services provided to patients. Incentivizing and supporting the delivery of care that creates health equity must be a key component of value-based care. Health equity cannot be achieved without the elimination of health and healthcare disparities. Performance measures that assess the extent to which the system is employing effective interventions to reduce disparities are essential to achieve equity.

PROJECT OVERVIEW

The National Quality Forum (NQF), with funding from the Department of Health and Human Services, convened a multistakeholder Committee to develop a roadmap that demonstrates how performance measurement and its associated policy levers can be used to eliminate disparities in health and healthcare. The project will examine disparities in five selected conditions that are among the leading causes of morbidity and mortality. These conditions include cardiovascular disease, cancer, diabetes and chronic kidney disease, infant mortality/low birthweight, and mental illness. Although the Disparities Standing Committee's work will focus on these conditions, its recommendations will likely apply to disparities within conditions beyond the scope of this project. The selected conditions will serve to illustrate how healthcare stakeholders can apply the Committee's recommendations.

This is the second of three interim reports that will culminate in a final fourth report to be released in September 2017:

- report 1: review the evidence that describes disparities in health and healthcare outcomes;
- report 2: review the evidence of interventions that have been effective in reducing disparities;
- report 3: perform an environmental scan of performance measures and assess gaps in measures that can be used to assess the extent to which stakeholders are deploying effective interventions to reduce disparities; and
- report 4: provide recommendations to reduce disparities through performance measurement.

The first report, **Disparities in Health and Healthcare Outcomes in Selected Conditions**, is posted to the **NQF Disparities Project webpage**. It documents the current evidence of disparities in health and healthcare. This second interim report reviews interventions that have succeeded in reducing disparities for populations with the social risk factors identified in the National Academy of Medicine (NAM) report, *Accounting for Social Risk Factors in Medicare Payment: Identifying Social Risk Factors.* The findings from this interim report will inform the Committee's development of a conceptual framework for how performance measurement can be leveraged to eliminate disparities in health and healthcare as well as the Committee's identification of domains and subdomains for measures that can reduce disparities.

Literature Review Methods

The literature review in this report provides examples of the types of interventions that have proven effective in reducing disparities in health and healthcare outcomes. NQF conducted a search for information sources that present evidence on effective interventions to reduce disparities in the five selected conditions associated with the social risk factors identified in the NAM report. The Disparities Standing Committee provided key information sources and preliminary guidance on where to collect sources. Databases for the literature review included Academic Search Premier, PubMed/Medline, Google Scholar, PsychINFO, PAIS International, Ageline, Cochrane Collaboration, and Campbell Collaboration. NQF conducted a targeted search within these databases using various combinations of keywords that were derived terms related to the selected conditions and social risk factors as well as general terms to capture broader work that may include relevant information.

The search primarily focused on identifying systematic reviews. NQF also searched by population types including ethnic and racial minorities according to the Office of Management and Budget definitions. The search was confined to U.S. based work published between 2010 and 2016. Over 300 sources were identified. After a review of abstracts, around 120 sources were identified as highly relevant. The literature review

was not meant to be exhaustive nor did it include effective interventions that counteract all social risk factors. Rather, it highlighted examples of interventions that have shown effectiveness in reducing disparities within the selected conditions as well as interventions that provide lessons on how to counteract multiple social risk factors across a variety of populations. The findings will inform the development of the Committee's recommendations.

DRAFT CONCEPTUAL FRAMEWORK

The Committee's first report, *Disparities in Healthcare and Health Outcomes in Selected Conditions,* included the first iteration of a conceptual framework that will illustrate mechanisms through which performance measurement can be used to reduce disparities. The Committee convened on January 27, 2017, to discuss the second iteration of the framework, which will define the levels at which measurement should be employed. The Committee considered several inputs to inform the content of the conceptual framework. First, the Committee discussed a recent report to Congress by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) that includes the results of an analysis of the quality of care received by Medicare beneficiaries with social risk factors. The primary findings were[16]:

1. Medicare beneficiaries with social risk factors had worse outcomes on many quality measures regardless of what providers they saw; and
2. Providers that served a higher proportion of beneficiaries with social risk factors had worse performance on quality measures, even after accounting for their case mix.

These findings emphasize the need for performance measurement that: (1) targets the use of effective interventions to reduce disparities and (2) improves the quality of care that people with social risk factors receive. Hence, stakeholders throughout the healthcare system must identify effective interventions based on the best evidence available and begin using performance measures to assess the extent to which these interventions are being employed.

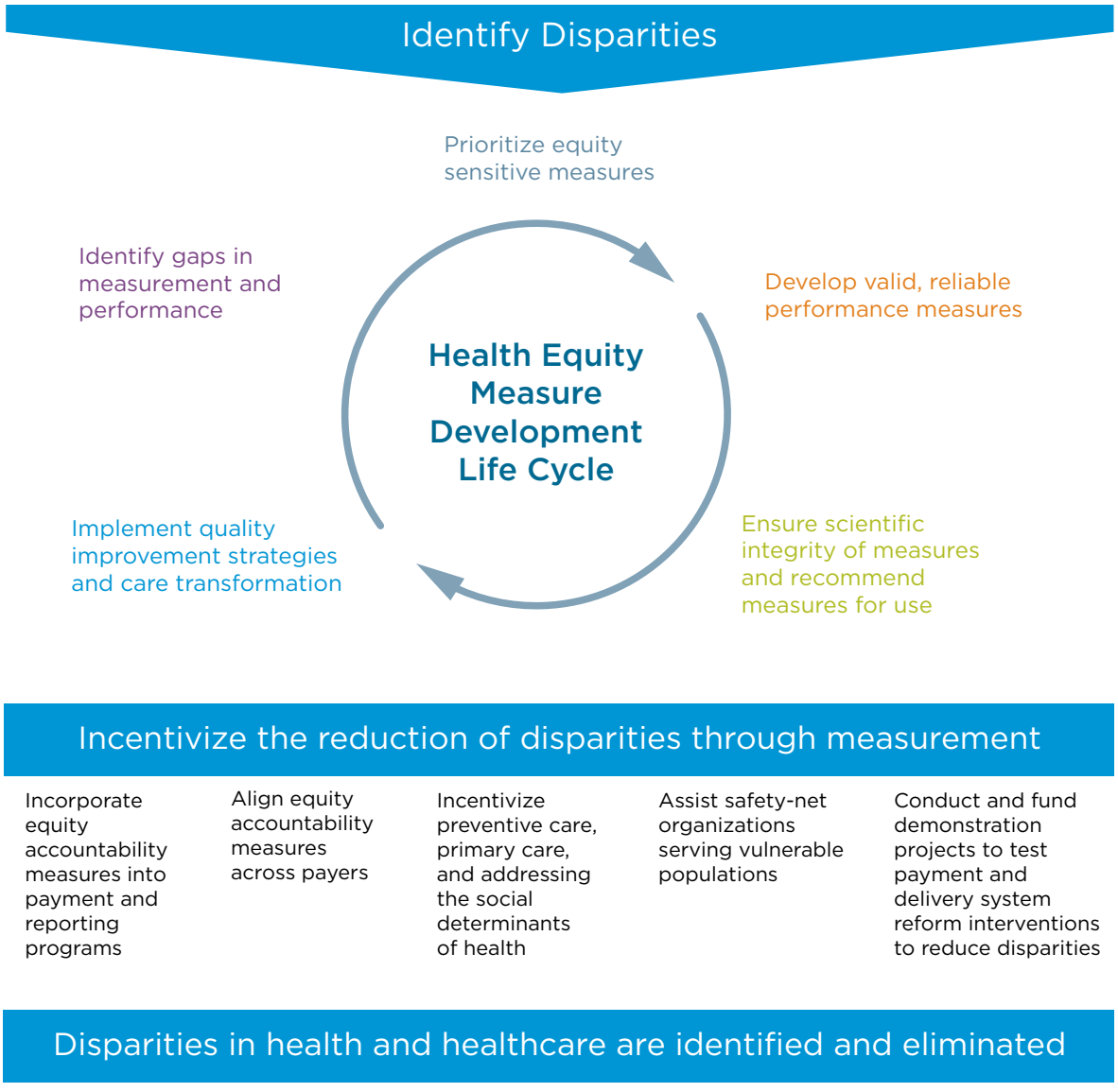
Interventions that reduce disparities primarily address improvements in quality and access. The *2015 National Healthcare Quality and Disparities Report* found that disparities in care related to race, ethnicity, and socioeconomic status (SES) persist across all National Quality Strategy (NQS) priorities.[17] Therefore, the healthcare system must implement interventions to reduce disparities across the domains of quality, which include safety, effectiveness, patient-centeredness, and timeliness. In addition, although the Affordable Care Act (ACA) gave many more people access to health insurance, Americans with social risk factors continue to face barriers to accessing care—partly because current efforts do not address all dimensions of access. Most interventions, like expanding insurance coverage, improve the affordability of healthcare. The Committee noted the need to drive improvement across each dimension of access, defined by Penchansky and Thomas as affordability, availability, accessibility, accommodation, and acceptability.[18]

The Committee recognized the potential lack of sufficient measures to assess the use of interventions that reduce disparities in quality and access. As such, the current iteration of the conceptual framework largely focuses on developing measures of health equity. Health equity measures include performance measures that assess care that is sensitive to disparities. For example, these measures include measures developed for condition areas where there are

known disparities, measures of care where there is a high degree of discretion in standard of care, and measures involving communication sensitive services. A large component of the current iteration of the conceptual framework recommends the identification and development of measures that can assess health equity.

The framework also identifies potential strategies for using measurement to incentivize the reduction of disparities. The Committee recommended that stakeholders across the healthcare system must work to incorporate health equity measures into accountability programs, align measures across payers, provide support for preventive care and primary care, consider social determinants of health when developing interventions, assist safety-net providers serving populations with social risk actors, and test payment and delivery system reform interventions. These recommendations will be further defined in the roadmap included in the final report. Figure 1 shows the most recent version of the conceptual framework.

FIGURE 1. A ROADMAP FOR THE ELIMINATION OF HEALTH DISPARITIES THROUGH MEASUREMENT



The next iteration of the conceptual framework will include the levels of the system where measurement of effective interventions will need be employed to reduce disparities. The Committee will use a modified version of the Social-Ecological Model (SEM). The SEM illustrates the interplay between various person and environmental factors that influence health. The Committee will fuse the design of the SEM with the levels of interventions identified by the Chin et al. framework, which focuses on interventions employed by the government, nongovernment entities, communities, and organizations. These interventions culminate in improved relative outcomes for patients with social risk factors. Figure 2 displays the levels that the Committee will consider for the framework.

The next iteration of the conceptual framework will also include the priority areas of measurement. These measurement areas will link to effective interventions that address the drivers of disparities. The drivers and mediators of disparities, based on a modified version of a framework by Cooper et al., will be superimposed on the levels of measurement. The Cooper et al. framework prioritizes disparities caused by individual, financial, structural, social-political, cultural, community, and healthcare system factors. The Committee plans to add general interventions to the modified framework. The list of interventions in Figure 3 is based on the strategies identified in the Committee's first iteration of the conceptual framework and will be refined using the findings of the literature review summarized in this report.

FIGURE 2. MODIFIED SOCIAL-ECOLOGICAL MODEL

FIGURE 3. DRIVERS, MEDIATORS, AND INTERVENTIONS FOR ACHIEVING EQUITABLE HEALTHCARE

Drivers of Disparities	Mediators	Interventions	Outcomes
Personal/Family • Acceptability • Cultural • Language/literacy • Attitudes, beliefs • Preferences • Involvement in care • Health behavior and health literacy • Socioeconomic status, education, income • Race and ethnicity • Disability • Healthcare need **Structural** • Availability • Appointments • How organized • Transportation **Financial** • Insurance coverage • Reimbursement levels • Public support **Social-Political** • Laws, regulations, policies • Income inequality • Social mobility • Level of segregation **Cultural** • Norms • Beliefs • Behavioral practices • Social exclusion • Discrimination, racism, and biases **Community Factors** • Environment • Public services • Education system • Urbanicity **Life Course Effects** • Adverse childhood events • Cumulative allostatic load **Healthcare System** • Limited Access • Lower Quality Care	**Resilience Factors** • Family • Spirituality **Quality of providers** • Cultural competence • Communication skills • Medical knowledge • Technical skills • Bias/stereotyping **Appropriateness of care** **Efficacy of treatment** **Patient adherence**	**Improve quality** **Incentivize primary care** **Address social determinants of health** **Assist safety-net organizations** **Implement payment and delivery system reform interventions**	**Health Status** • Mortality • Morbidity • Well-being • Functioning **Equity of Services** **Patient Views of Care**

The conceptual framework will evolve over the life of the project. The final version will accompany a detailed "roadmap" that outlines the processes to achieve health equity through the use of performance measures. The Committee will identify examples of performance measures that can be applied to each level of the conceptual framework (i.e., community, organization, individual, etc.). The priority areas of measurement will pertain to improvements in quality and access, with the overarching goal of measuring the extent to which the system is achieving health equity. For example, the NQF-endorsed measure, *Patients Received Language Services Supported by Qualified Language Services Providers,* assesses the percentage of limited English-proficient (LEP) patients receiving both initial assessment and discharge instructions supported by assessed and trained interpreters or from bilingual providers and bilingual workers/employees assessed for language proficiency. This performance measure is based on the disparities reducing intervention of providing culturally and linguistically appropriate services. It is one of many effective interventions. The following sections summarize the findings of a literature review of effective interventions within the set of target conditions.

INTERVENTIONS TO REDUCE DISPARITIES

Studies have documented interventions that effectively reduce disparities. When developing their framework, Cooper et al. recognized that factors beyond the control of the healthcare system influence disparities in health and healthcare. For example, interventions that improve housing, working conditions, or pollution can help to reduce disparities in health. However, Cooper et al. suggest that healthcare organizations can best influence disparities in health and healthcare by improving access to health and social services and by addressing behavioral risk factors. The authors go on to note that interventions to reduce disparities in healthcare should be considered within the context of quality improvement.

Although the Committee recognizes the role of factors outside of the healthcare system, the Committee focused on identifying interventions that try to change factors within control of the healthcare system. Cooper et al. identified strategies that were effective in reducing disparities. The authors recommended focusing on high-risk populations and targeting the factors that most affect a given community or condition. The authors noted that successful interventions collect relevant and reliable data on social risk factors, are culturally and linguistically appropriate, ensure buy-in from patients and the community, and focus on promoting equity across subgroups.

The Agency for Healthcare Research and Quality (AHRQ) noted similar findings after a systematic review to better understand which quality improvement interventions may be the most successful at reducing disparities.[19] AHRQ examined interventions to reduce disparities associated with race or ethnicity, socioeconomic status, insurance status, sexual orientation, health literacy/numeracy, and language barriers. AHRQ found some promising interventions but limited evidence to support universal implementation of any specific intervention. The most promising interventions included a collaborative care model and employed patient education that accounts for language and literacy.

Another systematic review by Chin et al. outlined best practices and promising interventions to reduce racial and ethnic disparities.[20] The authors recommended that healthcare providers and organizations commit to reducing disparities,

establish mechanisms for quality improvements, and integrate targeted interventions to reduce disparities into their quality improvement efforts. Promising effective interventions are culturally tailored, use multidisciplinary teams, and address disparities at multiple levels throughout the healthcare system.

The Institute for Healthcare Improvement (IHI) developed a white paper entitled, *Achieving Health Equity: A Guide for Health Care Organizations*. IHI recommended five approaches to increase health equity: (1) make health equity a strategic priority; (2) develop structure and processes to support health equity work; (3) deploy specific strategies to address the multiple determinants of health on which healthcare organizations can have a direct impact, such as healthcare services, socioeconomic status, physical environment, and healthy behaviors; (4) decrease institutional racism within the organization; and (5) develop partnerships with community organizations to improve health and equity. IHI stressed the need to collect and analyze race, ethnicity, and language (REAL) data to understand where disparities exist.

IHI cautioned that quality improvement can sometimes unintentionally worsen disparities and recommended tailoring improvement efforts to meet the needs of individuals with social risk factors. IHI recommended five key activities that include focusing on those experiencing worse health outcomes and using data to identify disparities, considering the resources people with social risk factors have available, establishing trust between patients and providers, providing accessible primary care that meets the needs of those with social risk factors, and conducting a community health needs assessment to develop and implement interventions.

A number of best practices emerge across the frameworks cited above. First, healthcare organizations must commit to reducing disparities and promoting equity. Public health and the healthcare system must collaborate to address disparities at each level of prevention and each level of the system. Data that allow for the detection of disparities must be collected, and quality improvement frameworks must incorporate interventions to reduce disparities. Healthcare organizations should partner with their communities and ensure buy-in from patients when implementing interventions. Cultural competency, person and family engagement, and multidisciplinary teams focusing on care coordination can all help to reduce disparities.

The literature includes a variety of upstream and downstream approaches to preventing disease in populations with social risk factors. Primary prevention interventions counteract the onset and reduce the incidence of specific diseases in populations with social risk factors. Some approaches include smoking cessation, physical activity programs, and vaccination. Secondary prevention interventions identify high-risk individuals to screen for pre-clinical pathological changes or control the progression of a disease. For instance, encouraging at-risk groups to get cancer, blood pressure, and HbA1c screenings can reduce disparities. Tertiary prevention interventions seek to treat or slow the progression of a disease in an individual or group that is socially at risk. Secondary and tertiary prevention strategies typically fall within the purview of the healthcare system and comprise an area where quality measurement is most robust.

Reducing disparities in health and healthcare will require both general and condition-specific approaches. Some interventions address multiple risk factors when tailored appropriately, such as patient education, improvements to the built environment, culturally and linguistically appropriate services, preventive care and outreach programs, and interventions that increase access to care. These general interventions are often customized to address specific disparities within a condition. The following sections provide examples of effective intervention in the selected groups of conditions.

Cardiovascular Disease

Interventions to reduce health and healthcare disparities in cardiovascular disease (CVD) mainly target reducing clinical risk factors (e.g., obesity, unhealthy diet, and lack of physical activity) to prevent CVD in populations that are socially at risk for it. Fewer interventions target disparities in healthcare. The literature primarily focuses on disparities among racial and ethnic minorities, but interventions targeting these groups often address other social risk factors (e.g., low health literacy, limited social networks, urbanicity). Davis et. al, a 2007 systematic review of CVD disparities interventions, found that relatively few studies specifically address interventions that reduce disparities in CVD as a primary outcome.[21] The authors found that a majority of interventions focus on reducing disparities in hypertension, physical inactivity, coronary artery disease, tobacco use, and heart failure. They also found that interventions led by nurses have been more effective in rural areas and areas with fewer physicians and that some organization-level interventions, such as reorganization of clinics and multidisciplinary teams, have shown success in improving cardiovascular outcomes in communities of color.[22]

In 2013, the Patient-Centered Outcomes Research Institute (PCORI) reviewed studies on interventions published after the Davis et al. review. PCORI found that the pace of research on disparities in health and healthcare for CVD is steadily increasing. The most common measures used to assess reductions in CVD disparities are improvements in patient knowledge, attitudes, and behaviors related to CVD management, physiological measures (e.g., blood pressure, cholesterol, and body mass index), and patient adherence compared to their counterparts.[23] PCORI found interventions to reduce CVD disparities operate at all levels of the SEM across a range of populations.

Glickman et al., for instance, assessed the impact of a statewide intervention on care for myocardial infarction (MI) in women, minorities, and the elderly (relative to their counterparts). Research has shown that patients who are older, nonwhite, and female have longer wait times when transferred from one care setting to another for MI treatment.[24] The intervention involved integrating care between settings that are and are not equipped to provide percutaneous coronary artery interventions for MI to improve the transfer process. It specifically assessed the impact on treatment times based on a patient's sex, race, and age. The impact assessment included both rural and urban patients. Overall, the statewide program was associated with a significant reduction in disparities in treatment times for women, African Americans, and elderly patients. The study points to the efficacy of reducing CVD disparities in quality care through targeted interventions that improve integration between care settings.[25]

Many other interventions have been implemented at the community level. For example, the Healthy Environments Partnership's Community Approaches to CVD Health project used strategies from community-based participatory research (CBPR) to implement a multilevel approach to reduce disparities in CVD based on multiple social risk factors. CBPR is a "collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings."[26] The project was conducted in Detroit, Michigan, using a social-ecological approach. Through a community assessment using surveys, observations of neighborhood characteristics (e.g., sidewalks), assessment of the availability of types of food, monitoring air quality, and census data, the researchers found a positive association between stress and low socioeconomic position, increased exposure to airborne particulate matter, positive associations between physical activity and social support, and poor access to healthy foods. The researchers then conducted focus groups with residents to identify barriers and motivators to increase physical activity and healthy eating.[27]

Through a collaborative planning process, the researchers identified priority interventions, which included promoting active life styles, creating activity friendly environments, increasing food access, and fostering economic stability. Specifically, the interventions involved enhancing the skills of community residents to lead walking groups, developing a network of community and faith-based organizations to support walking groups (improve and build social relationships), and changing the built, social, and policy environment to promote cardiovascular health. The project's main finding is that active community engagement is critical to developing multilevel solutions customized to meet community needs. Community engagement also increases awareness and creates community leadership around reducing disparities in cardiovascular disease.[28] A 2014 study further illustrates these findings using a customized bilingual, culturally appropriate, community-based CVD-prevention program with health education, medical screening, and empowerment strategies for Latina women. The study found successful and replicable results.[29]

Many interventions—though not focused on reducing disparities—show promise in improving CVD health and healthcare outcomes in populations with social risk factors. A 2014 systematic review identified 32 studies, which found effective interventions based on counseling and support, diet, exercise classes, and health education.[30] These findings are consistent with an earlier review of interventions specific to African Americans.[31,32] The researchers found that healthcare providers were the most frequent interventionists. The least common interventions involved making improvements to the community's built environment, healthcare provider training, or food provision. Community settings often included clinics, homes, schools, and community centers.

For example, one study used culturally sensitive health education with audiovisual fitness materials on physical activity and healthy eating in a group of Hispanic Americans for 12 weeks with 30-minute weekly training sessions and four bimonthly intensive training sessions with two treatment arms. The study found an increase in participants engaging in rigorous physical activity and an increase in healthy eating habits.[33] Following this review, another study conducted with Native Hawaiians and Pacific Islanders tested a 12-week hula-based intervention that included education on blood pressure management. Researchers found that using hula as the physical activity component of a hypertension intervention served as a culturally appropriate form of exercise that led to an increase in physical activity, a reduction in systolic blood pressure, and improved health-related quality of life.[34]

The majority of interventions attempt to reduce the behavioral and cultural barriers of the Cooper et. al. framework. CVD interventions tend to be more upstream and focused on changing lifestyle. Notably, these interventions can be applied to other chronic diseases like diabetes and cancer. Future research should assess the extent to which these life style interventions reduce disparities across more than one condition. In addition, several studies recommended involving the recipients of CVD interventions in developing these interventions, particularly at the patient-provider level. Many interventions focus on methods to reduce disparities in CVD by targeting clinical risk factors in populations with social risk factors. Further research is needed to identify interventions that reduce disparities in care delivery.

Although many examples of effective interventions that reduce CVD-related disparities do exist, few have been successfully implemented outside of research settings. High-quality research that addresses interventions for racial and ethnic disparities in CVD is limited. There is also limited research on interventions that aim to reduce disparities for sexual and gender minorities. Most interventions in the literature are conducted at the individual level, which points to a need to explore effective interventions at other levels of the socioecological spectrum.[35]

Cancer

Many of the disparities identified in cancer health and healthcare outcomes are attributed to later stage diagnosis in populations with social risk factors. Accordingly, interventions to reduce health and healthcare disparities in cancer mainly focus on promoting timely access to cancer screenings. A review of interventions to reduce racial and ethnic disparities in healthcare by Chin et al. in 2007 found that research focused primarily on interventions to reduce disparities in cancer screenings while only a few studies examined interventions intended to reduce disparities in treatment and follow-up.[36] Reducing the time to diagnosis is an important part of reducing disparities in cancer mortality, as delays of more than 90 days are associated with poorer outcomes.[37] Among the interventions found, most targeted the organizational and individual levels and focused on culturally tailored patient educational materials and reminder/tracking systems.

One policy-level intervention that has reduced cancer-related disparities by social risk factors is the introduction of a coordinated care organization (CCO) to Oregon's Medicaid program. In 2012, Governor John Kitzhaber signed Oregon Senate Bill 1580 into law, which created CCOs. These CCOs bring healthcare access, quality, and outcomes for Medicaid beneficiaries to a single point of accountability,[38] with a particular goal of increasing the cervical cancer screening rate in women. While there was minimal impact on the overall screening rates, the introduction of CCOs improved the cervical cancer screening rates for American Indian/Alaska Native women relative to white women, reducing the difference between the groups from 7 to 8 percent in 2012 to 5 percent in 2013.[39]

Patient reminder systems are a common organization-level intervention intended to encourage timely cancer screenings, especially in populations with social risk factors. The intervention involves a system of reminders to patients via phone calls and/or letters when it is time for the patients' regular cancer screening tests (e.g., pap test, mammogram, or colonoscopy). While the literature on this intervention's success in reducing disparities is mixed, several studies found that reminder systems in populations with social risk factors are an effective tool to improve screening rates in the population. Beach et al. conducted a systematic review of patient tracking/reminder systems for providers who serve racial and ethnic minorities and found that they all increased screening rates.[40] McPheeters et al. found similar, successful results for non-English speaking patients and patients with low socioeconomic status. The authors also found that an intervention given in the patient's preferred language increased breast cancer screening in Spanish-speaking women at higher rates than English-speaking women. This effect was not found in language concordant interventions related to colorectal cancer screening for men.[41] More research is needed to determine the impact of patient reminder systems and the language specificity they require on racial/ethnic disparities as well as disparities related to other social risk factors.

Four systematic reviews examined the importance of culturally specific interventions in Asian Americans and found that tailored outreach and education were effective at increasing cervical cancer and CRC screening rates. Cultural considerations in the various studies reviewed included differences in language, health beliefs, and practices.[42] Hou et al. looked at patient education interventions at the organizational and provider levels that targeted Korean, Vietnamese, Filipina, Cambodian, and Chinese women. The review found substantial evidence that culturally appropriate interventions can increase screening rates in Asian Americans. Interventions in this study were often led by churches and communities and included the use and distribution of culturally tailored education materials, mass media education, lay health workers, peer education, access to low-cost mammograms,

patient reminder systems, direct mail, and phone interventions to target specific ethnic groups[43]. Mincshan et al. looked at Asian American women also concluded that there is substantial evidence supporting culturally tailored interventions as an effective means to increase cancer screening rates and found that onsite cultural awareness training for healthcare professionals, reminder letters and health education booklets delivered during home visits, and community based group education with culturally sensitive education materials were effective at increasing cervical cancer screening rates among Asian American women.

Patient navigation programs are another intervention that has shown effectiveness in reducing healthcare disparities. Patient navigation involves a designated patient navigator who assists patients with identifying and removing barriers to care.[44] Rodday et al. performed a study to determine the impact of patient navigation on the time to diagnostic resolution by marital and socioeconomic status. The study looked at two groups of patients, those who received patient navigation services and those who did not. The authors found that patient navigation programs reduced the disparity between married and unmarried participants in time to diagnostic resolution.[45] A study by Freeman et al. looked at the change in breast cancer stage of diagnosis and five-year survival rates in low-income women in Harlem from 1986-2000. The study attributes the increase in five-year survival rates to increased access to screening, improved culturally appropriate outreach initiatives, and patient navigation programs.[46]

The majority of interventions that address disparities in cancer focus on increasing rates of screening in populations with social risk factors. These interventions concentrate on reducing racial and ethnic disparities at the organizational and provider levels. Further research is needed on multilevel interventions that address socioeconomic status, residential and community context, gender, and disability. Additionally, future research should also include interventions related to cancer treatment following diagnosis. Existing effective interventions are concentrated at the community/organizational level, and they promote screening through culturally specific patient engagement. The language-concordant and culturally tailored interventions found reinforce the framework from Cooper et al. and suggest the need for further research in this area. Future research should also include interventions at varying levels of the socioecological model, specifically the policy level.

Diabetes and Chronic Kidney Disease

Diabetes outcomes often depend on a patient's self-management ability. As result, many interventions focus on providing access to educational resources and services. The majority of interventions do not address the reduction of disparities. Rather, they aim to improve outcomes in populations that are socially at risk. According to the current body of evidence, effective interventions primarily aim to improve outcomes for racial and ethnic minorities.[47,48] Most interventions involve life style change programs with the goal of educating racial and ethnic minorities about cultural traditions or habits that influence their diets and health.[49,50,51] The most common interventions to reduce health and healthcare disparities in diabetes focus on patient education at the individual and community levels.[52,53]

One example at the community level is the Improving Diabetes Care and Outcomes on the South Side of Chicago project. The program administrators sought to reduce disparities in African American communities by providing patient education classes and food shopping tours to promote diabetes prevention and self-management behaviors.[54] The program used common clinical measures such as HbA1c, blood pressure, and BMI to assess performance and observed improvements across all measures for

African American participants.[55] Another study, Lewis et al., found that the project was also successful in reducing health disparities.[56]

Several community-based interventions have employed community health workers (CHW).[57,58,59,60] One study tested whether CHWs reduced disparities between African American and Latino patients with diabetes and non-Latino adults. The CHWs underwent 80 hours of training and participated in diabetes education classes. They conducted home visits each month to address participants' self-management goals and routinely communicated with the each patient's primary care provider. The use of CHWs were found to improve Hb1Ac levels, the level of self-reported knowledge about diabetes self-management, and physical activity.[61]

Most interventions take place at the individual level and focus on providing culturally tailored education programs. Nam et al. conducted a systematic review of culturally tailored diabetes education programs. Of 12 studies identified, the majority used either "group education sessions or a combination of group sessions and individual patient counseling."[62] The interventions taught participants about diabetes using culturally tailored diabetes educational interventions (CTDE). Nam et al. found that most of the interventions reported a reduction in HbA1c levels but noted that this appeared to depend on initial baseline level. Another systematic review of interventions in the Asian American population found similar evidence supporting the efficacy of culture-specific diabetes management interventions in the Asian immigrant population.[63]

The robustness of these findings are further demonstrated by PILI 'Ohana Project, which supports the efficacy of evidence-based interventions in Native Hawaiian and Pacific Islander communities.[64] The culturally tailored life style intervention program was adapted from the Diabetes Prevention Program (DPP) guidelines. Participants were provided with materials focused on achieving weight loss through healthy habits. Generally, there were improvements in weight loss, blood pressure, and an increase in physical activity levels. Life style improvements and weight loss have been found to be one of the most effective ways of preventing diabetes.[65] Uncontrolled diabetes can lead to chronic kidney disease (CKD).

Several individual-level interventions target the reduction of disparities in CKD care through educational programs. According to the Dialysis Patient Citizens Education Center, improving education and treatment options can help to improve health outcomes for those with CKD.[66] One intervention aimed to increase the relative number of racial and ethnic minorities that receive a living donor kidney transplantation (LDKT). LDKT involves a living individual who donates a kidney to a patient with end-stage renal disease (ESRD).[67] Waterman et al. found that minorities and individuals with low incomes were less likely to be educated about LDKT.

Improving access to LDKTs is one way to reduce healthcare disparities in kidney transplants. Gordon et al. conducted a study to assess the effect of a culturally and linguistically competent education program on the rate of LDKT for Hispanics at a transplant center. Potential recipients, family, and potential donors received two education sessions in a face-to-face group discussion format. The researchers observed a 74 percent increase in the number of Hispanics that received LDKTs. Their results suggest that culturally competent educational interventions can improve CKD outcomes in the Hispanic community and potentially reduce disparities in care.[68] Several studies suggest that increasing insurance coverage reduces poor outcomes in CKD care. Kurella-Tamura et al. found an association between broader Medicaid coverage and lower incidence of end-stage renal disease, the final state of CKD, among low-income nonelderly adults.[69] Nicholas et al. suggests a single-payer system as a way to improve access and reduce healthcare disparities but notes the impact of insurance-based interventions is not completely understood.[70,71]

Research has primarily focused on interventions that reduce health and healthcare disparities based on socioeconomic status and racial and ethnic group. There are opportunities to explore interventions to reduce disparities among rural communities, individuals with disabilities as well as sexual and gender minorities. There appear to be significant gaps in research on interventions that reduce disparities in healthcare. For example, there are disparities in receipt of high-quality preventive care in rural communities, but there were no interventions found address them. Although the majority of interventions to reduce disparities in diabetes and CKD focus on patient education and life style changes, there are opportunities to learn from interventions that have succeeded in reducing disparities in other chronic conditions. There is also a need to explore whether there are policies that have effectively reduced disparities in diabetes and CKD.

Infant Mortality and Low Birth Weight

Interventions to reduce disparities in infant mortality focus on promoting access to prenatal care, promoting healthy behaviors, ensuring infant safety, and promoting culturally competent care. Interventions may need to be tailored to address specific risks prior to conception, during pregnancy, during the neonatal period, and during the post-neonatal period.[72,73] The health of an infant is tied to the health of its mother,[74] and social risk factors can significantly affect the health of both.[75] Some sources note that often no single factor causes the death of an infant and that interventions must target each of multiple, interrelated factors.[76,77] As with the other target conditions, interventions to reduce infant mortality and low birth weight must be tailored to the community and risk factor, and the care delivered must be culturally and linguistically appropriate. Further, although disparities exist across causes of death and social risk factors, many interventions cited in the literature focus on reducing racial and ethnic disparities in pre-term birth. Some interventions also focus on promoting healthy behaviors and infant safety. Reducing infant mortality may require leveraging the multiple levels of the healthcare system as described by Chin et al.[78]

At the policy level, studies point to the role of increasing access to appropriate healthcare and nutrition for both the mother and infant. Policy interventions underscore the role that inadequate access to prenatal care can play in disparities in infant mortality and low birth weight.[79,80] Cox et al. noted that African American women in particular may have challenges accessing prenatal care. A report from the Minnesota Department of Health[81] outlines effective interventions to promote access to early and adequate prenatal care, including Medicaid expansion. Hogue et al. echoes the success of increased access to prenatal care through expanded Medicaid coverage.[82] Some studies also cite the success of the Women, Infants, Children (WIC) program in reducing disparities in infant mortality and low birth weight.[83,84] Khanani et al. assessed results of the WIC program in improving birth outcomes and reducing racial disparities in infant mortality in a county in Ohio.[85] Khanani et al. found that participating in the WIC program led to lower infant mortality rates. The study also found that WIC participation helped reduce disparities in infant mortality between African Americans and whites.

Hogue et al. noted the success of policies that recommended the transfer of women with high-risk pregnancies to tertiary care facilities that may be best equipped to handle their deliveries. The authors noted the challenges to implementing these policies in rural areas. The authors cited distance and transportation barriers, pressure from local providers, and insurance status as factors that may affect decisions about delivery location. The authors recommended public health monitoring, improved outreach, and training for providers to address these challenges.

Community interventions are a critical component to reducing infant mortality. Chao et al. stressed the need to work with local communities to understand drivers of disparities and secure buy-in for implementing interventions. Chao et al. discussed how Perinatal Periods of Risk (an analytic framework that aims to help communities understand and address infant mortality) could provide a framework for effective interventions to reduce rates of infant mortality, particularly for African American infants. The authors found a need to address both maternal health and premature births to address root causes of infant mortality, citing low-birth weight and pre-term birth as key drivers of infant mortality. Additionally, the authors found that focusing on infant safety issues may be the most effective community-level intervention. To address safety issues, the authors found a need for targeted safety programs such as the "Back to Sleep" program to address risks for Sudden Infant Death Syndrome (SIDS). Culturally tailored education could help address disparities in infant mortality for African Americans. The authors suggest that culturally tailored breastfeeding education could help reduce disparities in this area. Finally, the authors noted that effective community interventions could focus on identifying high-risk families and preventing infant injuries. The authors recommended expanded case management of high-risk women, increased family planning services, better training for nurses, and public health initiatives to increase awareness of infant safety.

The state of Minnesota identified successful community interventions to reduce racial and ethnic disparities in infant mortality, particularly among African Americans and American Indians. The Minnesota Eliminating Health Disparities Initiative (EHDI) supports culturally appropriate public health programs implemented by racial and ethnic communities. Grantees implemented interventions such as home visits, group and one-to-one education, and media campaigns addressing topics such as safe sleeping habits, prenatal care, and healthy behaviors. Grantees reported increases in the percent of normal birth weight babies, improvements in breastfeeding rates, and increases in the rate of early prenatal care.

Coughlin et al. studied the impact of the Healthy Start (HS) program administered by the Inter-Tribal Council of Michigan on reducing disparities in infant mortality and low birth weight in American Indians. The program is a home visiting program that focuses on community drive and population-specific interventions. The model involves five main services: direct outreach and recruitment, case management, health education, screening and referrals for maternal depression, and interconceptional continuity of care. The authors found that the program had the greatest impact in medically underserved areas and succeeded in reducing the odds of low birth weight and inadequate prenatal care.

The healthcare system can use several effective interventions to reduce infant mortality. Healthcare providers can help translate public health messages and ensure uptake of best practices. Echoing the cross-cutting interventions above, Minnesota stressed the importance of implementing culturally and linguistically appropriate services throughout the healthcare system to reduce racial and ethnic disparities in infant mortality.[86] Shultz and Skorcz noted the role that racism plays in disparities between whites and African Americans in infant mortality.[87] The authors cited results from the Genesee County, Michigan, Racial and Ethnic Approaches to Community Health (GC REACH) initiative and noted that this program used one intervention called the Undoing Racism Workshop. The workshop aimed to create understanding between community leaders and healthcare providers about how racism influences infant mortality. The authors noted that the workshop helped providers understand how to provide culturally competent care.

Healthcare providers could also implement education and support tailored to the needs of the mother and family. Women with intellectual

disabilities may also need tailored support and education to combat the risk of infant mortality and to promote healthy behaviors. Goldacre et al. noted that mothers with intellectual disabilities are more likely to have other social risk factors like low socioeconomic status, are more likely to smoke, and less likely to breastfeed.[88] The authors suggest that there may be a need for tailored care to promote breastfeeding and smoking cessation. The authors further suggest that women with intellectual disabilities need appropriate support and that they may need information presented in different ways such as using visual aids and repetition.

The Minnesota framework highlighted the need for clinicians to screen for risks for infant mortality and low birth weight. The framework recommends screening and referrals to reduce substance use. Smoking cessation can be crucial to healthy birth outcomes. Minnesota noted that smoking rates during pregnancy vary by race and ethnicity. American Indian women were markedly more likely to smoke than other groups; over one-third of American Indian mothers reported smoking during pregnancy.

The Minnesota framework also recommends screening for stress, social support, intimate partner violence, and depression. El-Sayed et al. found that women of low socioeconomic status may be disproportionately affected by these risks for infant mortality and that addressing them could help reduce disparities.[89]

Promotion of other healthy behaviors could also help to reduce disparities in infant mortality and low birth weight. African American infants are 1.3 times and Hispanic infants are 1.1 times more likely to die from congenital malformations than white infants. Hauck et al. suggest that disparities in mortality due to congenital malformations could be reduced by improving differences in use of preventive measures such as folic acid supplementation. The Minnesota framework also stresses the need for nutrition monitoring and education.

Promotion and support for breastfeeding could also help to reduce disparities in infant mortality,[90] particularly for African Americans who have lower rates of breastfeeding.[91] Similarly, there is a need to screen and educate on SIDS as the uneven rates among populations suggest an opportunity to reduce disparities.[92,93] The CDC notes that SIDS rates are highest for American Indians and Alaska Natives followed by African Americans.[94] Increasing the rates of breastfeeding among African American mothers could help reduce the risk of SIDS for their infants.[95] Safe sleep practices could reduce mortality from causes other than SIDS. Hauck et al. note that accidental suffocation and strangulation in bed is the most common cause of accidental deaths in infants and that these findings suggest cultural variations in bed sharing practices may contribute to this disparity.[96]

Studies also stress the need for interventions to increase access to contraception and education, citing a relationship between disparities in infant mortality and unwanted pregnancy. Appropriate preconception and interconception care could help address issues like family planning and maternal health.

Quality improvement interventions may also help to reduce disparities in low birth weight and infant mortality by ensuring that people with social risk factors are receiving high-quality care. Managing high-risk pregnancies appropriately can help to reduce the risk of pre-term birth and low birth weight. Guidelines recommend that women with high-risk pregnancies and high-risk infants be transferred to tertiary care facilities. Hogue et al. note that this may not be happening consistently, which may contribute to disparities, particularly disparities between people living in rural and urban areas.[97] There is also a need to increase understanding and better measure the quality of prenatal care patients are receiving. Currently, adequacy of care is defined by the number of visits, but expanding how quality is measured could better assess the root causes of disparities.[98] Similarly, there may be a need to better

understand the quality of care infants receive and to ensure that mothers and babies with social risk factors receive high-quality pediatric care and necessary education.[99]

Quality care and access to effective treatment may be linked with respect to ensuring the survival of low birth weight infants. Howell et al. found that African American infants with very low birth weight were more likely to be born in hospitals with higher risk-adjusted neonatal mortality rates than white infants with very low birth weight, suggesting a relationship between quality of care and access to effective interventions.[100]

Reducing disparities in infant mortality and low birth weight will likely take interventions at all levels of the healthcare system. The literature suggests that improving access to care, educational outreach, care coordination and management of high-risk pregnancy, ensuring culturally competent care, and promoting healthy behaviors may help reduce disparities. Additionally, the healthcare system must achieve better quality measurement and improve prenatal and pediatric care to make sure mothers and babies with social risk factors get the care they need. Finally there is a need for additional work to identify and track the causes of infant mortality and to better define adequate prenatal care, particularly for vulnerable populations.

Mental Illness

Interventions to reduce disparities in mental illness are primarily implemented at the individual level by providers and address disparities among economically disadvantaged individuals as well as racial and ethnic minority groups.[101] The 2016 AHRQ systematic review of effective interventions to reduce disparities in patients with severe mental illness (SMI) found that interventions largely target disparities among individuals with major depression, bipolar disorder, schizophrenia, personality disorders, and severe anxiety disorders.[102] For patients with anxiety disorders, Major Depressive Disorder (MDD) and/or dysthymia, provider-level interventions such as behavioral and psychological therapy were the most common type of intervention. Patients with schizophrenia were exposed to more community-level interventions and some provider-level interventions that address various risk factors including low SES and race/ethnicity. Interventions that improve healthcare quality included varying types of care management such as behavioral family management as well as interventions for enhancing services, for example, assistance after hospital discharge and community outreach/aid for the homeless.

The World Health Organization (WHO) examined effective policy-level interventions in its 2004 summary report, *Prevention of Mental Disorders*.[103] WHO notes that multistage policy interventions at the local and national levels have reduced the risk for mental health disorders. Interventions emphasize changes in legislation that would improve housing conditions in populations with low SES. WHO also recommends regulatory interventions for addictive substances. Restrictions on direct advertising of addictive substances could potentially reduce mental disorders that stem from substance abuse. The *LGBTQ Reducing Mental Health Disparities Population Report* by the state of California notes that one of the main barriers for LGBTQ patients is finding an LGBTQ-competent mental health provider.[104] The report describes and recommends policy that bans the use of reparative therapy and that promotes development of anti-bullying campaigns to reduce stigma.[105]

ARHQ's technical report of effective interventions details salient organizational-, community-, and provider-level interventions that reduce disparities in quality of care, access to mental health treatment, and health outcomes in patients with SMI. Community-level interventions detailed by AHRQ include the Access to Community Care and Effective Services and Supports (ACCESS) program, which enhances system integration of service delivery in order to improve outcomes. Rosenheck et al. found that the

ACCESS program increased the use of outpatient psychiatric services among homeless Medicaid participants. AHRQ also highlights the Assertive Community Treatment (ACT) program which integrates assertive community treatment, case management, and advocacy. Lehman et al. noted that patients in the ACT program had better clinical outcomes and fewer psychiatric inpatient days.[106] Critical Time Intervention (CTI) programs, aimed at bridging the transition from institutional care to community-based care, lead to lower odds of psychiatric re-hospitalization, greater perceived access to mental health services, and greater satisfaction with family relations.[107]

Organizational interventions targeting low SES populations like the Primary Care Access, Referral, and Evaluation (PCARE) program showed significant improvements in the quality of life and ability to maintain a source of primary care for patients with schizophrenia. PCARE assists in the care management of patients through healthcare professionals that help them overcome patient-, provider-, and system-level barriers, for example, helping patients enroll in Medicaid or providing financial assistance for transportation. Services also included providing information about medical conditions, motivational interviewing, and aid in communicating with clinicians.[108] Telepsychiatry and other technology-based therapies like texting counseling, (i.e., counseling sessions held through mobile text messages) have demonstrated effectiveness in reducing disparities. Moreno et al. studied the use of a telepsychiatry intervention by a bilingual psychiatrist and found a significant improvement in depression severity and quality of life in Hispanic patients with MDD compared with the usual treatment from a PCP. Interventions for reducing disparities in people with mental health disorders in rural populations have mixed results. Two studies examining the addition of telemedicine services for clinics with inadequate psychiatric services found greater improvements in some disorders, such as PTSD and depression, but a third study by Chong et al. found no difference compared with the usual care.

Provider-level interventions such as Cognitive Behavioral Therapy (CBT)—which focuses on the development of personal coping strategies that target solving current problems and changing unhelpful thought patterns—can address disparities within populations with multiple social risk factors. CBT can be an individual or group program provided by a licensed psychologist. Two studies by Miranda et al. and O'Mahen et al. found increases in treatment adherence and better health outcomes for patients with MDD by using a modified CBT for the perinatal period in low-income minority women.[109,110] CBT, culturally tailored collaborative care strategies, and finally, Motivational Enhancement Therapy for Antidepressants (META) were the most effective provider-level interventions for addressing disparities among racial and ethnic minorities.[111]

Racial and ethnic minority groups are the primary focus of most provider-level interventions. Studies by Arean et al., Bao et al., and Miranda et al. looked at coordinated efforts by providers, case managers, and facility nurses in collaborative care models aimed at improving care for racial and ethnic minorities with depression. Quality improvement characteristics included patient education, provider education, promotion of self-management, and facilitated relay of clinical data to providers. These interventions only attempt to improve outcomes in minority racial and ethnic groups. Using RCTs, these types of interventions showed no significant disparities reduction when compared with whites.[112,113,114] However, one study found Latino patients that received META had better treatment retention and medication adherence rates than white patients receiving usual care.[115]

Intervention strategies at all levels are essential to improving mental health outcomes and reducing disparities. No one intervention can address disparities across all mental health disorders or populations. The literature identifies a number of policy recommendations that could be effective. Effective policies include public health

interventions, including educational campaigns to reduce mental health stigma and awareness, and tax and legislation changes for restrictions on addictive substances. The literature also indentifies a number of effective community interventions to improve access, including community outreach and engagement programs that also employ family cooperation along with intensive case management approaches, such as CTI and ACT. Finally, organizational and provider-level interventions—including enhanced communication strategies and culturally tailored programs—improve treatment and medication adherence. For example, AHRQ recommends "[e]ducating staff on specific health disparities experienced by the LGBT communities."[116] Recommendations include education on how to collect sexual and social history, using gender-neutral language on forms and communication, as well as other organizational and provider-level processes to help provide culturally competent healthcare.

Although there are many effective interventions that improve health and healthcare outcomes in populations with social risk factors, few studies examine disparities reduction as a primary outcome of an intervention. The literature emphasizes that a single intervention may not be effective in all minority populations. Few interventions have demonstrated effectiveness in closing mental health disparities in rural populations and people with disabilities. The majority of interventions attempt to reduce disparities related to access and quality in patients with mental illness. Fewer interventions address disparities among people with disabilities and elderly minority populations. Interventions related to behavioral technologies and mobile-based applications were noted as an area for promising future research in order to evaluate their potential to reduce disparities. AHRQ recommends additional research in the area of accurate diagnosis and access to healthcare coverage.[117] Although many gaps remain, several existing interventions can be employed to begin to close disparities in populations with mental health illness.

NEXT STEPS

Promoting equity in healthcare will require increasing access to care and improving the quality of care for people with social risk factors. Delivering quality care for people with social risk factors involves the use of effective interventions to reduce disparities. Quality care means that a person gets the right care to maximize his or her desired health outcomes. The right care for people with social risk factors may involve the use of effective interventions to reduce disparities. Performance measurement offers a tool to ensure that people with social risk factors are getting the right care.

The Committee laid out a two-step plan to use measurement to reduce disparities. First, disparities must be identified through the use of relevant process, structure, and outcome measures. Next, the use of effective interventions to reduce disparities must be assessed. Research has shown that disparities in health and healthcare must be identified and specifically targeted to ensure that quality improvement works for all populations, especially those with social risk factors. Similarly, disparities must be specifically targeted through the use of interventions proven to reduce them.

Performance measurement offers an opportunity to incentivize, support, and assess the reduction of disparities. However, to do so it is necessary to develop measures that assess the use of effective interventions to reduce disparities. Promoting the use of effective interventions could be a key goal of health equity measures. Although many interventions will need to be tailored to the disparity and the population at risk, the literature shows a range of best practices that could inform a measurement strategy.

Reducing disparities requires addressing them at every level of the healthcare system. Policy interventions are necessary to ensure access to high-quality, effective healthcare for all Americans. Partnerships with communities can help to promote effective public health interventions to reduce disparities in primary prevention. Healthcare providers must commit to reducing disparities, employing effective interventions, such as culturally and linguistically appropriate services and ensuring high-quality care for people with social risk factors.

Finally, healthcare system reform should support the reduction of disparities. First, the shift to value-based purchasing represents a chance to reward providers for reducing disparities or for the use of effective interventions to reduce disparities. Next, the shift to global payment, capitated payment, and bundled payment could help support the infrastructure for interventions that reduce disparities. Finally, social and population health metrics can be used to ensure resources to better address social determinants of health.

The NQF Disparities Standing Committee will use the findings of this report to develop a roadmap for how performance measurement and its associated policy levers can be used to eliminate disparities in health and healthcare. Measurement can help to identify where people at social risk may not receive the care they need or may receive care that is of lower quality.

As a next step, the Committee will develop a framework to identify measures that could reduce disparities and increase equity by promoting access and improving quality. A third interim report will include an assessment of the current landscape of measures that can be used to assess the extent to which stakeholders are employing interventions to reduce disparities, a set of core measures, and an assessment of where measures do not currently exist but need to be developed. The final report will include the Committee's recommendations for measure development and policies for the adoption of measures that could help to eliminate health and healthcare disparities.

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