

Overview of Social Determinants of Health (SDOH) and Equity in the Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs)

Section I. Introduction and Purpose

There is a growing recognition that health outcomes are affected by many factors in addition to medical care received, including factors known as social determinants of health (SDOH) (Braveman & Gottlieb, 2014). SDOH include community factors such as the availability of high-quality education, employment opportunities, transportation, affordable housing, broadband internet, and healthy foods. Addressing SDOH is one tool used for advancing health equity, in which every person has the opportunity to “attain his or her full health potential,” regardless of “social position or other socially determined circumstances” (CDC, 2020b). Additionally, health disparities are differences in health that are linked to social, economic, and/or environmental disadvantages, such as the higher prevalence of poor or fair health (versus good, very good, or excellent health) among children in low-income families (The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020, 2008). Recognition is also growing regarding the need to address SDOH and health equity in order to reduce health disparities. The COVID-19 public health emergency, including its effects on the U.S. economy, magnified many of these issues (Abrams & Szeffler, 2020). Amid this rising attention toward SDOH and equity, the intersection between equity and Alternative Payment Models (APMs) and physician-focused payment models (PFPMs) is also gaining interest.

The purpose of this overview document is to provide members of the Physician-Focused Payment Model Technical Advisory Committee (PTAC) with background information as context for the Committee’s theme-based discussion in September 2021; this information includes current perspectives on optimizing efforts to address SDOH and equity in the context of APMs and PFPMs. Section II summarizes the research questions used to guide the theme-based discussion. Section III includes definitions of SDOH, equity, and related terms, as well as a conceptual framework for health equity. Section IV offers a reading list for further exploration of SDOH and equity.

Proposals to the Physician-Focused Payment Model Technical Advisory Committee

Under the bipartisan Medicare Access and CHIP Reauthorization Act (MACRA) of 2015, Congress significantly changed Medicare fee-for-service (FFS) physician payment methods. The law also specifically encouraged the development of APMs known as physician-focused payment models (PFPMs) and created the PTAC to review stakeholder-submitted PFPM proposals and make comments and recommendations on them to the Secretary of Health and Human Services (HHS; “the Secretary”).

Since its inception, PTAC has received 35 proposals for PFPMs from a diverse set of physician payment stakeholders, including professional associations, health systems, academic groups, public health

agencies, and individual providers.¹ Several proposals included elements related to social determinants of health (SDOH) and/or equity. Additionally, PTAC's previous theme-based discussions on telehealth and care coordination emphasized the importance of addressing issues related to SDOH and equity in the context of APMs and PFPMs, especially in comments related to lessons learned from the COVID-19 public health emergency (HHS, 2021; PTAC, 2021).

An accompanying document prepared by NORC at the University of Chicago offers additional context for the theme-based discussion, including analyses of how SDOH and equity have been incorporated by the Center for Medicare and Medicaid Innovation (CMMI) into its APMs and by stakeholders in their proposals submitted to PTAC (NORC at the University of Chicago, 2021). Background context on the use of SDOH and equity data for reimbursement is also reviewed.

Section II. Research Questions

This section summarizes the research questions used to guide the September 2021 SDOH and equity theme-based discussion. The research questions focus on data and payment issues related to optimizing efforts to address SDOH and equity in the context of APMs generally and PFPMs specifically. The complete list of research questions can be found in Appendix A.

General Questions

- How are SDOH and equity defined within the context of optimizing value-based care in APMs and PFPMs? What health-related social needs are most relevant for optimizing value-based care? How do behavioral health needs fit within the context of optimizing value-based care?
- How have various payers (such as Medicare, Medicaid, and commercial plans) been addressing SDOH and implementing efforts to advance equity among their patient populations, and what lessons learned can be applied to other care contexts?

Data-Related Questions

- What types of SDOH- and equity-related data are currently being captured by providers, or could be captured within the context of optimizing value-based care in APMs and PFPMs? What data could help implement efforts to intentionally advance health equity?
- What is the quality of the SDOH- and equity-related data that are currently being collected by health care providers?
- How can health care providers effectively share SDOH- and equity-related data with payers, community-based organizations, and other partners across the continuum of care?
- What are some of the barriers, challenges, and other concerns related to collecting, using, and/or sharing SDOH- and equity-related data?

¹ The 35 proposals submitted to PTAC represent an unduplicated count (i.e., proposals with multiple submissions are counted only once) of the number of proposals that have been voted and deliberated on by the Committee (28) and the number of proposals that have been withdrawn by stakeholders (seven, including one proposal that was withdrawn prior to any review by the Committee).

- What are examples of successful processes and tools, or best practices, for collecting, using, and/or sharing SDOH- and equity-related data?

Payment-Related Questions

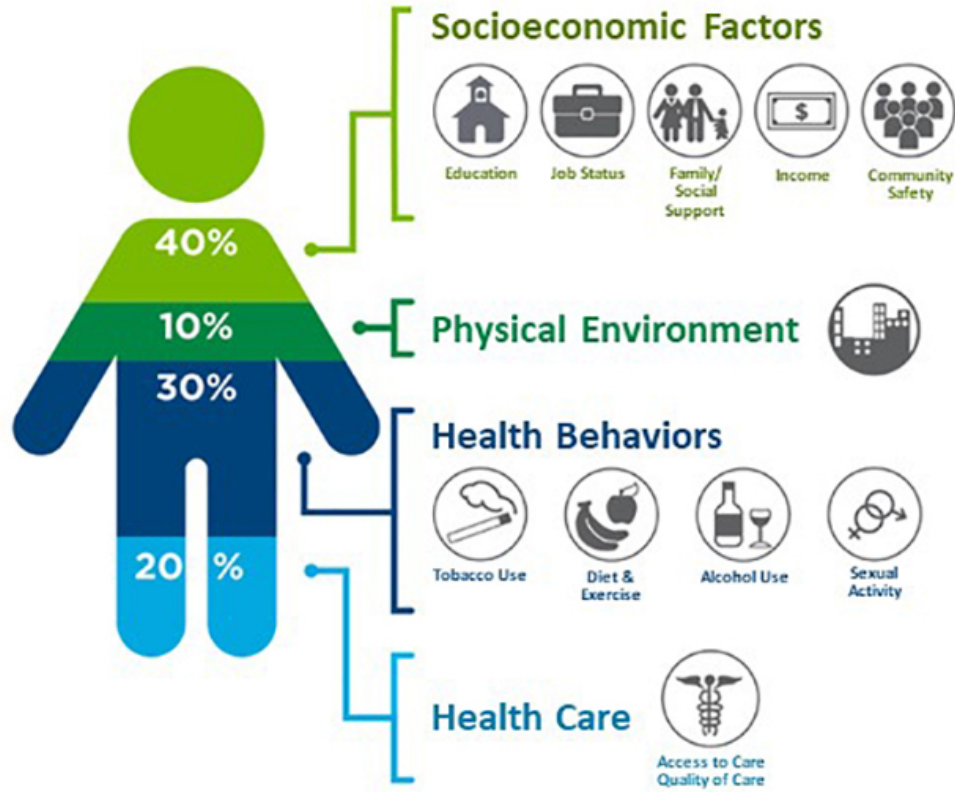
- What types of investments have been made by payers, health care providers, social service providers, and communities to assess and address patients' social needs? What gaps in resources exist, and what other types of investments by payers and health care providers are needed to support services aimed at addressing the social needs of patients and advancing health equity?
- What role have APMs played in incentivizing activities related to addressing SDOH and/or equity? What kinds of SDOH- and equity-related quality and performance measures have health care providers been required to report and/or meet, and have been tied to payments?
- What is the evidence regarding the effectiveness of various activities related to addressing SDOH and/or equity in improving quality and reducing costs? What are some areas for further research?

Section III. Background

This section discusses definitions of relevant terms and how they interact, as well as a conceptual framework for health equity. Non-medical, social factors (such as education, the physical environment, and income) have been shown to play an important role in influencing health outcomes and behaviors. As shown in Figure 1, some estimates suggest that health care contributes a mere 20 percent to health, while socioeconomic factors and the physical environment contribute 50 percent (Booske, Athens, Kindig, Park, & Remington, 2010; Hussein & Collins, 2016).

Figure 1. Estimated Relative Contributions to Health

What Goes Into Your Health?



Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

The Bridgespan Group

Note: Genetic factors were not included in estimates.

Source: Hussein, T., & Collins, M. (2016). The Community Cure for Health Care. Retrieved from https://ssir.org/articles/entry/the_community_cure_for_health_care

Definitions

Although various definitions of **social determinants of health** (SDOH) exist, this overview uses the Agency for Healthcare Research and Quality (AHRQ) definition of SDOH:

“SDOH, although experienced by individuals, exist at the community level. Healthcare systems that learn about the communities their patients live in, and the community-level barriers members can face to becoming and staying healthy, can better adapt their recommendations to people’s lives. SDOH can be categorized into five key areas:

- **Social context** (e.g., demographics, social networks and supports; social cohesion; racial, ethnic, religious, and gender discrimination; community safety; criminal justice climate; civil participation).

- **Economic context** (e.g., employment, income, poverty).
- **Education** (e.g., quality of day care, schools, and adult education; literacy and high school graduation rates; English proficiency).
- **Physical infrastructure** (e.g., housing, transportation, workplace safety, food availability, parks and other recreational facilities, environmental conditions, sufficiency of social services).
- **Healthcare context** (e.g., access to high-quality, culturally and linguistically appropriate, and health literate care; access to insurance; healthcare laws; health promotion initiatives; supply side of services; attitudes towards healthcare; and use of services)" (2020).

Another related term is **health-related social needs** (HRSNs), which are non-medical patient needs that impact health (such as housing instability, food insecurity, and exposure to interpersonal violence) (Billieux, Verlander, Anthony, & Alley, 2017). Health-related social needs are correlated with higher hospital readmission rates (Bensken, Alberti, & Koroukian, 2021).

While SDOH exist at a community level, health-related social needs describe an individual's experience. For example, a particular community may lack abundant affordable housing, but local individuals may experience housing needs differently. One individual in an area may have stable housing, while another may experience homelessness, giving that second person a health-related social need. Addressing SDOH requires different interventions than ones used to address health-related social needs. For example, addressing the SDOH of economic stability could include advocating for policies that promote housing stability and food security (such as federal nutrition programs), whereas addressing a social need could include referring individuals to local organizations that can provide needed resources and/or help them complete applications for nutrition or housing assistance (Green & Zook, 2019). Some SDOH, such as those in the health care context of AHRQ's definition, are more conducive to involvement from the health care system; for example, providers can prioritize offering language services to patients with limited English proficiency to improve the quality of care. For many other domains, a suggested role for providers may be to screen and refer individual patients to community-based organizations that can offer services to address HRSNs. That said, for SDOH domains such as economic context or physical infrastructure, certain large health care systems may have additional levers available to improve these SDOH based on their roles as anchor institutions for their communities. For example, Kaiser Permanente announced plans to purchase a housing complex in Oakland, California, for use as affordable housing and create a fund to develop and preserve affordable housing in the company's service areas (Kaiser Permanente, 2019). Also, related to economic context, Johns Hopkins Health System raised its minimum wage to \$15 an hour for all employees and contract workers, compared to Maryland's \$11.75 minimum wage (Maryland Department of Labor, 2019; Mirabella & Miller, 2021).

Specific SDOH and HRSNs affect different aspects of health. For example, indoor and outdoor air pollutants, which are part of the physical infrastructure key area of SDOH, are linked to cardiovascular disease, disruptions to fetal and child development, asthma attacks, and lung cancer (CDC, 2017). The Centers for Disease Control and Prevention (CDC) explains that "[r]acial and ethnic minorities may encounter more environmental hazards than non-minorities do." Broadband internet access, also part of physical infrastructure, is linked to accessing telehealth, which can include video visits with physicians, asynchronous messaging, and remote patient monitoring (Benda et al., 2021). During the

COVID-19 pandemic, use of telehealth increased among Medicare patients and other populations, allowing patients to access health care services while reducing the risk of COVID-19 transmission (Bosworth et al., 2020; Wosik et al., 2020). Individuals experiencing homelessness, an HRSN, have higher rates of morbidity and mortality than housed individuals; homelessness can result in exposure to communicable diseases, violence, and dangerous weather, while making it more challenging for individuals to address chronic physical or mental health needs (National Health Care for the Homeless Council, 2019; Sutherland, Ali, & Rosenoff, 2021).

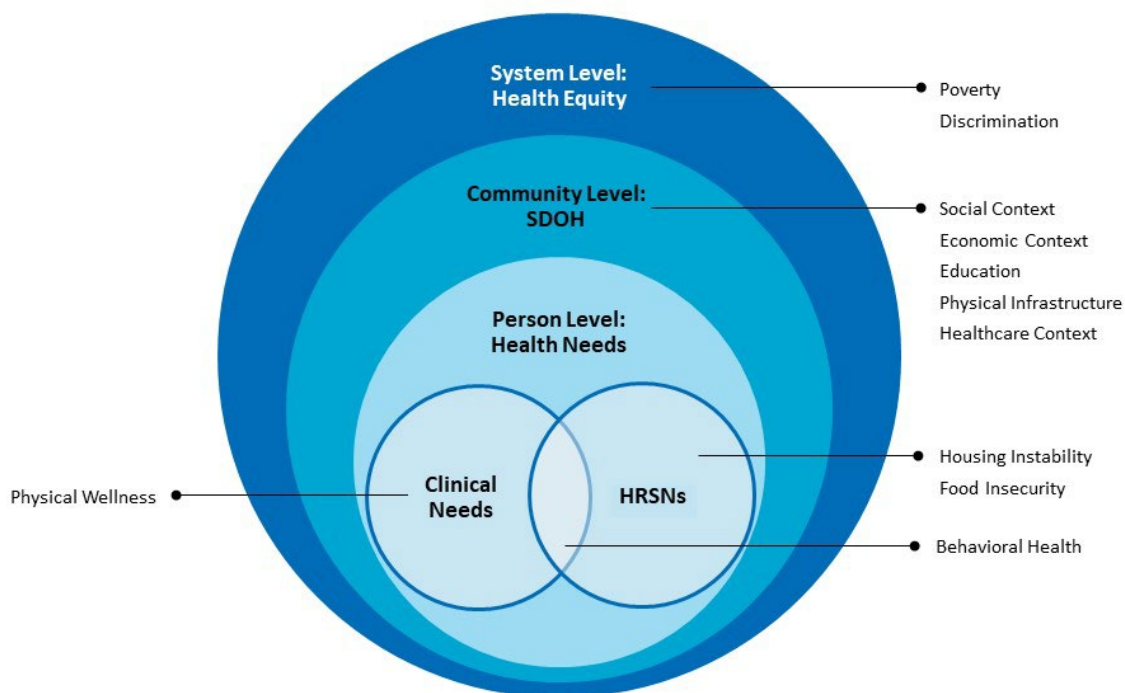
Addressing SDOH is a critical part of efforts to improve equity. This overview uses the CDC National Center for Chronic Disease Prevention and Health Promotion definition of **health equity**, which is achieved:

“...when every person has the opportunity to ‘attain his or her full health potential’ and no one is ‘disadvantaged from achieving this potential because of social position or other socially determined circumstances’” (2020b).

Additional definitions of health equity exist. For example, the CDC also defines health equity as “when everyone has the opportunity to be as healthy as possible” (CDC, 2020c). The Robert Wood Johnson Foundation offers several definitions of health equity by length and audience; for example, a short definition for general audiences frames health equity as a process: “[h]ealth equity means removing economic and social obstacles to health such as poverty and discrimination” (Braveman, Arkin, Orleans, Proctor, & Plough, 2017).

Within the broader context of efforts to address SDOH and equity, PTAC is particularly interested in how APMs and PFPs can help incentivize health care providers to collect data related to SDOH and equity; use these data to ensure that patients’ physical, behavioral health, and social needs are being met; measure the impact of these activities; and address related payment issues. Addressing SDOH and its various domains is an approach that can be used to improve equity and reduce disparities. As shown in Figure 2, health equity exists at the system level, and SDOH exist at the community level, while HRSNs exist at the individual level. Yet addressing SDOH at the community level can reduce the number of health-related social needs that individuals experience. Finally, not all methods of improving health equity involve addressing social determinants of health. Examples of additional ways to advance health equity objectives include improving access to and quality of care, and collecting the data needed to track outcomes for different groups.

Figure 2. Relationship between Health Equity, Social Determinants of Health, and Health-Related Social Needs



Another dimension to be explored in PTAC’s theme-based discussion is patient **psychosocial needs**. The World Health Organization’s (WHO’s) Commission on SDOH, when developing its Conceptual Framework for Action on the SDOH, defined psychosocial circumstances as including “psychosocial stressors, stressful living circumstances and relationships, and social support and coping styles (or the lack thereof)” (WHO, 2010). Different groups have different levels of exposures to sources of stress, which can include negative events, job strain or insecurity, living with high debt, or living without social support (WHO, 2010). For a definition more focused on psychosocial needs alongside diagnosis of a disease, the National Cancer Institute (NCI) at the National Institutes of Health defines “psychosocial” in medicine as relating to the “mental, emotional, social, and spiritual effects of a disease, such as cancer. Some of the psychosocial effects of cancer are changes in how a patient thinks, their feelings, moods, beliefs, ways of coping, and relationships with family, friends, and co-workers” (NCI). NCI’s examples of how to offer cancer patients psychosocial support include “counseling, education, group support, and spiritual support” (NCI).

PTAC is also interested in discussing **behavioral health**, which AHRQ defines as an “umbrella term that includes mental health and substance abuse conditions, life stressors and crises, stress-related physical symptoms, and health behaviors” (AHRQ Academy). AHRQ notes that behavioral health conditions can affect medical illnesses, and that integrating behavioral health with medical health has the goal of improving care and health for the whole person. Behavioral health resides at the intersection of clinical needs and HRSNs, as depicted in Figure 2. Access to behavioral health care can also vary along SDOH. **Behavioral health equity**, as defined by the Substance Abuse and Mental Health Services Administration (SAMHSA), is “the right to access quality health care for all populations regardless of the individual’s race, ethnicity, gender, socioeconomic status, sexual orientation, or geographical location,” including

“access to prevention, treatment, and recovery services for mental and substance use disorders” (SAMHSA, 2021). PTAC may explore how well-positioned APMs and PFPMs may be able to integrate behavioral health care within medical care. The accompanying analysis of CMMI portfolios and proposals submitted to PTAC will include the extent to which models or proposed models sought to address psychosocial needs and/or behavioral health.

The varying influences of SDOH and other factors result in **health disparities**, which are defined by Healthy People 2020 as:

“...a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion” (The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020, 2008).

Examples of disparities in health status include the higher mortality rates among Black infants compared to white infants; the higher prevalence of poor or fair health (versus good, very good, or excellent health) among children in low-income families; and the worse health and functional status of elderly women compared to elderly men (Advisory Committee, 2008). Disparities can also exist in health care, such as health care access differing by language proficiency or the likelihood of receiving pain medication for major fractures differing by race/ethnicity. Furthermore, poverty, which varies by race, has been strongly linked to poor health (Advisory Committee, 2008).

Healthy People 2020 specifies that a phenomenon needs to be linked to a systematic disadvantage or injustice in order to be a health disparity and not a health difference. For example, the higher rates of breast cancer among women compared to men and health advantages for foreign-born Hispanics in the United States over U.S.-born Hispanics are identified as health differences, *not* health disparities (Cantu, Hayward, Hummer, & Chiu, 2013; CDC, 2020a).

Certain SDOH, such as discrimination, reinforce and even increase existing inequities between groups, so communities already experiencing health disparities have even fewer opportunities. Daniel Dawes proposed that the determinants of the SDOH are the political determinants of health, which involve “the systematic process of structuring relationships, distributing resources, and administering power...in ways that mutually reinforce or influence one another to shape opportunities that either advance health equity or exacerbate health inequities” (2020, p. 44). These political determinants include government and the structural, institutional, interpersonal, and intrapersonal barriers; policy; and voting. Dawes notes that while these often work against health equity, the political determinants of health can also “work to the benefit...of health equity, depending on consumer, government, or corporate stakeholder interest” (2020, pp. 46-47).

Health Equity: A Conceptual Framework

Using a conceptual framework of health equity can help identify the levers that APMs can use to address health equity. The health equity framework shown in Figure 3 identifies the groups that will be the focus

of efforts to improve health equity; disparities across the care continuum; key social, economic, and health system drivers of these disparities; policies to address health equity in these domains; and measures of health equity. The framework is not intended to be comprehensive or fully predictive of the complex relationships among key drivers and disparate outcomes.

The first critical aspect of health equity – identified in the blue bar at the top of Figure 3 – is identifying the groups for whom concerns about disparities in outcomes, opportunity and experience arise. The “Who Experiences Disparities” bar at the top of the figure provides examples of groups that fit these definitions. Assessing equity requires making comparisons between social groups with different levels of social advantage (Braveman, 2003). In virtually every society, social advantage—and corresponding position in social hierarchies—varies according to socioeconomic, racial, ethnic, gender, age, and geographic differences. Other dimensions—for example, discrimination based on political affiliation, sexual orientation, or physical or mental disability—are important as well. Moreover, these various dimensions can overlap and create their own unique challenges and circumstances, a phenomenon known as “intersectionality.” Thus, these underlying social and economic positions provide one way to define social groups for the purposes of measuring disparities.

The rest of Figure 3 is set up so that the entire care continuum, divided into three phases, combines to influence the disparities in outcomes observed. These phases are shown in the three middle columns of the figure: (1) underlying health status and non-medical determinants; (2) access to care; and (3) experience in the medical care system. The influence of these phases on disparities in outcomes is indicated by the over-arching gray arrow. Within each phase, key drivers are identified along with examples of policies that might affect these drivers.

The first two rows of Figure 2 display key systemic factors and drivers within each phase that potentially affect disparities in health outcomes. These drivers are represented in two separate rows: those systemic factors at the individual or area level (the top row) that can differ and result in health disparities, and those factors that can be systemic drivers (the second row) of those differences. These factors and drivers also point across the care continuum toward example outcomes in the last column. Additionally, outcomes from systemic drivers (the last column in the second row) point up as they may influence individual outcomes.

The key factors and drivers reflect the recent emphasis in the literature on the role of structural racism and SDOH, as well as basic environmental and economic conditions (Churchwell et al., 2020). These factors and drivers are present in each of the three phases: underlying health status and non-medical determinants, access to care, and experience in the medical care system.

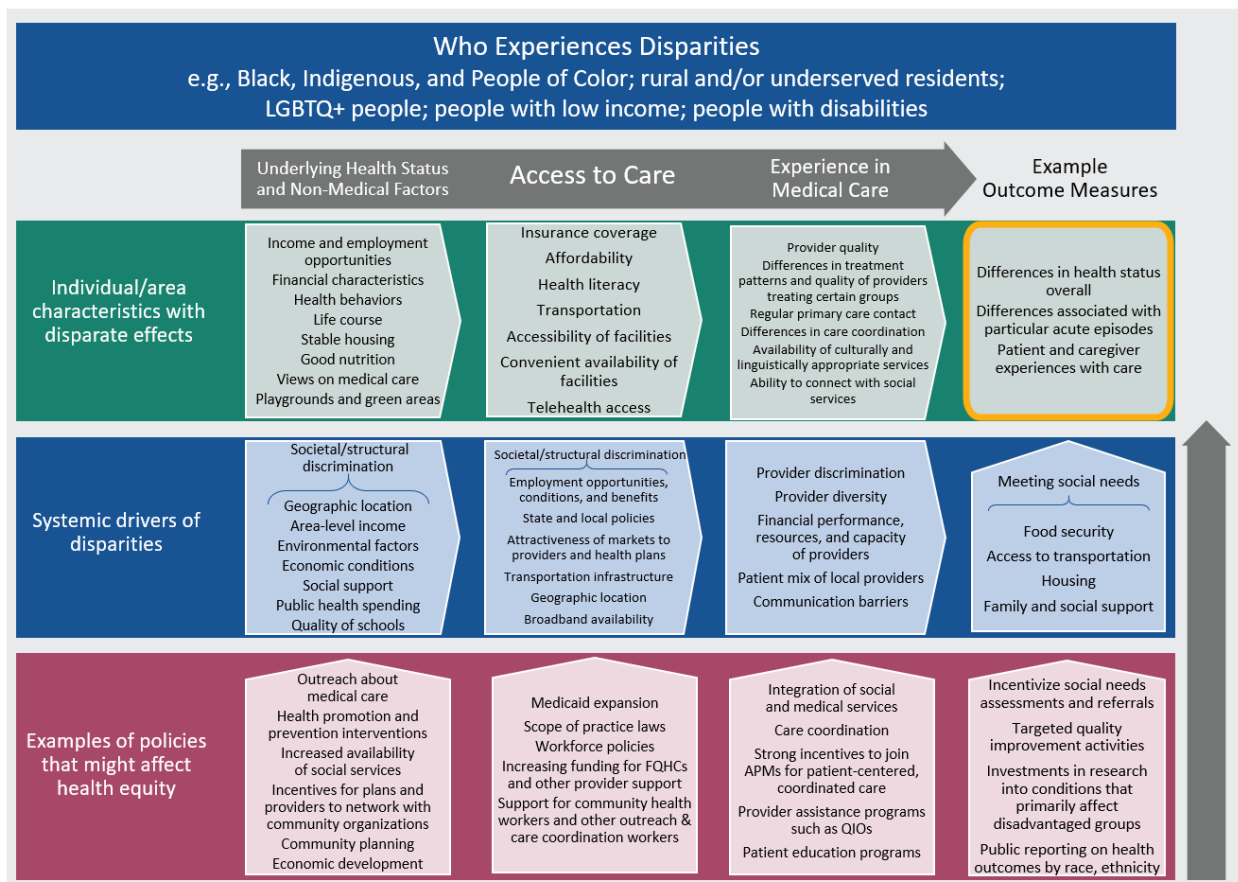
Structural racism can be defined as the macro level systems, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups (Gee & Ford, 2011). Structural racism leads to “differential access to the goods, services, and opportunities of society by race,” determines societal values and power structures, and underlies persistent health disparities in the United States (Churchwell et al., 2020). Thus, structural racism results in less advantageous opportunities that affect health status in many ways – e.g., through job and educational opportunities, financial opportunities (lending), housing, location in neighborhoods with fewer amenities related to health, and health care.

While the structural factors disproportionately affect specific racial or ethnic groups, they can have similar negative effects on other disadvantaged groups as well. For example, they can perpetuate lack of opportunities and improvement for low-income groups of all races and ethnicities, especially those in underserved and rural areas. Therefore, we use the term structural discrimination to reflect the pervasive impact of these factors across many marginalized groups.

Health disparities are associated with differences in SDOH such as income, education, food/nutrition, stable housing, and neighborhood characteristics (e.g. transportation, parks, social supports and exercise facilities). SDOH can be defined as the conditions in the environment where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life risks and outcomes (CDC). While SDOH may independently affect outcomes, in many circumstances they are also a product of those factors that contribute to structural discrimination. Moreover, these factors may affect individuals throughout their lives and even have intergenerational impacts.

In addition, while the SDOH affect outcomes throughout the phases in Figure 3, they also can result in differential outcomes after access and experience in the health system. For example, post-hospital outcomes may be worse for disadvantaged individuals because they are discharged to an environment with potentially less food and housing security, as well as social and family support.

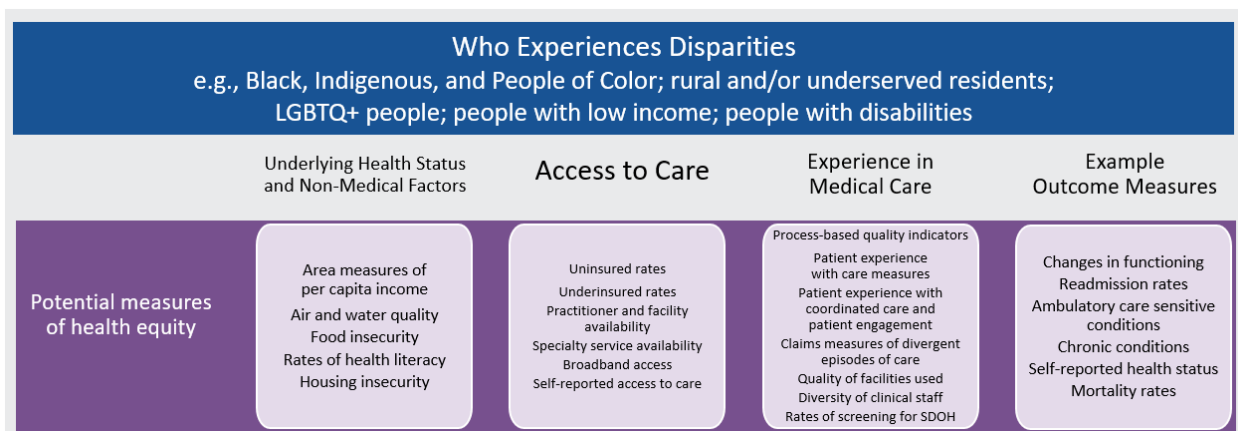
Figure 3. Framework for Considering Health Equity



Source: Samson, L. W. (2021, June 14). *Addressing Health Equity Through a Population-based Measurement Framework*. Paper presented at the AcademyHealth Annual Research Meeting, Virtual.

Figure 4 displays examples of performance indicators that can be used to identify differences in systemic drivers and health outcomes by social group associated with each phase of the health and health care continuum. Developing these measures – whether crafting new ones or building on existing indicators – is critical for assessing where significant inequities exist and making progress toward addressing such inequities, whether evaluating the impact of a specific policy or the cross-cutting effects of multiple policy interventions that may overlap in the timing of their implementation.

Figure 4. Examples of Health Equity Performance Indicators



Source: Samson, L. W. (2021, June 14). *Addressing Health Equity Through a Population-based Measurement Framework*. Paper presented at the AcademyHealth Annual Research Meeting, Virtual.

The Importance of Addressing SDOH and Equity Within the Context of Value-Based Care

The framework in Figures 3 and 4 may help parse out opportunities for APMs to help address equity, SDOH, and/or health-related social needs. An APM could help identify individuals’ social needs; for example, CMMI’s Accountable Health Communities model incentivizes health care providers to screen individual patients for needs such as housing insecurity or food insecurity and refer them to community-based organizations (CBOs) (CMS, 2021). Given that APMs can apply to a particular population, an APM could be used to address patients’ social needs related to accessing health care, the second column in Figure 3. An APM could also help address health equity in the medical care system in ways that may not be directly related to SDOH or social needs by addressing items listed in the Experience in Medical Care column in Figure 3. This approach could include encouraging the use of care coordination for vulnerable populations and culturally and linguistically appropriate services.

Some have cautioned against “medicalizing” social services, which can include viewing the health care system as the main lever for addressing systemic issues related to housing, as opposed to CBOs that have existing relationships and processes for providing social services (Lantz, 2019; Rosenheck, 2021). This concern could also include defining the “population” in “population health” as members of a particular health insurance plan or a delivery system’s patient panel services (Lantz, 2019; Rosenheck, 2021). Addressing the systemic drivers of SDOH (the factors in the blue row in Figure 3), such as societal and structural discrimination, may require a whole-of-government approach, as well as partnerships between public and private entities. APMs may be able to play a role in addressing SDOH but are

probably better suited to addressing patients' HRSNs and aspects of health equity related to reducing disparities in patients' experience within the health care system instead. APMs can help support linkages between health care and CBOs, as Michigan and Washington used State Innovation Model awards to do (Crook et al., 2021).

Section IV. Further Reading

Systematic/Literature Reviews

- Avanceña, A. L. V., & Prosser, L. A. (2021). Examining Equity Effects of Health Interventions in Cost-Effectiveness Analysis: A Systematic Review. *Value in Health, 24*(1), 136-143. doi:10.1016/j.jval.2020.10.010
- Formosa, E. A., Kishimoto, V., Orchanian-Cheff, A., & Hayman, K. (2021). Emergency department interventions for homelessness: a systematic review. *Canadian Journal of Emergency Medicine, 23*(1), 111-122. doi:10.1007/s43678-020-00008-4
- Gottlieb, L. M., Wing, H., & Adler, N. E. (2017). A Systematic Review of Interventions on Patients' Social and Economic Needs. *American Journal of Preventive Medicine, 53*(5), 719-729. doi:10.1016/j.amepre.2017.05.011
- Hunter, A. A., & Flores, G. (2021). Social determinants of health and child maltreatment: a systematic review. *Pediatr Res, 89*(2), 269-274. doi:10.1038/s41390-020-01175-x
- Koeman, J., & Mehdipanah, R. (2021). Prescribing Housing: A Scoping Review of Health System Efforts to Address Housing as a Social Determinant of Health. *Population Health Management, 24*(3), 316-321. doi:10.1089/pop.2020.0154
- Kreuter, M. W., Thompson, T., McQueen, A., & Garg, R. (2021). Addressing Social Needs in Health Care Settings: Evidence, Challenges, and Opportunities for Public Health. *Annual Review of Public Health, 42*(1), 329-344. doi:10.1146/annurev-publhealth-090419-102204
- Levine, D. A., Duncan, P. W., Nguyen-Huynh, M. N., & Ogedegbe, O. G. (2020). Interventions Targeting Racial/Ethnic Disparities in Stroke Prevention and Treatment. *Stroke, 51*(11), 3425-3432. doi:doi:10.1161/STROKEAHA.120.030427
- Mongeon, M., Levi, J., & Heinrich, J. (2017). Elements of Accountable Communities for Health: A Review of the Literature. Retrieved from <https://nam.edu/elements-of-accountable-communities-for-health-a-review-of-the-literature/>
- Office of Disease Prevention and Health Promotion. (2017). Social Determinants of Health Literature Summaries. Retrieved from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health/literature-summaries>
- Petkovic, J., Duench, S., Trawin, J., Dewidar, O., Pardo Pardo, J., Simeon, R., . . . et al. (2021). Behavioural interventions delivered through interactive social media for health behaviour change, health outcomes, and health equity in the adult population. *Cochrane Database of Systematic Reviews*(5). doi:10.1002/14651858.CD012932.pub2

Reyes, A. M., Akanyirige, P. W., Wishart, D., Dahdouh, R., Young, M. R., Estrada, A., . . . Simon, M. A. (2021). Interventions Addressing Social Needs in Perinatal Care: A Systematic Review. *Health Equity*, 5(1), 100-118. doi:10.1089/heq.2020.0051

Walter, L. A., Schoenfeld, E. M., Smith, C. H., Shufflebarger, E., Khoury, C., Baldwin, K., . . . Hess, E. P. (2021). Emergency department-based interventions affecting social determinants of health in the United States: A scoping review. *Acad Emerg Med*, 28(6), 666-674. doi:10.1111/acem.14201

Other Journal Articles

Brewster, A. L., Kunkel, S., Straker, J., & Curry, L. A. (2018). Cross-Sectoral Partnerships By Area Agencies On Aging: Associations With Health Care Use And Spending. *Health Affairs*, 37(1), 15-21. <https://doi.org/10.1377/hlthaff.2017.1346>

Carroll-Scott, A., Henson, R. M., Kolker, J., & Purtle, J. (2017). The Role Of Nonprofit Hospitals In Identifying And Addressing Health Inequities In Cities. *Health Affairs*, 36(6), 1102-1109. <https://doi.org/10.1377/hlthaff.2017.0033>

Clarke, R. M. A., Grossman, M., Strouse, T., Gitlin, M., & Skootsky, S. A. (2016). Delivering On Accountable Care: Lessons From A Behavioral Health Program To Improve Access And Outcomes. *Health Affairs*, 35(8), 1487-1493. <https://doi.org/10.1377/hlthaff.2015.1263>

DeMeester, R. H., Xu, L. J., Nocon, R. S., Cook, S. C., Ducas, A. M., & Chin, M. H. (2017). Solving Disparities Through Payment And Delivery System Reform: A Program To Achieve Health Equity. *Health Affairs*, 36(6), 1133-1139. <https://doi.org/10.1377/hlthaff.2016.0979>

Fichtenberg, C. M., Alley, D. E., & Mistry, K. B. (2019). Improving Social Needs Intervention Research: Key Questions for Advancing the Field. *American Journal of Preventive Medicine*, 57(6, Supplement 1), S47-S54. <https://doi.org/10.1016/j.amepre.2019.07.018>

Murray, G. F., Rodriguez, H. P., & Lewis, V. A. (2020). Upstream With A Small Paddle: How ACOs Are Working Against The Current To Meet Patients' Social Needs. *Health Aff (Millwood)*, 39(2), 199-206. <https://doi.org/10.1377/hlthaff.2019.01266>

Nichols, L. M., & Taylor, L. A. (2018). Social Determinants As Public Goods: A New Approach To Financing Key Investments In Healthy Communities. *Health Affairs*, 37(8), 1223-1230. <https://doi.org/10.1377/hlthaff.2018.0039>

Paskett, E., Thompson, B., Ammerman, A. S., Ortega, A. N., Marsteller, J., & Richardson, D. (2016). Multilevel Interventions To Address Health Disparities Show Promise In Improving Population Health. *Health Affairs*, 35(8), 1429-1434. <https://doi.org/10.1377/hlthaff.2015.1360>

Purnell, T. S., Calhoun, E. A., Golden, S. H., Halladay, J. R., Krok-Schoen, J. L., Appelhans, B. M., & Cooper, L. A. (2016). Achieving Health Equity: Closing The Gaps In Health Care Disparities, Interventions, And Research. *Health Affairs*, 35(8), 1410-1415. <https://doi.org/10.1377/hlthaff.2016.0158>

Schickedanz, A., Hamity, C., Rogers, A., Sharp, A. L., & Jackson, A. (2019). Clinician Experiences and Attitudes Regarding Screening for Social Determinants of Health in a Large Integrated Health System. *Medical Care*, 57, S197-S201. <https://pubmed.ncbi.nlm.nih.gov/31095061/>

Siegel, B., Erickson, J., Milstein, B., & Pritchard, K. E. (2018). Multisector Partnerships Need Further Development To Fulfill Aspirations For Transforming Regional Health And Well-Being. *Health Affairs*, 37(1), 30-37. <https://doi.org/10.1377/hlthaff.2017.1118>

Yasaitis, L. C., Pajeroski, W., Polsky, D., & Werner, R. M. (2016). Physicians' Participation In ACOs Is Lower In Places With Vulnerable Populations Than In More Affluent Communities. *Health Affairs*, 35(8), 1382-1390. <https://doi.org/10.1377/hlthaff.2015.1635>

Blog Posts/Perspectives

Banger, A. (2020). Why Value-Based Care is Incomplete Without Considering Social Determinants of Health. Retrieved from <https://www.rti.org/insights/why-value-based-care-incomplete-without-considering-social-determinants-health>

Chepaitis, A., Kordomenos, C., & Bernacet, A. (2021). Social determinants of health: Language nuance matters. Retrieved from <https://www.themedicalcareblog.com/social-determinants-of-health-nuances/>

Mullangi, S., Kaushal, R., & Ibrahim, S. A. (2019). Equity in the Age of Health Care Information Technology and Innovation: Addressing the Digital Divide. *Medical Care*, 57, S106-S107. <https://pubmed.ncbi.nlm.nih.gov/31095047/>

Vreeman, D., Dougherty, M., & Armson, S. (2020). Social Determinants of Health Data Standards: The Building Blocks for Communication, Interaction, and Sharing Social and Behavioral Data in Value-Based Care. Retrieved from <https://www.rti.org/insights/social-determinants-of-health-data-standards/>

Zhang, X., Hailu, B., Tabor, D. C., Gold, R., Sayre, M. H., Sim, I., . . . James, R. (2019). Role of Health Information Technology in Addressing Health Disparities: Patient, Clinician, and System Perspectives. *Medical Care*, 57, S115-S120. <https://pubmed.ncbi.nlm.nih.gov/31095049/>

Reports

Agency for Healthcare Research and Quality. (2018). *IOM Report: Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement*. Retrieved from Rockville, MD: <https://www.ahrq.gov/research/findings/final-reports/iomracereport/index.html>

Agency for Healthcare Research and Quality. (2021). *2019 National Healthcare Quality and Disparities Report*. Retrieved from <https://www.ahrq.gov/research/findings/nhqdr/nhqdr19/index.html>

Braveman, P., Arkin, E., Orleans, T., Proctor, D., & Plough, A. (2017). *What is Health Equity?* Retrieved from <https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html>

- Braveman, P., Gottlieb, L., Francis, D., Arkin, E., & Acker, J. (2019). *What Can the Health Care Sector Do to Advance Health Equity?* Retrieved from <https://www.rwjf.org/en/library/research/2019/11/what-can-the-health-care-sector-do-to-advance-health-equity.html>
- Center for Health Care Strategies, I. (2020). *Advancing Primary Care Innovation in Medicaid Managed Care: Using State Levers to Drive Uptake and Spread*. Retrieved from https://www.chcs.org/media/PCI-Full-Toolkit-Part-II_111720.pdf
- Center for Medicare and Medicaid Innovation. (2020). *The Center for Medicare and Medicaid Innovation 2020 Report to Congress*. Retrieved from <https://innovation.cms.gov/data-and-reports/2021/rtc-2020>
- Center for Open Data Enterprise. (2020a). *The HHS/CODE Roundtable Series on Health Data Sharing: Summary Report*. Retrieved from <https://healthdatasharing.org/wp-content/uploads/2020/08/PCORI-RT-Series-Summary-FINAL-2020.07.30-web.pdf>
- Center for Open Data Enterprise. (2020b). *Using Social Determinants of Health Data to Fight COVID-19 and Support Recovery Efforts: Roundtable Report*. Retrieved from <https://healthdatasharing.org/wp-content/uploads/2020/12/COVID-SDOH-Summary-Report-Final.pdf>
- Center for Open Data Enterprise, & Office of the Chief Technology Officer. (2019). *Leveraging Data on the Social Determinants of Health: Roundtable Report*. Retrieved from <http://reports.opendataenterprise.org/Leveraging-Data-on-SDOH-Summary-Report-FINAL.pdf>
- Data Across Sectors for Health. (2017). *Coordinated Whole-Person Care that Addresses Social Determinants of Health*. Retrieved from <https://dashconnect.org/2017/09/12/issue-brief-coordinated-whole-person-care-that-addresses-social-determinants-of-health/>
- Directors of Health Promotion and Education, Society for Public Health Education, American Heart Association, American Planning Association, & National WIC Association. (2017). *Partnering4Health: National Organizations Empowering Communities to Improve Population Health*. Retrieved from <https://www.sophe.org/wp-content/uploads/2017/10/National-Organizations-Empowering-Communities-Improve-Population-Health-White-Paper.pdf>
- Institute of Medicine. (2014). *Capturing Social and Behavioral Domains in Electronic Health Records: Phase 1*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/18709/capturing-social-and-behavioral-domains-in-electronic-health-records-phase>
- National Academies of Sciences, E., & Medicine. (2016a). *Accounting for Social Risk Factors in Medicare Payment: Data*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/23605/accounting-for-social-risk-factors-in-medicare-payment-data>

National Academies of Sciences, E., & Medicine. (2016b). *Framing the Dialogue on Race and Ethnicity to Advance Health Equity: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/23576/framing-the-dialogue-on-race-and-ethnicity-to-advance-health-equity>

National Academies of Sciences, E., & Medicine. (2016c). *The Promises and Perils of Digital Strategies in Achieving Health Equity: Workshop Summary*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/23439/the-promises-and-perils-of-digital-strategies-in-achieving-health-equity>

National Academies of Sciences, E., & Medicine. (2017). *Communities in Action: Pathways to Health Equity*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/24624/communities-in-action-pathways-to-health-equity>

National Academies of Sciences, E., & Medicine. (2018). *Exploring Equity in Multisector Community Health Partnerships: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/24786/exploring-equity-in-multisector-community-health-partnerships-proceedings-of-a>

National Academies of Sciences, E., & Medicine. (2019a). *Achieving Behavioral Health Equity for Children, Families, and Communities: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/25347/achieving-behavioral-health-equity-for-children-families-and-communities-proceedings>

National Academies of Sciences, E., & Medicine. (2019b). *Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation's Health*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/25467/integrating-social-care-into-the-delivery-of-health-care-moving>

National Academies of Sciences, E., & Medicine. (2019c). *Investing in Interventions That Address Non-Medical, Health-Related Social Needs: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/25544/investing-in-interventions-that-address-non-medical-health-related-social-needs>

National Academies of Sciences, E., & Medicine. (2020). *Leading Health Indicators 2030: Advancing Health, Equity, and Well-Being*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/25682/leading-health-indicators-2030-advancing-health-equity-and-well-being>

National Academies of Sciences, E., & Medicine. (2021). *Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care*. Washington, DC: The National Academies Press. <https://www.nap.edu/catalog/25983/implementing-high-quality-primary-care-rebuilding-the-foundation-of-health>

National Academy of Medicine, National Academies of Sciences, E., & Medicine. (2021). *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. Washington, DC: The National

- Academies Press. <https://www.nap.edu/catalog/25982/the-future-of-nursing-2020-2030-charting-a-path-to>
- National Quality Forum. (2017). *A Roadmap for Promoting Health Equity and Eliminating Disparities: The Four I's for Health Equity*. Retrieved from https://www.qualityforum.org/Publications/2017/09/A_Roadmap_for_Promoting_Health_Equity_and_Eliminating_Disparities_The_Four_I_s_for_Health_Equity.aspx
- NORC at the University of Chicago. (2018). *Incorporating Social Determinants of Health in Electronic Health Records: A Qualitative Study of Perspectives on Current Practices among Top Vendors*. Retrieved from https://aspe.hhs.gov/sites/default/files/migrated_legacy_files//185561/NORCSDH.pdf
- NORC at the University of Chicago. (2021). *Social Determinants of Health Data Sharing at the Community Level*. Retrieved from Washington, D.C.: https://aspe.hhs.gov/sites/default/files/migrated_legacy_files//199726/social-determinants-health-data-sharing.pdf
- Office of the Assistant Secretary for Planning and Evaluation. (2020). *Second Report to Congress: Social Risk Factors and Performance in Medicare's Value-Based Purchasing Program*. Retrieved from Washington, D.C.: <https://aspe.hhs.gov/topics/health-health-care/social-risk-factors-medicare-value-based-purchasing-programs>
- RAND Corporation. (2018a). *Addressing Social Determinants of Health Needs of Dually Enrolled Beneficiaries in Medicare Advantage Plans: Findings from Interviews and Case Studies*. Retrieved from <https://aspe.hhs.gov/reports/addressing-social-determinants-health-needs-dually-enrolled-beneficiaries-medicare-advantage-plans>
- RAND Corporation. (2018b). *Types and Costs of Services for Dual Beneficiaries by Medicare Advantage Health Plans: An Environmental Scan*. Retrieved from Washington, D.C.: https://aspe.hhs.gov/sites/default/files/migrated_legacy_files//184336/MAStudy_Phase1_RR22_13.pdf
- Trust for America's Health. (2018). *Advancing Health Equity: What We Have Learned from Community-based Health Equity Initiatives*. Retrieved from <https://www.tfah.org/wp-content/uploads/2018/07/advancing-health-equity-2018-convening-summary.pdf>
- U.S. Department of Health and Human Services. (2020). *2020-2025 Federal Health IT Strategic Plan*. Retrieved from <https://www.healthit.gov/topic/2020-2025-federal-health-it-strategic-plan>
- U.S. Department of Health and Human Services, Health Resources and Services Administration, & Office of Health Equity. (2020). *Health Equity Report 2019-2020: Special Feature on Housing and Health Inequalities*. Retrieved from Rockville, Maryland: <https://www.hrsa.gov/sites/default/files/hrsa/health-equity/HRSA-health-equity-report.pdf>

Other Reading

- AHIP. (2017). *Beyond the Boundaries of Health Care: Addressing Social Issues*. Retrieved from https://www.ahip.org/wp-content/uploads/2017/07/SocialDeterminants_IssueBrief_7.21.17.pdf
- American Hospital Association. (2021). *COVID-19: Hospitals Address Patients' Social Needs to Help Reduce Health Inequity During the COVID-19 Pandemic*. Retrieved from <https://www.aha.org/system/files/media/file/2020/04/awareness-of-social-needs-can-help-address-health-inequity-during-covid-19.pdf>
- Center for Open Data Enterprise. (2020c). *Using SDOH Data to Fight COVID-19 and Support Recovery Efforts: Briefing Paper*. Retrieved from <http://reports.opendataenterprise.org/COVID-Briefing-Paper.pdf>
- Crook, H. L., Zheng, J., Bleser, W. K., Whitaker, R. G., Masand, J., & Saunders, R. S. (2021). *How Are Payment Reforms Addressing Social Determinants of Health? Policy Implications and Next Steps*. Retrieved from <https://healthpolicy.duke.edu/sites/default/files/2021-02/How%20Are%20Payment%20Reforms%20Addressing%20Social%20Determinants%20of%20Health.pdf>
- Lee, J., & Burke, J. (2019). *Addressing the social determinants of health for Medicare and Medicaid enrollees*. Retrieved from <https://www2.deloitte.com/us/en/insights/industry/health-care/applying-social-determinants-of-health-mcos.html>
- Lee, J., & Korba, C. *Social determinants of health: How are hospitals and health systems investing in and addressing social needs?* Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-lshc-addressing-social-determinants-of-health.pdf>

References

- Abrams, E. M., & Szeffler, S. J. (2020). COVID-19 and the impact of social determinants of health. *The Lancet Respiratory Medicine*, 8(7), 659-661. doi:10.1016/S2213-2600(20)30234-4
- Agency for Healthcare Research and Quality. (2020). About SDOH in Healthcare. Retrieved from <https://www.ahrq.gov/sdoh/about.html>
- Agency for Healthcare Research and Quality Academy. What is Integrated Behavioral Health? Retrieved from <https://integrationacademy.ahrq.gov/about/integrated-behavioral-health>
- Benda, N. C., Veinot, T. C., Sieck, C. J., & Ancker, J. S. (2020). Broadband internet access is a social determinant of health. *American Journal of Public Health* (1971), 110(8), 1123–1125. doi:10.2105/AJPH.2020.305784
- Bensken, W. P., Alberti, P. M., & Koroukian, S. M. (2021). Health-Related Social Needs and Increased Readmission Rates: Findings from the Nationwide Readmissions Database. *Journal of General Internal Medicine*, 36(5), 1173-1180. doi:10.1007/s11606-021-06646-3
- Billioux, A., Verlander, K., Anthony, S., & Alley, D. (2017). Standardized Screening for Health-Related Social Needs in Clinical Settings: The Accountable Health Communities Screening Tool. *Discussion Paper, National Academy of Medicine*. Retrieved from <https://nam.edu/wp-content/uploads/2017/05/Standardized-Screening-for-Health-Related-Social-Needs-in-Clinical-Settings.pdf>
- Booske, B. C., Athens, J. K., Kindig, D. A., Park, H., & Remington, P. L. (2010). County Health Rankings Working Paper: Different Perspective for Assigning Weights to Determinants of Health. Retrieved from <https://www.countyhealthrankings.org/sites/default/files/differentPerspectivesForAssigningWeightsToDeterminantsOfHealth.pdf>
- Bosworth, A., Ruhter, J., Samson, L. W., Sheingold, S., Taplin, C., Tarazi, W., & Zuckerman, R. (2020). Medicare Beneficiary Use of Telehealth Visits: Early Data from the Start of COVID-19 Pandemic. Retrieved from <https://aspe.hhs.gov/reports/medicare-beneficiary-use-telehealth-visits-early-data-start-covid-19-pandemic>
- Braveman, P. (2003). Monitoring equity in health and healthcare: a conceptual framework. *J Health Popul Nutr*, 21(3), 181-192. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/14717564>
- Braveman, P., Arkin, E., Orleans, T., Proctor, D., & Plough, A. (2017). *What is Health Equity?* Retrieved from <https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html>
- Braveman, P., & Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. *Public Health Rep*, 129 Suppl 2, 19-31. doi:10.1177/003335491412915206
- Cantu, P. A., Hayward, M. D., Hummer, R. A., & Chiu, C. T. (2013). New estimates of racial/ethnic differences in life expectancy with chronic morbidity and functional loss: evidence from the National Health Interview Survey. *J Cross Cult Gerontol*, 28(3), 283-297. doi:10.1007/s10823-013-9206-5

- Centers for Disease Control and Prevention. Healthy People 2030: Social Determinants of Health. Retrieved from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>
- Centers for Disease Control and Prevention. (2017). Healthy People 2030: Environmental Conditions. Retrieved from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health/literature-summaries/environmental-conditions>
- Centers for Disease Control and Prevention. (2020a). Breast Cancer in Men. Retrieved from <https://www.cdc.gov/cancer/breast/men/index.htm>
- Centers for Disease Control and Prevention. (2020b). Health Equity. Retrieved from <https://www.cdc.gov/chronicdisease/healthequity/index.htm>
- Centers for Disease Control and Prevention. (2020c). Paving the Road to Health Equity. Retrieved from https://www.cdc.gov/minorityhealth/publications/health_equity/index.html
- Centers for Medicare & Medicaid Services. (2021). Accountable Health Communities Model. Retrieved from <https://innovation.cms.gov/innovation-models/ahcm>
- Churchwell, K., Elkind, M. S. V., Benjamin, R. M., Carson, A. P., Chang, E. K., Lawrence, W., . . . Williams, O. (2020). Call to Action: Structural Racism as a Fundamental Driver of Health Disparities: A Presidential Advisory From the American Heart Association. *Circulation*, *142*(24), e454-e468. doi:doi:10.1161/CIR.0000000000000936
- Crook, H. L., Zheng, J., Bleser, W. K., Whitaker, R. G., Masand, J., & Saunders, R. S. (2021). How Are Payment Reforms Addressing Social Determinants of Health? Policy Implications and Next Steps. Retrieved from <https://healthpolicy.duke.edu/sites/default/files/2021-02/How%20Are%20Payment%20Reforms%20Addressing%20Social%20Determinants%20of%20Health.pdf>
- Dawes, D. E. (2020). *The Political Determinants of Health*. Baltimore, Maryland: Johns Hopkins University Press.
- Gee, G. C., & Ford, C. L. (2011). STRUCTURAL RACISM AND HEALTH INEQUITIES: Old Issues, New Directions. *Du Bois Rev*, *8*(1), 115-132. doi:10.1017/S1742058X11000130
- Green, K., & Zook, M. (2019). When Talking About Social Determinants, Precision Matters. Retrieved from <https://www.healthaffairs.org/doi/10.1377/hblog20191025.776011/full/>
- Hussein, T., & Collins, M. (2016). The Community Cure for Health Care. Retrieved from https://ssir.org/articles/entry/the_community_cure_for_health_care
- Kaiser Permanente. (2019). 3 initiatives to tackle housing insecurity. Retrieved from <https://about.kaiserpermanente.org/community-health/news/kaiser-permanente-announces-three-initiatives-to-improve-communi>

- Lantz, P. M. (2019). The Medicalization of Population Health: Who Will Stay Upstream? *The Milbank Quarterly*, 97. Retrieved from <https://www.milbank.org/quarterly/articles/the-medicalization-of-population-health-who-will-stay-upstream/>
- Maryland Department of Labor. (2019). Maryland Minimum Wage and Overtime Law - Employment Standards Service (ESS). Retrieved from <https://www.dllr.state.md.us/labor/wages/wagehrfacts.shtml>
- Mirabella, L., & Miller, H. (2021). Johns Hopkins University, Health System to increase minimum wage to \$15 an hour. *The Baltimore Sun*. Retrieved from <https://www.baltimoresun.com/business/bs-bz-johns-hopkins-minimum-wage-increase-15-20210506-srcwddzhiffqbntpdzhlr4zung-story.html>
- National Cancer Institute. psychosocial: NCI Dictionary of Cancer Terms. Retrieved from <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/psychosocial>
- National Health Care for the Homeless Council. (2019). Homelessness & Health: What's the Connection? Retrieved from <https://nhchc.org/wp-content/uploads/2019/08/homelessness-and-health.pdf>
- NORC at the University of Chicago. (2021). Background Information Related to Optimizing Efforts to Address Social Determinants of Health (SDOH) and Equity in the Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs). Retrieved from <https://aspe.hhs.gov/collaborations-committees-advisory-groups/ptac/ptac-resources>
- Physician-Focused Payment Model Technical Advisory Committee. (2021). Report to the Secretary: Telehealth and Alternative Payment Models. Retrieved from <https://aspe.hhs.gov/sites/default/files/private/pdf/226776/RTSTelehealth.pdf>
- Rosenheck, R. (2021). Medicalizing Homelessness: Mistaken Identity, Adaptation to Conservative Times, or Revival of Social Medicine. *Medical Care*, 59, S106-S109. doi:10.1097/mlr.0000000000001366
- Samson, L. W. (2021, June 14, 2021). *Addressing Health Equity Through a Population-based Measurement Framework*. Paper presented at the AcademyHealth Annual Research Meeting, Virtual.
- Substance Abuse and Mental Health Services Administration. (2021). Behavioral Health Equity. Retrieved from <https://www.samhsa.gov/behavioral-health-equity>
- Sutherland, H., Ali, M. M., & Rosenoff, E. (2021). ASPE Research Brief: Health Conditions Among Individuals with a History of Homelessness. Retrieved from <https://aspe.hhs.gov/reports/health-conditions-among-individuals-history-homelessness-research-brief>
- The Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2020. (2008). *Phase I Report: Recommendations for the Framework and Format of Healthy People 2020*. Retrieved from https://www.healthypeople.gov/sites/default/files/PhaseI_0.pdf
- U.S. Department of Health and Human Services (Producer). (2021, 2021). PTAC Public Meeting | Care Coordination and Alternative Payment Models | June 10, 2021 | Part 1 of 4. [Video] Retrieved from

https://www.youtube.com/watch?v=Pu3_zZaO2Qw&list=PLrI7E8KABz1FOmtfEBRtI2A4gK794HPZN

World Health Organization. (2010). *A conceptual framework for action on the social determinants of health*. Retrieved from <https://apps.who.int/iris/handle/10665/44489>

Wosik, J., Fudim, M., Cameron, B., Gellad, Z. F., Cho, A., Phinney, D., . . . Tchong, J. (2020). Telehealth transformation: COVID-19 and the rise of virtual care. *Journal of the American Medical Informatics Association*, 27(6), 957-962. doi:10.1093/jamia/ocaa067

Appendix A. Research Questions

This appendix contains research questions used to guide the September 2021 SDOH and equity theme-based discussion. The research questions focus on data and payment issues related to optimizing efforts to address SDOH and equity in the context of Alternative Payment Models (APMs) generally and physician-focused payment models (PFPMs) specifically.

An additional set of research questions was used to guide the analyses of nine selected PTAC proposals and 15 selected CMMI models that included components related to addressing SDOH and/or equity, which can be found in on the [ASPE PTAC website](#) (NORC at the University of Chicago, 2021).

General Questions

- **How are SDOH defined within the context of optimizing value-based care in APMs and PFPMs?**
 - What health-related social needs are most relevant for optimizing value-based care?
 - How do behavioral health needs fit within the context of optimizing value-based care?
- **How is equity defined within the context of optimizing value-based care in APMs and PFPMs?**
- **How have various payers (such as Medicare, Medicaid, and commercial plans) been addressing SDOH and implementing efforts to advance equity among their patient populations, and what lessons learned can be applied to other care contexts?**

Data-Related Questions

- **What types of SDOH-related data are currently being captured by providers, or could be captured within the context of optimizing value-based care in APMs and PFPMs?**
 - Which social risk factors and social needs measures are providers most commonly tracking?
 - What types of data on patients' social needs and social risks are available and particularly useful but often underutilized?
 - Are there additional types of data that are not currently being collected that could be useful?
 - Are there any differences in the types of data on patients' social needs and social risks that are most relevant for certain populations, such as Medicare beneficiaries?
 - What provisions could be used to ensure that social needs and social risks are universally screened for by all health care providers?
 - What types of data related to *addressing* the social needs of patients are being collected (e.g., data related to referring patients to social services, tracking the results of those referrals, monitoring patients' continued take-up of services, and maintaining an updated list of social services providers)?
- **What types of equity-related data are currently being captured by providers within the context of optimizing value-based care in APMs and PFPMs, or could be captured to help implement efforts to intentionally advance health equity?**
 - What are the types of health care data for which health care providers measure and report information relating to equity (e.g., utilization of health care and social services, patient health outcomes, patient satisfaction)?

- Across these types of health care data, what kinds of disparity-sensitive measures could health care providers routinely track, and how?
 - What types of measures are being reported by health care providers to support health equity goals?
 - What types of measures are particularly effective for identifying and monitoring disparities that affect certain populations, such as Medicare beneficiaries?
- What are the main patient characteristics that health care providers generally consider for measuring health equity?
 - To what level could data be disaggregated on such characteristics for providers to sufficiently differentiate between patient groups (e.g., for race/ethnicity)?
 - What patient characteristics are most relevant for measuring health equity in certain populations, such as Medicare beneficiaries?
- **What is the quality of the SDOH- and equity-related data that are currently being collected by health care providers?**
 - What types of processes are currently being used to assess and ensure the validity of the data?
 - Is there a need for additional efforts to improve the validity of these data?
- **How can health care providers effectively share SDOH- and equity-related data with payers, community-based organizations, and other partners across the continuum of care?**
 - What are the potential benefits of sharing data on patients' social needs and social risks across health care providers (including with payers and/or with social services providers) within the context of value-based care?
 - How can providers be incentivized to develop the necessary infrastructure for sharing SDOH- and equity-related data? What specific capabilities and incentives are needed for smaller safety-net providers or rural providers?
- **What are some of the barriers, challenges, and other concerns related to collecting, using, and/or sharing SDOH- and equity-related data?**
 - What are the burdens associated with data collection on providers, payers, community-based organizations, other partners, and patients? How can any burden be alleviated or compensated?
 - What are the cost, infrastructure, and training needs of health care providers, payers, community-based organizations, and other partners to facilitate the collection and use of these data?
 - Are there any potential unintended consequences related to the collection and use of SDOH- and equity-related data (such as concerns related to risk selection – avoiding enrolling people who have more social risks and are likely to require more services)?
 - What challenges exist related to effectively sharing and using these data among health care providers, payers, community-based organizations, and other partners (e.g., data validity concerns, privacy concerns, cybersecurity concerns, lack of consistent definitions and standardization of measures, lack of financial and IT support)?
 - How do these barriers and challenges vary by geography (e.g., urban vs. rural), specialty, service type (e.g., physical vs. behavioral health), setting (e.g., small vs. large practices), or patient population (such as Medicare beneficiaries)?

- **What are examples of successful processes and tools, or best practices, for collecting, using, and/or sharing SDOH- and equity-related data?**
 - What are some best practices and protocols that providers could adopt to ensure the availability of standardized, accurate, and validated data collection on social risk factors and social needs?
 - Who are the programs/organizations implementing them, and how do they use the data?
 - What are some best practices around data sharing to assist in generating actionable insights (e.g., dashboards for patient-centered care)?

Payment-Related Questions

- **What types of investments have been made by payers, health care providers, social service providers, and communities to assess and address patients' social needs?**
 - What are the current funding streams and payer mechanisms that are used to support SDOH- and equity-related activities and infrastructure for providers? What are the current funding streams and payer mechanisms that are used to support SDOH- and equity-related activities and infrastructure for community-based organizations?
 - What gaps in resources exist, and what other types of investments by payers and health care providers are needed to support services aimed at addressing the social needs of patients and advancing health equity?
- **What role have APMs played in incentivizing activities related to addressing SDOH and/or equity?**
 - What services related to addressing social needs and SDOH, and advancing health equity have received reimbursement under value-based payment models?
 - What payment methodologies have been most effective in incentivizing efforts to address SDOH and/or equity?
 - How have payments been adjusted to support or incentivize care for high-risk patient populations?
 - How could monetary incentives to providers help to facilitate reduced disparities in health care delivery and outcomes?
 - What patient- and/or area-level measures of social deprivation might be used in calculating APM payments to recognize the costs associated with directly addressing SDOH?
 - How can patients be incentivized to participate in these efforts?
 - What kinds of SDOH- and equity-related quality and performance measures have health care providers been required to report and/or meet, and have been tied to payments?
 - What types of new measures/metrics could be used to encourage provider accountability that can meaningfully reflect the impact of addressing SDOH and advancing equity?
 - What specific metrics are needed that can reflect patients' experiences and engagement/activation in the health care, behavioral health, and social services sectors?
 - What types of measures can be used to ensure that reductions in disparities occur alongside improvements in overall population health?

- **What is the evidence regarding the effectiveness of various activities related to addressing SDOH and/or equity in improving quality and reducing costs?**
 - Have some types of activities been found to have been more effective than others (in general, and/or for certain populations such as Medicare beneficiaries)? Which activities, and why?
 - Does the effectiveness of these activities vary by clinical context, clinical setting, or other factors?
 - What gaps exist in the evidence base, and what are some areas for further research?