An Environmental Scan of Health Equity Measures and a Conceptual Framework for Measure Development

FINAL REPORT

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NATIONAL QUALITY FORUM

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CONTENTS

EXECUTIVE SUMMARY	**2**
BACKGROUND	**3**
PROJECT OVERVIEW	**5**
MEASUREMENT FRAMEWORK	**6**
Step 1: Identify Disparities through the Use of Disparities Sensitive Measures	7
Step 2: Identify Interventions to Reduce Disparities	7
Step 3: Select and Employ Health Equity Measures	8
Step 4: Incentivize the Reduction of Disparities	12
ENVIRONMENTAL SCAN METHODOLOGY	**12**
ENVIRONMENTAL SCAN FINDINGS	**14**
Culture of Equity	14
Structure for Equity	15
Equitable Access to Care	16
Equitable High-Quality Care	18
Collaboration and Partnerships	20
NEXT STEPS	**21**
APPENDIX A: Disparities Standing Committee Roster and NQF Staff	**23**

EXECUTIVE SUMMARY

Achieving health equity requires the elimination of health and healthcare disparities. Numerous stakeholders in the public and private sectors have prioritized the reduction of disparities. There are interventions that have demonstrated effectiveness in reducing disparities, but the use of these interventions is not yet systematically assessed. Performance measures are an essential tool to monitor the prevalence of disparities and the extent to which effective interventions are employed to reduce them. Value-based purchasing and other policy initiatives create unique opportunities to leverage performance measures for eliminating disparities. Therefore, guidance is needed to identify priority areas of measurement and policy levers that can be used to promote health equity.

With funding from the Department of Health and Human Services (HHS), 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 as case studies: 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 and second report are available on the NQF Disparities Project webpage. This third interim report presents the most recent iteration of the Committee's equity measurement framework and an environmental scan of performance measures that align with the framework.

The measurement framework is divided into four steps: use disparities sensitive measures to identify disparities, identify effective interventions to reduce those disparities at multiple levels of the U.S. healthcare system, select and use health equity measures, and incentivize the reduction of disparities through policy. At the heart of the Committee's measurement framework are five priority domains of measurement: *Culture of Equity*, *Structure for Equity*, *Equitable Access to Care*, *Equitable High-Quality Care*, and *Collaboration and Partnerships*. The domains work in concert to provide a holistic approach to measure health equity in a healthcare context.

The environmental scan 886 performance measures that aligned with the domains of measurement as well as measures that are considered disparities sensitive. The majority of measures aligned with the *Equitable*

High-Quality Care and *Equitable Access to Care* domains. Far fewer measures aligned with the *Collaboration and Partnerships* domain, which assesses how well the healthcare organizations are collaborating with communities and systems outside of healthcare. The environmental scan pointed to several gaps in measurement and areas for future research.

The Disparities Standing Committee will use the findings of the environmental scan to inform the ongoing development of the measurement framework. In the final phase of the project, the Committee will develop specific guidance for measure development in the short-term and long-term. The Committee will also develop actionable guidance for promoting health equity and eliminating health and healthcare disparities.

BACKGROUND

The World Health Organization (WHO) defines health as a "state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." The WHO notes that "health is a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities." The WHO constitution stresses that attainment of the highest possible standard of health is a fundamental right of every human being, regardless of race or socioeconomic status. The WHO also stresses the importance of healthcare in achieving health, noting the importance of extending the benefits of medical, psychological, and related knowledge as essential to the fullest attainment of health. However, the current reality falls short of this ideal, and many Americans face disparities in both health and healthcare because of factors like their race, socioeconomic status, or where they live.

The term 'health disparity' is often defined differently throughout the literature. It often used interchangeably with similar terms like health inequity, health inequality, or racial/ethnic differences. All of these terms imply varying understandings of what constitutes a disparity. The HHS Office of Minority Health describes a health disparity as "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage" (based on individuals' gender, age, race, and/or ethnic group, etc.). Healthcare disparities are defined as "differences in the quality of care that are not due to access-related factors or clinical needs, preferences, and appropriateness of interventions" (i.e., differences based on discrimination and stereotyping). Although several terms are used to describe health disparities, the common thread is that they are differences based on modifiable, socially determined factors.

Disparities have been found among a wide range of health outcomes and in exposure to environmental hazards and other risks as well as within the delivery of healthcare services. The Centers for Disease Control and Prevention (CDC) report, *Health Disparities and Inequalities Report-United States, 2013,* found racial and ethnic disparities in mortality due to heart disease and stroke, socioeconomic disparities in the prevalence of diabetes, gender disparities in suicide rates based on gender, and many others.[1] The *2015 National Healthcare Quality and Disparities Report* found disparities in healthcare related to race, ethnicity, and socioeconomic status (SES) that continue to persist across all National Quality Strategy (NQS) priorities. Key findings from that report show that people in poor households received worse care than people in high-income households for about 60 percent of quality measures, and that African Americans, Hispanics,

and American Indians and Alaska Natives received worse care than whites for about 40 percent of quality measures, and Asians and Pacific Islanders received worse care for about 30 percent of the measures.[2]

Addressing these disparities is a priority for both public- and private-sector stakeholders and an essential goal for achieving health equity. Healthy People 2020 defined health equity as the "attainment of the highest level of health for all people." To reduce disparities, the *HHS Disparities Action Plan*, *Healthy People 2020*, the *2013 HHS Language Access Plan*, the *Center for Medicare and Medicare Services (CMS) Equity Strategy*, and provisions in the Affordable Care Act (ACA) have all prioritized the reduction of health and healthcare disparities. In addition, the Institute for Healthcare Quality Improvement created a *Healthcare Equity Blue Print,* and the Robert Wood Johnson Foundation has invested significant resources towards research and initiatives to improve health equity. More recently, the 2015 Medicare and CHIP Reauthorization Act created the Merit-based Incentive Payment System (MIPS), which also prioritized equity as one of its primary aims. These commitments have led to development of many interventions to reduce disparities, but these interventions have rarely been implemented systematically.

Performance measurement can assess the extent to which stakeholders employ interventions to reduce health and healthcare disparities. Performance measurement is "the regular collection of data to assess whether the correct processes are being performed and desired results are being achieved."[3] Performance measures can assess the outcomes of care for persons with social risk factors by stratifying relevant structure, process, and outcome measures. In addition, measurement can assess the effectiveness of interventions to reduce disparities and the use of interventions that directly target disparities. Measures can also be used for public reporting and accountability programs to incentivize the reduction of health and healthcare disparities.

Measurement is essential for reducing disparities, but it is one of many tools needed to eliminate health disparities. For example, public policy can also shape the built environment to promote healthy lifestyles, enhance access to resources that promote health, eliminate environmental hazards, and support many other efforts to promote health equity. The causes of disparities represent complex interactions among institutional, historical, and sociopolitical factors that can only be addressed through a variety of mechanisms. Eliminating disparities in health and healthcare will require reengineering the healthcare and wider social systems that cause disparities as well as interventions that target threats to individuals who are at risk.

PROJECT OVERVIEW

The National Quality Forum (NQF), with funding from the Department of Health and Human Services (HHS), 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 examined disparities in five selected conditions that are among the leading causes of morbidity and mortality. These conditions include cardiovascular disease, cancer, diabetes, chronic kidney disease, infant mortality, low birthweight, and mental illness. Although the Committee's work focuses on these conditions, its recommendations will likely apply to disparities within conditions beyond the scope of this project. The selected conditions serve to illustrate how healthcare stakeholders can apply the Committee's recommendations.

This is the third and last 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.

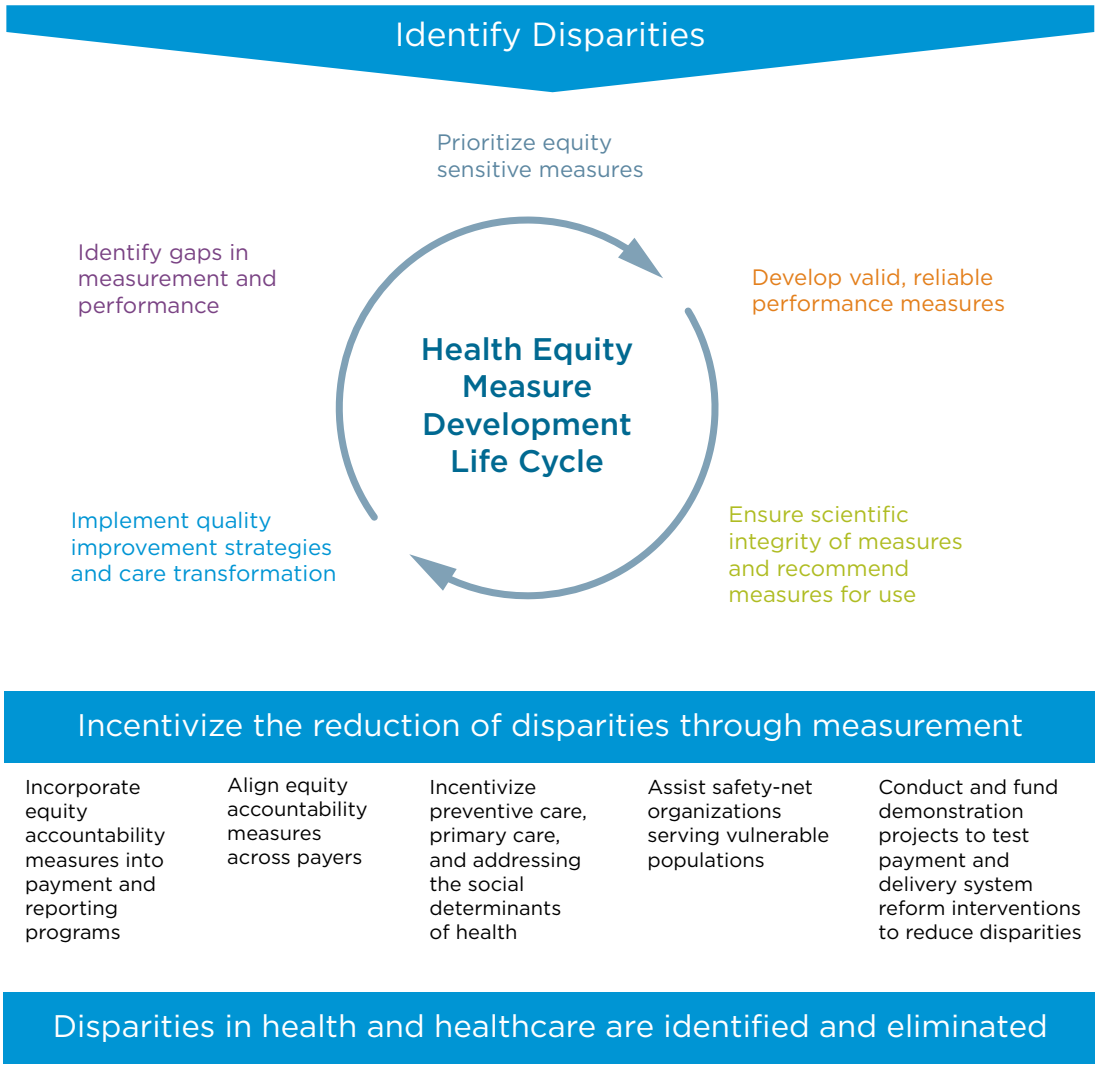
The first interim report, Disparities in Health and Healthcare Outcomes in Selected Conditions, documents the current evidence of disparities in health and healthcare among the selected conditions. The second interim report, Effective Interventions in Reducing Disparities in Healthcare and Health Outcomes in Selected Conditions, reviews interventions that have succeeded in reducing disparities within the selected conditions as well as multitarget interventions. Each report examines disparities based on 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 Disparities Standing Committee met March 27-28 to identify and prioritize areas of measurement, refine the conceptual framework for measure development, and provide input on an environmental scan of performance measures that can be used to assess the extent to which stakeholders are employing effective interventions to reduce disparities. This interim report documents the Committee's recommendations, includes the most recent iteration of the Committee's conceptual framework (including priority areas of measurement), and outlines a roadmap that describes how measurement can be used to reduce disparities. It also includes an environmental scan of performance measures that align with the Committee's priority domains of measurement.

MEASUREMENT FRAMEWORK

The Disparities Standing Committee is charged with developing a roadmap on how performance measurement can be used reduce health and healthcare disparities. As a starting point for the framework, the Committee highlighted that reducing disparities will require increasing access to care and improving the quality of care for people with social risk factors. A measurement framework is a conceptual model for organizing ideas about what is important to measure for a topic area and how measurement should take place (e.g., whose performance should be measured, care settings where measurement is needed, when measurement should occur, which individuals should be included in measurement, etc.). Frameworks provide a structure for organizing currently available measures, areas where gaps in measurement exist, and prioritization for future measure development. Measurement framework domains and subdomains are essential categories (domains) and subcategories (subdomains) needed to ensure comprehensive performance measurement for a topic area. Figure 1 illustrates the most recent iteration of the measurement framework.

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



Step 1: Identify Disparities through the Use of Disparities Sensitive Measures

The first step of the measurement framework for the reduction of disparities is the identification of disparities. It requires the routine stratification of disparities sensitive measures—measures that assess outcomes where disparities are prevalent and there are sizable gaps in quality. The first step of the framework broadly considers the numerous factors that influence health. There are disparities that are better suited to interventions that are on the periphery or not within the direct purview of the healthcare system (e.g., hospitals, primary care, palliative care, etc.).

Step 2: Identify Interventions to Reduce Disparities

The second step of the measurement framework involves the identification of interventions that reduce disparities in health and healthcare. The promotion of health equity often requires multilevel systemic interventions. To illustrate the different levels that contribute to the reduction of disparities, the Committee modified the Social-Ecological Model (SEM) to better apply to healthcare settings. The SEM illustrates the interactions among various personal and environmental factors that influence health. The Committee extended the SEM to reflect the findings of Chin et al. who demonstrated the need for interventions employed by the government, nongovernment entities, communities.[4] By leveraging multiple actors throughout the system, these interventions can lead to improved outcomes for people with social risk factors.

The Committee built on the work of Cooper et al. who outlined drivers and mediators of disparities. Cooper et al. recognized the impact of individual, financial, structural, social-political, cultural, community, and healthcare system factors on disparities. The Cooper et al. framework focuses primarily on disparities based on race and ethnicity. Therefore, the Committee expanded the scope by identifying additional drivers and including interventions that the healthcare system could use to amplify the effects of the mediators of disparities. The Committee directed a review of the literature to identify effective interventions to reduce disparities based on the modified Cooper et al. framework. The interventions were categorized by the accountable entity as illustrated in the modified SEM in Figure 2.

FIGURE 2. MODIFIED SOCIAL-ECOLOGICAL MODEL

Federally qualified health centers (FQHCs) are a prime example of a care model that employs multitarget interventions that have been shown to reduce disparities in communities nationally. Despite their local flavor, FQHCs have common core features that enable them to succeed. First, they are located in areas of high urban or rural need. Second, they are required to conduct community health assessments and use this data to organize services. Third, they are community governed, with 51 percent of the board being patients. Few other healthcare organizations have included diverse patients on the governing boards. Fourth, FQHCs include discounted fees for visits, medications, and tests through 340b programs. Fifth, FQHCs include enabling services including language translation and case management, and outreach workers often provide culturally appropriate services for specific groups, such people who are homeless or refugees. Sixth, they

are strongly mission driven. Staff and clinicians are often passionate about social justice and ensuring that everyone receives high-quality healthcare. Seventh, clinicians and staff often more closely mirror the race, ethnicity, and culture of the patients they serve than most practices do. Last, FQHCs often form strong partnerships with other community agencies in order to better address community needs. FQHCs illustrate the power of an integrated multidimensional approach to promote health equity.

Step 3: Select and Employ Health Equity Measures

The third step of the measurement framework involves the selection of health equity measures. Health equity measures include performance measures that assess the use of interventions that are known to reduce disparities. The scope of the framework becomes narrower and focuses primarily on disparities that the healthcare system can influence. Promoting equity will mean improving both access to and quality of care. The Committee noted a need for measures that focus on the use of interventions that reduce disparities in quality and access. To guide the selection and development of health equity measures, the Committee identified domains of equity measurement.

A domain of measurement is a categorization/grouping of high-level ideas and measure concepts that further describes the measurement framework, and a subdomain is a smaller categorization/grouping within a domain. The domains of measurement are a prioritized set of concepts that need to be assessed to understand whether the system is achieving health equity. The framework seeks to make equity measurement understandable and actionable by breaking it down into smaller categories. This breakdown allows stakeholders to begin to assess progress based on distinct concepts that can advance equity and reduce disparities. The domains are the primary components needed to create an equitable healthcare system.

To achieve equity, the U.S. healthcare system must:

- Adopt and implement a **culture of equity**. A culture of equity recognizes and prioritizes the elimination of disparities through cultural competency, the creation of environments where all individuals, particularly those from diverse and/or stigmatized backgrounds, feel safe in addressing difficult topics, e.g., racism, and advocating for public and private policies that advance equity.
- Create **structures** that support a culture of equity. These structures include policies that institutionalize values that promote health equity, commit adequate resources for the reduction of disparities, and enact systematic collection of data to monitor and provide transparency and accountability about the outcomes of individuals with social risk factors. These structures also include continuous learning systems that routinely assess the needs of individuals with social risk factors, develop culturally tailored interventions to reduce disparities, and evaluate their impact.
- Ensure **equitable access to healthcare.** Equitable access means that individuals with social risk factors are able to easily get care. It also means care is affordable, convenient, and able to meet the needs of individuals with social risk factors.
- Ensure **high-quality care** within systems that continuously reduces disparities. Performance measures should be routinely stratified to identify disparities in care. In addition, performance measures should be used to create accountability for reducing, and ultimately, eliminating disparities through effective interventions.
- **Collaborate and partner with** other organizations or agencies that influence the health of individuals (e.g., neighborhoods, transportation, housing, education, etc.). Collaboration is necessary to address social

determinants of health that are not amenable to what doctors, hospitals, and other healthcare providers are trained and licensed to do.

The Committee developed a diagram to show how these concepts work together to promote health equity (Figure 3a). The Committee developed subdomains to describe the types of concepts and actions to assess within each domain (Figure 3b). These subdomains are intended to provide additional granularity and demonstrate more specific ways to advance progress on the overarching domain. The domains of measurement represent the goals that the healthcare system must attain to achieve health equity. Some of these goals are more attainable in the short-term and others in the long-term.

FIGURE 3a. RELATIONSHIP OF DOMAINS OF EQUITY MEASUREMENT

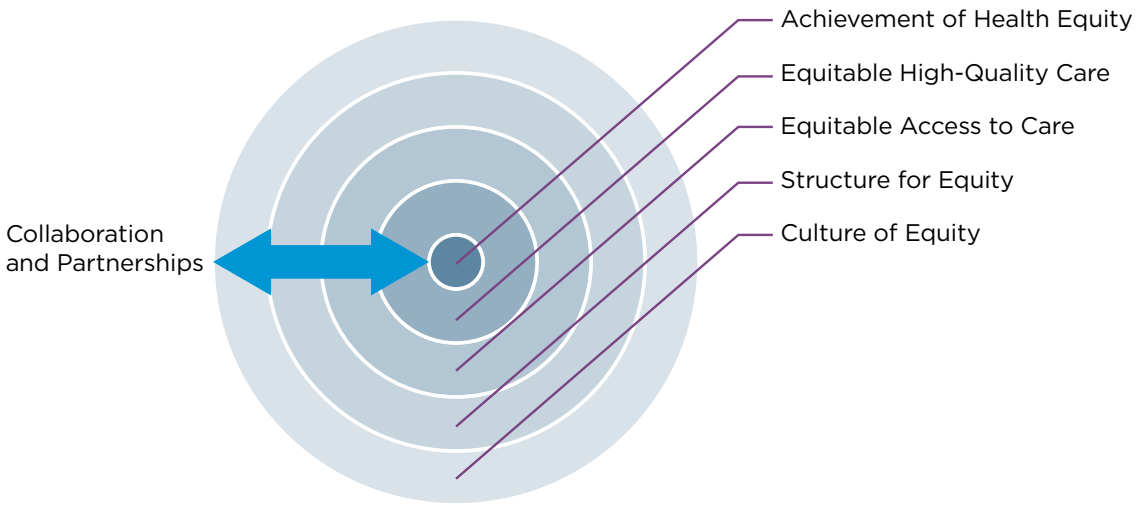


FIGURE 3b. SUBDOMAINS DOMAINS OF EQUITY MEASUREMENT

Domain	Subdomains	Example Concepts
Culture of Equity	Equity is high priority	• Governance (e.g., policies, mission, vision, etc.) • Leadership
	Safe and accessible environments for individuals from diverse backgrounds	• Physical safety (especially for disabled, sexual and gender minorities, individuals experiencing trauma and/or domestic violence, etc.) • Emotional safety • Cultural safety
	Cultural competency	• Workforce diversity among staff and leadership • Training/continuing education of all providers and staff • Awareness of cumulative structural disadvantage, bias, and stigma – Structural racism and other disadvantages – Intersectionality of multiple structural disadvantages (e.g., limited English proficiency and disability) – Adverse childhood experiences/trauma-informed care – Cumulative allostatic load
	Advocacy for public and private policies that advance equity	• Supporting industry standards of care that include and highlight equity • Supporting and implementing payment systems that incentivize identification and reduction of disparities and promotion of equity • Supporting existing public insurance programs that provide health insurance coverage to the uninsured (e.g., Medicaid, Children's Health Insurance Program)

Domain	Subdomains	Example Concepts
Structure for Equity	Capacity and resources to promote equity	• Workforce has the knowledge, skills, and resources to promote equity • Dedicated budget allocations to promote equity • IT and data analytics capabilities
	Collection of data to monitor the outcomes of individuals with social risk factors	• Systematic identification of patients' social risk factors • Systematic reporting and improvement in performance data stratified by social risk factors • Learning systems; doing quality improvement with an equity lens
	Population health management	• Integrated information systems and strategies to track key health outcomes and health disparities in communities.
	Systematic community needs assessments as indicated	• Identifying collective capabilities of communities to enhance assets that promote health and health equity
	Policies and procedures that promote equity	• Health literacy as an organizational/system commitment • Comprehensive language assistance and communications services for individuals with limited English proficiency and individuals with disabilities
	Transparency, public reporting, and accountability for efforts to advance equity	• Public reporting of quality performance at increasingly granular levels (e.g., health plan that reports on quality performance of its providers)
Equitable Access to Care	Availability	• Geographic service area (choice of more than one health plan, more than one hospital) • Network adequacy, inclusion of essential community providers • Timely (time to next appointment, timely appointments with specialists, etc.) • "After-hours" access
	Accessibility	• Physical accessibility for individuals with disabilities • Geographic (no transportation barriers or transportation support)
	Affordability	• Fewer delays and less care forgone due to cost
	Convenience	• Distance from residence • Flexible appointment schedules

Domain	Subdomains	Example Concepts
Equitable High-Quality Care	Person- and family-centeredness	Measure and improve patient/individual, family, and caregiver experiences of care, including access and satisfaction Communication and comprehension, especially for individuals with low health literacy, limited English proficiency, or with physical and developmental disabilities or cognitive impairments Shared decision making Support for self-care Patient advisors, advisory councils; patients on governing boards Include patients on quality improvement, patient safety, ethics teams
	Continuous improvements across clinical structure, process, and outcome performance measures stratified by social risk factors	Including but not limited to measures that assess: • Clinical process of care measures (e.g., mammography) • Clinical outcome measures (e.g., blood pressure control in hypertensive patients)
	Use of effective interventions to reduce disparities	Including but not limited to: • Team-based care • Case managers • Nurse-specific measures • Community health workers • Culturally tailored interventions • Telehealth
Collaboration and Partnerships	Collaboration across health and nonhealth sectors	• Addressing social determinants of health • Supporting social services needs between clinical visits
	Community and health system linkages	• Linking medical care with community services to connect patients to resources more effectively • Community engagement and long-term partnerships and investments • Improved integration of medical, behavioral, oral, and other health services
	Build and sustain social capital and social inclusion	• Establishing and reinforcing trust and strong connections for more equitable opportunities in health access and building health communities

Step 4: Incentivize the Reduction of Disparities

The final step of the measurement framework comprises strategies for using measurement to incentivize the reduction of disparities. Performance measurement is increasingly being used to incentivize behavior changes in the healthcare system. The measurement framework underscores the need to leverage the shift to value-based purchasing to incentivize the reduction of disparities. The Committee recommended that stakeholders across the healthcare system:

- 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.

The final measurement framework, to be included in the final report, will further define these recommendations. The illustration as well as the components of the framework will continue to be refined until the project concludes with its final report. The Committee directed an environmental scan of measures to assess the current landscape of measures that can be used to achieve health equity. The following sections detail the methodology and findings of the environmental scan.

ENVIRONMENTAL SCAN METHODOLOGY

The purpose of the environmental scan was to identify both performance measures and measure concepts that can be used to assess the extent to which stakeholders are employing effective interventions to reduce disparities. These include performance measures that are "disparities sensitive" (i.e., linked to interventions that are known to reduce disparities in populations that have social risk factors), "health equity measures," and other performance measures aligned with the priority domains of measurement outlined in the Committee's measurement framework. For the purposes of this project, NQF defined a performance measure as a fully developed metric that includes detailed specifications and may have undergone scientific testing. NQF defined a measure concept as an idea for a measure that includes a description of the measure, a planned target, and population. The scan included measures that are currently stratified by social risk factors as well as measures that should be prioritized for stratification if they are not currently specified in that way.

The environmental scan consisted of a search for performance measures of several measure repositories including but not limited to NQF's portfolio of performance measures (endorsed and not endorsed), the AHRQ National Quality Measures Clearinghouse, the National Guidelines Clearinghouse, and the Health Indicators Warehouse. NQF conducted a targeted search within these databases using various combinations of keywords that were derived terms related to the selected conditions, interventions known to reduce disparities, and social risk factors, as well as terms associated with the Committee's priority domains of measurement.

NQF selected performance measures based on several criteria. In 2012, NQF's Disparities Standing Committee created a protocol for identifying disparities sensitive measures based

on a commissioned paper by the Disparities Solution Center at Massachusetts General Hospital. The protocol involves examining how prevalent a condition is among a population with social risk factors, the size of the gap in quality of care, the impact that the measurement area has on the population, and the extent to which the care is sensitive to inadequate communication and sensitive to patient and provider preferences. Lastly, performance measures are classified as disparities sensitive if the underlying outcome is highly dependent on social determinants of health.

NQF solicited feedback from 19 key informants with in-depth knowledge of each selected condition, disparities, and measurement. These experts were selected from NQF's Cardiovascular, Cancer, Renal, Perinatal, Endocrine, and Behavioral Health Standing Committees. They reviewed the measures retrieved from the environmental scan for completeness and assessed the extent to which they can be used to reduce disparities based on the criteria for identifying disparities sensitive measures. The tables in this report contain selected examples of measures highlighted by the informants. The experts also provided feedback on gaps in measurement as well as data needed to develop new performance measures for disparities measurement.

NQF categorized the performance measures found in the environmental scan based on the domains to which they most closely align. The majority of measures found aligned with the *Equitable Access to Health Care Quality* domain. Many of the subdomains represent concepts that are not yet well measured. The full compendium of measures is posted to the NQF Disparities Project webpage. The following sections detail the findings of the environmental scan and gaps in measurement in the context of the Committee's recommendations.

TABLE 1. DISPARITIES SENSITIVE MEASURE CRITERIA

Impact	Care with a High Degree of Discretion	Communication Sensitivity	Social Determinant-Dependent
Can the measure be mapped to one of the National Quality Strategy priority areas?	Many disparities arise because of a degree of discretion on the part of the clinician—i.e., if there is not an explicit protocol, the easier it is to offer a procedure differently based on the patient's sociodemographic characteristics.	Disparities are more likely to occur when there are challenges to communication across language and cultures. Is the measure tied to a process or outcome of care that is sensitive to particular communication barriers?	Disparities often are seen in areas that relate to behavioral aspects of health, including patient self-management (e.g., diet, exercise, and medication adherence for diabetes or congestive heart failure management). Does the measure capture an outcome, structure, or process of care that is within the "control sphere" of the healthcare system or public health?

ENVIRONMENTAL SCAN FINDINGS

Culture of Equity

The environmental scan identified many measures that assess the concepts within subdomains of the *Culture of Equity* domain, including several NQF-endorsed measures. The majority of measures assess concepts related to cultural competency. The Committee adopted a modified definition of cultural competency for this work: the ability of clinicians/organizations to appropriately meet the needs of individuals of diverse backgrounds. Examples include, but are not limited to, cumulative structural disadvantage, bias, and stigma. The Committee emphasized the importance of measuring bias at both the institutional and provider levels. Improving cultural competency is a key intervention that addresses disparities across all selected conditions.

There are several NQF-endorsed experience-of-care measures that assess the environment and the manner in which care is received at the provider level. For example, NQF #0008 *Experience of Care and Health Outcomes (ECHO) Survey* (behavioral health, managed care versions) and NQF #0517 *CAHPS® Home Health Care Survey* (experience with care) both assess a patient's experiences with care. These measures can be stratified to ensure that individuals with social risk factors are receiving care in environments that are physically, emotionally, and culturally safe. In addition, the *Communication Climate Assessment Toolkit (C-CAT),* designed for providers, staff, and patients, assesses how well providers help patients cope with stigma.

The Committee also noted the importance of ensuring that equity is a priority at all levels of the healthcare system. For instance, several Committee members agreed that organizations should adopt the national *Culturally and Linguistically Appropriate Services (CLAS) Standards* developed and promulgated by HHS. There are NQF-endorsed measures that can be used to assess the level to which organizations are providing care that complies with CLAS standards. These measures are derived from the C-CAT and assess the level of patient-centered communication, communication gaps, workforce training, commitment of leadership, health literacy, among other subdomains relevant to ensure a *culture of equity*. There were no measures identified that assess the level to which stakeholders are advocating for public and private policies to advance equity, which represents a potential gap area.

Overall, the scan retrieved 57 *Culture of Equity* measures, 27 specifically for mental health, 12 for chronic kidney disease, two for cardiovascular disease, one for cancer, seven for infant mortality and low birthweight, and eight that are cross-cutting across conditions.

TABLE 2. EXAMPLES OF CULTURE OF EQUITY MEASURES

Subdomain	Measure Title	Measure Description	Measure Source
Cultural competency	Language services measure derived from language services domain of the C-CAT	0-100 measure of language services related to patient-centered communication, derived from items on the staff and patient surveys of the Communication Climate Assessment Toolkit (C-CAT)	NQF Quality Positioning System
Cultural competency	Clinician/Group's Cultural Competence Based on the CAHPS® Cultural Competence Item Set	These measures are based on the CAHPS Cultural Competence Item Set, a set of supplemental items for the CAHPS Clinician/Group Survey.	NQF Quality Positioning System

Structure for Equity

The environmental scan identified several measures that can assess the concepts within subdomains of the *Structure for Equity* domain. The majority of measures align with the need to assess population health and monitor the outcomes of individuals with social risk factors. The Committee noted the primary importance of collecting data on the health and healthcare of individuals with social risk factors, as the assessment of improvement cannot happen without access to data. There are many known gaps in these kinds of data, specifically in commercial and government health plans. The *NAM Report Accounting for Social Risk Factors in Medicare Payment* found significant gaps in data among public and private health insurers on wealth, whether beneficiaries lived alone or had social support, sexual orientation, gender identity, and features of the places they live.[5]

Few measures assess data collection efforts to improve health equity. The environmental scan retrieved one measure, #1881 (not endorsed), derived from the C-CAT that captures whether an organization uses standardized qualitative and quantitative collection methods and uniform coding systems to gather valid and reliable information for understanding the demographics and communication needs of the population served. The measure represents an example for measure developers who seek to fill gaps in measurement of data collection. The ONC Health IT Certification Program requires capture of data regarding race and ethnicity, sexual orientation, gender identity, and social, psychological, and behavioral data that could be used to support measurement in the future.[6]

The Committee also stressed the need for better population health management for individuals with social risk factors. The environmental scan identified many measures that can be used for surveillance to improve strategies for population health management and assess community needs. Examples include measures that assess concepts such as smoking prevalence, cancer screening, infant mortality, and insurance coverage. NQF #1919 *Cultural Competency Implementation Measure* addresses the ideas of transparency, public reporting, and accountability for efforts to advance equity or the capacity and resources to promote equity. While not a performance measure, the HHS Office of Minority Health CLAS Standard 15 is "Communicate the organization's progress in implementing and sustaining CLAS to all stakeholders, constituents and the general public."[7]

Overall, the scan received 64 *Structure of Equity* measures, one for mental health, 13 for chronic kidney disease, 16 for cardiovascular disease, five for cancer, 28 for infant mortality and low birthweight, and one cross-cutting across condition areas. The majority of the measures found relate to clinical data collection in an effort to reduce disparities, and the most important concepts according to expert opinion include tobacco, alcohol, opioid, depression, and obesity screening, treatment, and counseling.

TABLE 3. EXAMPLES OF STRUCTURE FOR EQUITY MEASURES

Subdomain	Measure Title	Measure Description	Measure Source
Collection of data to monitor the outcomes of individuals with social risk factors	L1A: Screening for Preferred Spoken Language for Health Care	This measure is used to assess the percent of patient visits and admissions where preferred spoken language for healthcare is screened and recorded. Access to and availability of patient language preference is critical for providers in planning care. This measure provides information on the extent to which patients are asked about the language they prefer to receive care in and the extent to which this information is recorded.	NQF Quality Positioning System
Population health measurement	Adult Current Smoking Prevalence	Percentage of adult (age 18 and older) U.S. population that currently smokes. The measure is stratified by geography.	NQF Quality Positioning System

Equitable Access to Care

The environmental scan found many measures that assess access to care and can be stratified to assess equitable access for individuals with social risk factors. However, there were notable differences in the availability of access measures by condition as well as by subdomain. The environmental scan did not retrieve any measures of affordability, and very few that specifically focused on assessing accessibility or convenience. However, HRSA's Health Professional Shortage Area and Medically Underserved Area designations and CMS's definition of network adequacy and essential community providers could serve as starting points for future performance measures. The Healthy People 2020 goals include important targets related to access to care. Measures should be identified or created to assess U.S. progress toward meeting these goals. Additionally, the Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys include items of convenience, timeliness, and accessibility, which could be stratified to assess disparities.

Equitable access starts with unconstrained access to primary care. Robust systems of primary care are associated with improved population health and reduced disparities.[8] Primary care plays a unique role in promoting equity through its comprehensive and biopsychosocial focus, longitudinal personal relationships, and its capacity to align intensity of management with patient needs. Primary care capacity to care for people (rather than diseases) across medical, behavioral, and psychosocial dimensions while aligning resources and services to these needs is vital to improving health equity. Affordability of healthcare as well as access to care in the U.S. is closely tied to insurance status, so general measures of insurance status may be able to assess this gap. However, rapid emergence of high deductible health plans risks creating new cost-related disparities related to affordability even among those persons with commercial insurance.

Convenience may be less condition-specific, as it can also be influenced by insurance status, the general availability of primary care providers for preventive care, and the geographic availability and insurance coverage for specialists, particularly for rural and low-income populations. General measures of access to primary care or specialist providers, including measures of geographic

access and timeliness of care, or measures around innovative solutions such as telehealth, could be used to assess equitable access at the organization level. Language remains an important barrier for many groups who lack English language proficiency, e.g., Latino and Asian Americans and the ASL/deaf population.

While several measures assess whether providers or organizations are culturally competent, fewer measures assess the level to which patients have access to culturally competent care (i.e., accessibility). There were several measurement gaps identified through the key informant reviews. Specifically, key informants cited gaps in measurement for monitoring effective interventions in prenatal and postpartum care (e.g., management and referral of women with substance abuse disorders, access to maternal-newborn-infant care in rural areas, and insurance coverage prior to and during pregnancy).

The environmental scan retrieved only two access to care measures related to cancer, but over 25 access measures that could influence infant mortality and low birthweight. There were six measures of access for mental health, eight for diabetes and chronic kidney disease, 12 for cardiovascular disease, and zero cross-cutting across condition areas. The bulk of the access measures focus on availability of providers and/or resources (which can also be influenced accessibility and convenience).

Continuity of care with the same primary care provider (PCP) is an important under measured component of access to care. This measure emphasizes the importance of a personal, longitudinal relationship between a PCP and patient. This measure is particularly important to marginalized, traumatized groups who are at high risk for healthcare disparities who particularly benefit from continuous, caring, trusting relationships. People with low health literacy, limited eHealth literacy, limited access to social networks for reliable information or who are challenged with navigating a fragmented healthcare system often rely on a continuity with a trusted PCP. Unfortunately, many members of disparity groups are at higher risk for discontinuity in PCP (or mental health) relationships due to receiving care in facilities where turnover is high, e.g. community health centers, residency clinics, student operated clinics, etc. Ninety years ago, Francis Peabody wrote that that the secret of care for the patient is in caring for the patient.[9] Nowhere is this more important than in caring for patients who have been marginalized and stigmatized. While such caring can occur in any setting including the hospital, often longitudinal relationships are the most powerful.

TABLE 4. EXAMPLES OF ACCESS TO CARE MEASURES

Subdomain	Measure Title	Measure Description	Measure Source
Convenience	Patient-Centered Medical Home Patients' Experiences: Percentage of Parents or Guardians Who Reported How Often They Were Able to Get the Care Their Child Needed from Their Child's Provider's Office During Evenings, Weekends, or Holidays	Patient-centered medical home patients' experiences: percentage of parents or guardians who reported how often they were able to get the care their child needed from their child's provider's office during evenings, weekends, or holidays	Health Information Warehouse

Subdomain	Measure Title	Measure Description	Measure Source
Convenience	Behavioral Healthcare Patients' Experiences: Percentage of Adult Patients Who Reported How Often They Were Seen Within 15 Minutes of Their Appointment	This composite measure indicates the percentage of adult patients who indicated how much of a problem ("Not a problem," "A small problem," or "A big problem") they had getting treatment and information from their health plan or managed behavior health organization (MBHO). The "Getting Treatment and Information from the Plan or MBHO" composite measure is based on six questions for patients enrolled in managed care organizations and two questions for patients enrolled in MBHOs on the Experience of Care and Health Outcomes (ECHO) Survey.	AHRQ National Quality Measures Clearinghouse
Accessibility	HCBS CAHPS Measure (5 of 19): Transportation to Medical Appointments	Transportation to medical appointments: Top-box score composed of three survey items	AHRQ National Quality Measures Clearinghouse

Equitable High-Quality Care

Measures that address high quality of care made up the overwhelming majority of measures found during the environmental scan and can be stratified to assess *Equitable High-Quality Care*. These measures are predominantly clinical process and outcome measures and relate most closely to the subdomain of continuous improvements across clinical structure, process, and outcome measures to be stratified by social risk factors. These clinical measures address quality of care gaps in an area where there is evidence of a disparity. While these measures themselves are not intended to address disparities by social risk factor, these measures are considered disparities sensitive and can be stratified to assess the performance for individuals with social risk factors.

Far fewer measures were found that specifically assess the extent to which evidence-based interventions are employed to reduce disparities. The majority of measures found in this area assess the aspects of shared decision making or patient education. Other potential measures could be developed to address self-care, effective patient-provider communication, person-centered care, family engagement, etc. One example of a measure that addresses this subdomain is NQF #0520 *Drug Education on All Medications Provided to Patient/Caregiver During Short Term Episodes of Care*. It is a process measure that uses clinical data to determine the "percentage of home health episodes of care in which diabetic foot care and patient/caregiver education were included in the physician-ordered plan of care and implemented since the previous OASIS assessment."

Measures and measure concepts that address *Equitable High-Quality Care* face fewer data collection challenges than the other domains discussed in this report. The clinical nature of quality of care measures calls for more traditional data sources including claims data, making data collection more feasible. The current lack of social risk factor data collected, including race, address, social relationship, etc., poses significant data challenges to the ability of these measures to account for disparities. Further research and measure development are needed for measures that assess whether stakeholders are employing interventions that are known to reduce disparities.

The environmental scan for measures found 703 total measures of high-quality care, 158 measures

of high-quality care related to cancer, 197 related to cardiovascular disease, 142 related to diabetes/CKD, 115 related to infant mortality and low birthweight, 82 related to mental illness, and nine cross-cutting across condition areas. The majority of these measures related to the first subdomain, continuous improvements across clinical structure, process, and outcome performance measures stratified by social risk factors.

TABLE 5. EXAMPLES OF EQUITABLE HIGH-QUALITY CARE MEASURES

Subdomain	Measure Title	Measure Description	Measure Source
Evidence-Based Interventions to Reduce Disparities	Gains in Patient Activation (PAM) Scores at 12 Months	The Patient Activation Measure® (PAM®) is a 10 or 13 item questionnaire that assesses an individuals' knowledge, skill, and confidence for managing their health and healthcare. The outcome of interest is the patients' ability to self-manage. High-quality care should result in gains in ability to self-manage for most chronic disease patients. The outcome measured is a change in activation over time.	NQF Quality Positioning System
Evidence-Based Interventions to Reduce Disparities	Drug Education on All Medications Provided to Patient/Caregiver During Short Term Episodes of Care	Percentage of short-term home health episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems	CMS Measure Inventory
Evidence-Based Interventions to Reduce Disparities	Depression care: percentage of patients 18 years of age or older with major depression or dysthymia who demonstrated a response to treatment 12 months (+/- 30 days) after an index visit.	This measure is used to assess the percentage of patients 18 years of age or older with major depression or dysthymia who demonstrated a response to treatment 12 months (+/- 30 days) after an index visit. This measure applies to both patients with newly diagnosed and existing depression.	AHRQ National Quality measures Clearinghouse

Collaboration and Partnerships

Often these collaborations and partnerships are designed to address social determinants of health through patient-level interventions or through community-based interventions. Examples of patient-level interventions include screening patients for social risk factors[10] and then then linking patients to available resources.[11,12] Examples of community-level partnerships include those designed to improve access to availability of healthy whole foods, violence reduction partnerships, improved transportation systems and bus lines, and physical activity promotion.

The environmental scan found very few measures that assess the extent to which healthcare organizations are collaborating and partnering with public health programs and other sectors outside of healthcare (e.g., transportation, housing, education, etc.). The subdomain*, improved integration of medical, behavioral, oral, and other health services*, focuses on the integration between care settings as a way to reduce disparities. An example of a measure that seeks to improve the integration of medical and behavioral health services is the *Assessment of Integrated Care: Total Score for the "Integrated Services and Patient and Family-Centeredness"* characteristics of the *Site Self Assessments (SSA) Evaluation Tool,* which is maintained in the AHRQ National Quality Measures Clearinghouse. The measure uses survey data collected from health professionals to assess the level of integration between primary care and mental/behavioral healthcare in a variety of care settings.

The subdomain, *collaboration across health and nonhealth sectors,* assesses at how the healthcare system interacts with other sectors to improve healthy equity. One example of a potential area of collaboration is between healthcare and transportation systems. Lack of adequate transportation is a significant barrier to accessing care, especially for individuals in rural communities. The NQF-endorsed CAHPS survey includes items that assess the availability of transportation to medical appointments. Future measurement efforts should assess how the healthcare system engages the transportation system to increase the availability of transportation. The 2017 NCQA Patient-Centered Medical Home (PCMH) standards address a variety of criteria for integration between PCMH and the community. These standards can inform the development of measures that address collaboration and partnerships.

The subdomain, *community and health system linkages,* and its related measure concept, *community engagement and long-term partnerships and investment*, include measures that assess the interaction between the healthcare system and communities. Few measures were found that assess community-level linkages and engagement. Assessing the level of interactions among these entities can be difficult given the variety of community-level settings. There is also little evidence to suggest which community entities are most important for the healthcare system to engage. Key informants noted gaps in measures that addressed the social determinants of health, including education, employment, income, transportation, and housing, etc. Experts also found a gap in measures of integration between mental and physical health services. This gap may be particularly important in assessing the quality of perinatal care. Therefore, this domain represents an area with the largest gaps in measurement. This gap in measurement may also be preceded by a gap in conclusive evidence regarding the use of collaborations to address health and healthcare disparities. As gaps in the integration of physical and mental health are addressed, SAMSHA's Four Quadrant Model can serve as a framework to promote alignment in the development of integrated measures.

The environmental scan found only 10 measures of collaborations and partnerships. None of these measures addresses cancer; only one measure relates to diabetes/CKD; and three measures apply to each of cardiovascular disease, infant mortality and low birthweight, and mental illness.

TABLE 6. EXAMPLES OF COLLABORATION AND PARTNERSHIP MEASURES

Subdomain	Measure Title	Measure Description	Measure Source
Improved Integration of Medical, Behavioral, Oral, and Other Health Services	Assessment of Integrated Care: Total Score for the "Integrated Services and Patient and Family-Centeredness" Characteristics on the Site Self Assessment (SSA) Evaluation Tool	This measure is used to assess the total score for the "Integrated Services and Patient and Family-Centeredness" characteristics on the Site Self Assessment (SSA) Evaluation Tool.	AHRQ National Quality Measures Clearinghouse

NEXT STEPS

Measurement is an essential tool for reducing disparities and achieving health equity. Performance measurement offers an opportunity to assess, support, and incentivize the reduction of disparities. The Committee laid out a conceptual model for the roadmap that focuses on identifying, developing, and implementing measures that can reduce disparities. To support measurement efforts, the Committee identified five domains of equity measurement: *Culture of Equity, Structure for Equity, Equitable Access to Care, Equitable High-Quality Care, and Partnerships and Collaboration*. These domains align with the Committee's vision for an equitable health system, and measures from across the domains should be used together to drive progress.

The environmental scan identified many gaps in measurement, but also many measures that can be stratified to monitor and reduce disparities. The roadmap to eliminating disparities focuses not just on identifying relevant measures but also incentivizing the reduction of disparities through measure use. Disparities in health and healthcare have persisted despite decades of work to reduce them. Measurement offers unique policy levers that can reduce disparities. The current shift to value-based purchasing and alternative payment models can incentivize the reduction of disparities and support providers and clinicians working with vulnerable populations.

Reducing disparities requires addressing them at every level of the healthcare system and engaging stakeholders in other sectors. The Committee's final report will include a series of policy recommendations on how stakeholders could work to support health equity. Identifying and developing measures that can illustrate disparities as well as provide information on use of interventions to reduce them is a crucial first step in promoting equity. However, stakeholders across the system must be motivated to act on the results of these measures and drive towards improved performance while ensuring that providers and clinicians have the resources necessary to care for the most vulnerable.

ENDNOTES

1 Agency for Healthcare Research and Quality (AHRQ). *2015 National Healthcare Quality and Disparities Report and 5th Anniversary Update on the National Quality Strategy.* Rockville, MD: AHRQ; 2016. Available at http://www.ahrq.gov/research/findings/nhqrdr/nhqdr15/index.html. Last accessed October 2016.

2 Agency for Healthcare Research and Quality (AHRQ). *2015 National Healthcare Quality and Disparities Report and 5th Anniversary Update on the National Quality Strategy.* Rockville, MD: AHRQ; 2016. Available at http://www.ahrq.gov/research/findings/nhqrdr/nhqdr15/index.html. Last accessed October 2016.

3 HHS. *Performance Management and Measurement.* Washington, DC: Health Resources and Services Administration; 2011. Available at https://www.hrsa.gov/quality/toolbox/methodology/performancemanagement/. Last accessed March 2017.

4 Chin MH, Walters AE, Cook SC, Huang ES. Interventions to reduce racial and ethnic disparities in health care. *Med Care Res Rev*. 2007;64(5 Suppl):7S-28S.

5 National Academies of Sciences, Engineering, and Medicine. *Accounting for Social Risk Factors in Medicare Payment: Identifying Social Risk Factors*. Washington, DC: The National Academies Press; 2016.

6 HHS, Office of the National Coordinator for Health Information Technology, 2015 Edition Health Information Technology (Health IT) Certification Criteria, 2015 Edition Base Electronic Health Record (EHR) Definition, and ONC Health IT Certification Program Modifications; Final Rule. 80 *Fed. Reg.* 62602-62759 (October 16, 2015), 45 *CFR* 170. Available at https://www.gpo.gov/fdsys/pkg/FR-2015-10-16/pdf/2015-25597.pdf. Last accessed May 2017.

7 HHS Office of Minority Health. The National CLAS Standards website. https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=53. Last accessed May 2017.

8 Leiyu S, Starfield B, Politzer R, et al. Primary care, self-rated health, and reductions in social disparities in health. *Health Serv Res*. 2002;37(3):529-550.

9 Peabody F. The care of patient. *JAMA*. 1927;88(12):877-882.

10 Garg A, Butz AM, Dworkin PH, Lewis RA, et al. Screening for basic social needs at a medical home for low-income children. *Clin Pediatr (Phila)*. 2009;48(1):32-36.

11 Garg A, Toy S, Tripodis Y, et al. Addressing social determinants of health at well child care visits: a cluster RCT. *Pediatrics*. 2015;135 (2):e296-e304.

12 Kaufman, Powell W, Alfero C, et al. Health extension in New Mexico: An academic health center and the social determinants of disease. *Ann Fam Med*. 2010;8(1)73-81.

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