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Reflections Accompanying a Report on

Addressing Social Drivers of Health: Evaluating Area-level Indices[1]

A new report from RAND commissioned by ASPE assesses existing area-level indices of social determinants of health and their potential use in health care payments

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KEY POINTS

- The purpose of the RAND report, commissioned by ASPE, is to evaluate different area-level indices of social determinants of health (SDOH) for potential use in determining health care payments.
- Incorporating geographical area-level SDOH indices into health care payments could be used to address individual-level health-related social needs (HRSN) and SDOH within communities.
- Research conducted by RAND finds that while there are many precedents for assessing social risk factors in health care and administration of health care systems in the United States, there remains considerable heterogeneity in how social risk is measured.
- Based on ASPE's review of the RAND report, none of the existing indices are ideal for policies directed at addressing either SDOH or HRSN. The effectiveness of targeting funding for specific uses (e.g., addressing food or housing insecurity) will be dependent on the correlation between the index used and the policy objectives.
- Here, we provide additional policy framework and context for considering the RAND report's results and discuss implications for short-term use or modification of existing indices.

INTRODUCTION

Improving health equity in the United States (U.S.) is a priority for the Biden-Harris Administration to address longstanding disparities in health outcomes. According to the Centers for Disease Control and Prevention (CDC), health equity 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."[2] Health inequities are reflected in differences in outcome measures such as rates and severity of disease, quality of life, rates of disability, and length of life. These inequities can also be

[1] https://aspe.hhs.gov/reports/area-level-measures-account-sdoh
[2] https://www.cdc.gov/chronicdisease/healthequity/index.htm

conceptualized and measured in terms of the drivers of differences in health outcomes.[3] These begin upstream with structural discrimination which results in differences in social drivers of health (social determinants of health (SDOH),[4] health-related social needs (HRSN),[5] and social risk factors (SRF)[6]); access to care; and differential quality of care within the health care system. Recent efforts to quantify the contributions of different factors to health outcomes suggest that social and economic factors play a larger role than clinical care. For example, the County Health Rankings weights social and economic factors as the largest contributor to overall length and quality of life at 40%, while clinical care (both quality and access) contributes only 20%.[7]

The Department of Health and Human Services (HHS) has focused research efforts on better understanding the social drivers of health inequities and developing policies intended to improve equity. There is a greater focus on the critical role structural discrimination and racism play in determining the distribution of SDOH and the downstream impact on HRSN. A comprehensive set of policies across the federal government, states, and local communities will be needed to address the multiple drivers of health inequities to improve health outcomes for the population as a whole.

One important element in this effort is to measure and understand the impact that SDOH at the community level have on HRSN of individuals; this information can then inform policies to address these needs. In particular, the federal government can adopt Medicare payment policies that offer resources to and incentivize providers to screen patients for HRSN and refer them to appropriate social and behavioral services. In an ideal situation, providers would participate in closed loop systems to assure that the services are available and track when they have been used by the patients they serve. In addition, policies to fund and assist communities in establishing these systems can be considered, such as the pilot opportunities through the Administration for Community Living's Social Care Referrals Challenge[8] and the Office of the National Coordinator for Health IT's Leading Edge Accelerator Projects.[9]

A key policy question is what measures the federal government should use to target various payments to screen patients for HRSN and refer them to appropriate services. Payments need to be targeted to providers to support and incentivize these screening and referral activities whether they are provided up-front or as an adjustment to the relevant payment mechanism. In either case, these payments must be tied to appropriate performance measures for accountability. At this time, individual-level HRSN information is not widely available and, thus, developing measures to directly target funds based on these needs is not currently feasible. As an interim step, area-level measures of social needs or deprivation could be used, since they are already available for immediate policy use.[10] It is important, therefore, to understand the existing indices in terms of their validity, the SDOH and HRSN components they reflect, their availability and timeliness, the

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[3] Health equity 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." Health inequities, the inverse of health equity, are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment.

[4] SDOH are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. See discussion in the next section.

[5] HRSN are individual-level manifestations of SDOH. See discussion in the next section.

[6] SRF are adverse social conditions that are associated with poor health. See discussion in the next section.

[7] Booske BC, Athens JK, Kindig DA, Park H, Remington PL. 2010. Different Perspectives for Assigning Weights to Determinants of Health. Available at http://www.countyhealthrankings.org/sites/default/files/differentPerspectivesForAssigningWeightsToDeterminantsOfHealth.pdf.

[8] https://acl.gov/socialcarereferrals.

[9] https://www.healthit.gov/buzz-blog/interoperability/by-leaps-and-bounds-newest-round-of-awardees-seek-to-advance-health-equity-and-research.

[10] Phillips RL, Ostrovsky A, Bazemore AW, 2021. Adjusting Medicare Payments for Social Risk to Better Support Social Needs. Health Affairs Forefront, June 1. https://www.healthaffairs.org/do/10.1377/forefront.20210526.933567.

geographic level for which they are calculated, and usefulness for focusing on funding in communities and patients with the greatest need.

To better understand area-level and/or administrative SDOH and/or HRSN data options to target Medicare payments to providers treating greater proportions of beneficiaries with HRSN, the HHS Office of the Assistant Secretary for Planning and Evaluation (ASPE) commissioned RAND to conduct three environmental scans looking for: (1) area-level indices of social risk, (2) measures used in the U.S.' state and federal government programs that target areas, providers, or populations with social risk, and (3) existing payment models within the U.S. that incorporate measures of social risk.

Here, we provide context and a policy framework for considering the RAND report's results and discuss implications for short-term use or modification of existing indices.

CONCEPTS FOR EVALUATING AREA-LEVEL INDICES

Health inequities are driven by a complex set of interrelated factors. Among these factors, a considerable amount of effort has focused on SDOH. In the relevant literature and RAND's report, several related but distinct concepts are used, including SDOH, HRSN, SRF, and social deprivation. Understanding the discussion in recent years of appropriate terminology and health equity-related drivers and how to distinguish between these terms is important context for evaluating these indices.[11,12,13] This continuing discussion shows the interconnectedness of these concepts, while also recognizing that not all characteristics and needs can or should be addressed in the same way. Measures to represent these concepts would be constructed in different ways and different data would be needed to calculate them. In Table 1, we define these terms as they are employed here.

Table 1. Relevant Concepts and Definitions

Term	Definition	Domains	Impact Level
Social Drivers of Health	An umbrella term encompassing SDOH, HRSN, and SRF	See below	Community or Individual
Social Determinants of Health (SDOH)	The conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks	• Social and community context • Economic stability • Education access and quality • Neighborhood and built environment • Health care access and quality	Community
Health-Related Social Needs (HRSN)	Individual-level manifestations of SDOH	• Housing instability • Food insecurity	Individual

[11] Office of the Assistant Secretary for Planning and Evaluation, 2021. Building the Evidence Base for Social Determinants of Health Interventions. Available at https://aspe.hhs.gov/sites/default/files/documents/e400d2ae6a6790287c5176e36fe47040/PR-A1010-1_final.pdf

[12] Alderwick H, Gottlieb LM, 2019. Meanings and misunderstandings: a social determinants of health lexicon for health care systems. The Milbank Quarterly, 97(2), p.407. https://doi.org/10.1111%2F1468-0009.12390.

[13] Green K, Zook M, 2019. When Talking About Social Determinants, Precision Matters. Health Affairs Forefornt, October 29. https://www.healthaffairs.org/do/10.1377/hblog20191025.776011/full.

		• Utility needs • Interpersonal violence • Transportation needs	
Social Risk Factors (SRF)	Adverse social conditions that are associated with poor health	• Socioeconomic position • Cultural context • Social relationships • Residential and community context	Community or Individual
Social Deprivation	Limited access to society's resources due to poverty, discrimination, or other disadvantage	n/a	Community or Individual

Social Drivers of Health - At the highest level, social drivers of health include all of the social determinants of health, health-related social needs, and social risk factors, each of which is described further below.

Social Determinants of Health (SDOH) - According to Healthy People 2030, SDOH are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.[14] There are five SDOH domains identified:

1. Social and community context (e.g., demographics, social networks and supports; social cohesion; racial, ethnic, religious, and gender discrimination; community safety; criminal justice climate; civil participation)
2. Economic stability (e.g., employment, income, poverty).
3. Education access and quality (e.g., quality of day care, schools, and adult education; literacy and high school graduation rates; English proficiency).
4. Neighborhood and built environment (e.g., housing, transportation, workplace safety, food availability, parks and other recreational facilities, environmental conditions, sufficiency of social services).
5. Health care access and quality (e.g., access to high-quality, culturally and linguistically appropriate, and health literate care; access to insurance; health care laws; health promotion initiatives; supply side of services; attitudes towards health care; and use of services)

SDOH impact everyone; they are not something an individual can have or not have. Also, SDOH are not inherently positive or negative; rather, they can include both positive and negative factors and may have positive or negative effects on an individual and their health.[15] Too often, the SDOH concept is framed with a solely negative connotation. For the purposes of advancing health equity, it is essential to remember that all the SDOH categories can advantage some groups in terms of achieving their health potential and disadvantage other groups. SDOH factors exist at the community level, and we pair them with health-related social needs (HRSN) to describe the underlying individual level experiences in more detail.

Health-Related Social Needs (HRSN) - While SDOH capture community level drivers, we use HRSN to describe an individual's experience. An unequal distribution of SDOH is the root cause of HRSN at the individual level, although experiences may vary within a community. 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 HRSN.

[14] https://health.gov/healthypeople/priority-areas/social-determinants-health
[15] Ibid.

Communities may lack access to groceries or farmers markets that sell wholesome food causing some individuals to have poor access to healthy food and poor nutrition as a social need. In measurement terms, HRSN are often not directly measured as individual-level factors, so community-level SDOH serve as a proxy for these risks.

The domains to be included in measuring of HRSN can vary. For example, some may include socioeconomic factors such as income, employment stability and educational attainment.[16] For the purposes of assessing screening and referral systems and potential policies to incentivize them, a narrower set of domains may be used. For example, the Centers for Medicare & Medicaid Services (CMS) Innovation Center's Accountable Health Communities model focused on five domains: housing instability, food insecurity, utility needs, interpersonal safety, and transportation needs.[17] In terms of considering area indices for potential HRSN policies we will focus on the narrower set of domains; the exclusion of some HRSN may mean that the relationships between the excluded domains and health outcomes are missed here.

In terms of data and measurement, SDOH and HRSN can be closely related. SDOH might be measured directly at the community level by factors such as the percentage of housing that is multi-unit or the number of grocery stores in the area. SDOH might also be aggregated from person-level data such as the percentage of individuals living in crowded housing or the percentage of individuals with ready access to food stores. At the individual level these are HRSN, but when aggregated to the community level they represent SDOH.

Social risk factors (SRF) - The term risk factors is commonly used to describe any attribute or exposure of an individual that increases their likelihood of poor health; thus *social* risk factors are specific adverse social conditions that are associated with poor health.[18] The National Academies of Science, Engineering, and Medicine (NASEM) include the domains of socioeconomic position; race, ethnicity, and cultural context; gender; social relationships; and residential and community context. These domains and the individual factors within them were identified based on existing evidence of the association between the factor and worse health outcomes. Thus, SRF encompass measures of SDOH and HRSN, but, in practice, often focus on the socioeconomic factors like income, poverty, and education. More importantly, commonly used measures of social risk, such as income, Medicare and Medicaid dual eligibility, and education, are likely correlated to some degree with the distribution of key SDOH and HRSN – such as housing, transportation, and food security – but in most cases do not directly measure them.[19]

In addition, while some sources define SRFs as including non-modifiable demographic characteristics, such as race, ethnicity, sexual orientation, and gender identity, these characteristics are themselves not causal factors for disparities, but are subject to structural discrimination and inequities that produce adverse health outcomes. For the purposes of health equity research and policy, we do not consider these non-modifiable factors as SRF, but instead as a population group that may be disproportionately affected by drivers of health inequities.[20]

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[16] American Academy of Family Practice. Social Needs Screening Tool. Available at https://www.aafp.org/dam/AAFP/documents/patient_care/everyone_project/hops19-physician-form-sdoh.pdf.

[17] The CMS has added supplemental questions for financial stress, employment, and education. Available at https://innovation.cms.gov/files/worksheets/ahcm-screeningtool.pdf.

[18] Alderwick H, Gottlieb LM, 2019. Meanings and misunderstandings: a social determinants of health lexicon for health care systems. The Milbank Quarterly, 97(2), p.407. https://doi.org/10.1111%2F1468-0009.12390.

[19] It is also important to emphasize the SRF reflect factors associated with worse health outcomes while SDOH can be either positive or negative influences on health status.

[20] In addition to race/ethnicity, some other groups potentially disadvantaged in terms of drivers are LGBTQ+ persons, rural residents, persons with disabilities, and religious minorities.

Social Deprivation – Social deprivation can be defined as limited access to society's resources due to poverty, discrimination, or other disadvantage.[21] The concepts of social deprivation and social exclusion share a similar focus on the inability of individuals to participate fully in the life of their community or society. The measurement of social deprivation has tended to emphasize a lack of material or financial resources that contributes to a lack of social opportunity and participation.[22] Within the context of health and health equity, measures of social deprivation might focus on factors that reflect an individual's inability to access the resources to maintain or improve their health and may be reported at the individual level or aggregated to the community level. Thus, measures of area-level social deprivation might be constructed using SRF, SDOH, and/or HRSN.

The RAND report examines area-level deprivation indices that are predominantly comprised of the socioeconomic factors that are commonly considered SRF. Current HHS programs, such as TANF and child support, address these socioeconomic factors. Future HHS policies, on the other hand, are likely to address additional areas of SDOH and HRSN such as food, housing, and transportation. Thus, as discussed below, evaluating these indices for specific policy purposes must consider how well these socioeconomic measures proxy for these key SDOH and HRSN at both the individual- and area-levels – or, more importantly, the extent to which new indices might be developed that more directly measure the SDOH and HRSN that the programs intend to address.

The indices evaluated in the RAND report were selected for their potential use in payment policies broadly. In this context, it is also useful to distinguish **social risk factor adjustment** (SRF adjustment) from a variety of policies that might target payment and resources for specific purposes related to SRF or HRSN. SRF adjustment is often considered in the context of adding SRF to current methods of clinical risk adjustment used in value-based purchasing programs. This could be done at the provider level for each purchasing program by adjusting relevant performance measures and/or payments to reflect the complexity of patients' social risk. Conversely, targeting payments based on SRF or HRSN might be conditioned on particular activities (e.g., screening for patients' HRSN and referring them to appropriate services) with accountability based on specific performance measures. This distinction represents competing policy views:[23]

> *View 1:* The social risk profiles of certain patients means they will have worse outcomes even if the provider delivers the same care as that received by patients with more favorable social risk profiles, so value-based purchasing programs should account for these differences by adjusting quality measures or payments to compensate for these differences.
>
> OR
>
> *View 2:* We expect the same high-quality care and outcomes for all patients but realize that these outcomes take more resources and support to achieve for patients with social risk and providers serving a disproportionate share of these patients.

As described below, area-level indices that measure social deprivation may be useful for short-term policies to address SDOH and HRSN, such as providing additional payments to medical practitioners or funding to community-level efforts to address SDOH or HRSN. On the other hand, they are not likely to be useful for SRF adjustment, which might be thought of as being applied at the provider level rather than the area level along

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[21] American Psychological Association. Dictionary of Psychology. Available at https://dictionary.apa.org/social-deprivation.

[22] Chandola T, Conibere R, 2015. Social Exclusion, Social Deprivation and Health, in International Encyclopedia of the Social & Behavioral Sciences (Second Edition). Available at https://www.sciencedirect.com/topics/social-sciences/social-deprivation.

[23] Sheingold S, Zuckerman R, De Lew N, Sommers BD, 2021. Health Equity and Value-Based Payment Systems: Moving Beyond Social Risk Adjustment. Health Affairs Forefront, June 28. https://www.healthaffairs.org/do/10.1377/forefront.20210726.546811.

with clinical risk adjustment. For the same reasons, they are likely less useful for stratifying performance measures for reporting at the provider level.

SUMMARY OF RAND REPORT FINDINGS

The report from RAND finds that while there are many precedents for assessing SRF in the study of health care and administration of health care systems in the U.S., there remains considerable heterogeneity in how social risk is measured. The three environmental scans of social risk measures conducted for the report led to important observations about their variation with respect to evaluating area-level deprivation indices for specific policy uses. The report provides several tables that allow for detailed comparisons of the various area-level indices.

Coverage of SRF Domains: Area-level deprivation indices tend to have the broadest coverage across the entire range of SRF. In contrast, the measures that have historically been used in the context of administering government programs have covered the narrowest range, limited to the share of a population that is low-income (e.g., income below a certain percentage of the federal poverty level) as the only measure of social risk. The only other (far less common) measure identified was the availability of providers. Existing payment approaches tend to focus on the HRSN domain, although some include indices of area-level deprivation that effectively broadens their range. RAND also notes that broader coverage across more domains of SRF may not always be desirable, as some SRF may be more appropriate for payment adjustments than others.

Level of Measurement: Area-level indices are by definition measured for geographic areas, which presents challenges in including them in payment approaches because a provider's patients are unlikely to be representative of the population of the geographic area in which the provider is located. Variation in SRF within areas may be a barrier to using these measures in payment approaches. Measures used administratively have been a mix of area- and individual-level measures. Where these measures have used individual-level data, they have tended to use data collected in simplified form – for instance, collecting information on whether or not a person meets criteria for low-income (yes/no), rather than collecting detailed information on each enrollee's income. There are efforts to increase data collection on a broader range of SRF at an individual level through clinical care, but those efforts have not yet been demonstrated to be feasible, given the complexity of systematically collecting and recording information on SRF in this way. The payment approaches tend to use a combination of area- and individual-level measures. Information on the implementation of these approaches, and their success in collecting valid individual-level information on HRSN and other SRF, should be closely studied to inform the future use of these approaches.

The examples provided in Chapter 4 of the report are additional models of how area and administrative measures of social risk could be incorporated into federal programs. Studies of these approaches will be valuable in informing future policy in this area. Future approaches will require careful selection of measures and rigorous testing.

A FRAMEWORK FOR CONSIDERING HEALTH EQUITY DRIVERS AND THE POTENTIAL POLICY USES OF AREA-LEVEL INDICES

To fully evaluate various measures of area-level social indices, it is important to understand the policy context in which they might be employed. Policy context includes the ultimate objectives for the efforts (in this case, a drive to improve health outcomes for all population groups), the key drivers that might be addressed to achieve the objectives, and the various policy streams that might be undertaken in a complex environment. In this section, we briefly describe a framework for considering the multiple drivers of health inequity and the categories of policy efforts that might be employed. A more detailed description of the framework is provided

in Appendix 1. The optimal choice among available area-level indices may depend on the specific objectives of the policy.

A comprehensive approach to improving health equity will require multiple policy streams across HHS, as well as whole-of-government approaches. These potential policies might be summarized in five categories listed below. Factors such as structural discrimination and racism result in an unequal distribution of opportunities for some individuals or groups to achieve their maximum health potential. In particular, the distribution of SDOH may advantage some groups in achieving their health potential while disadvantaging others. Those disadvantaged in this way can experience higher levels of HRSN as they present either to the medical care or social service systems in the community. Access to high-quality medical care is essential to address both clinical and social needs. Although access to quality care is often categorized as a SDOH, we treat access to care and quality of care separately in the context of potential policy streams based on the range of policies that might be crafted and which HHS entities would be responsible for those policies.

The categories are as follows:

1. Address **HRSN at the individual level within communities** using data, provider incentives, and community funding
2. Address **distribution of SDOH** using whole-of-government approaches for improving economic activities, environment, housing, food availability, transportation, etc. at the community level
3. Improve **access to care** using insurance coverage and the supply of services and facilities to underserved areas
4. Improve **quality of care** by reducing disparities in care, increasing the provision of culturally appropriate care and services, reducing direct or unconscious discrimination in care and increasing the number of underrepresented minorities providing care and services
5. Address the **structural determinants** (e.g., structural racism) leading to HRSN, distribution of SDOH, access to care, and quality of care

In this case, the evaluation of area-level indices in this report supports policies in category 1 (address HRSN at the individual level within communities) and category 2 (address distribution of SDOH). We note that the area-level measures addressed in this report are downstream effects of the structural determinants, and as such, addressing HRSN at the individual level or providing resources for communities to address the distribution of SDOH will not fully address the larger structural determinants.

EVALUATING EXISTING AREA-LEVEL INDICES

Area-level indices might be used for informing or implementing a variety of policies related to SDOH and HRSN. For addressing HRSN, they might be used to direct payments to enhance communities' ability to establish systems for screening and referring patients to the appropriate services to meet these needs. This could be accomplished either by using the index to adjust provider payment rates, providing funding for communities, or both. The indices could also be used to prioritize communities for funding and other assistance to improve SDOH – such as affordable housing, availability of food stores, and transportation infrastructure.

These indices must be evaluated for the specific purposes for which they may be used, and there are several considerations to assess the usefulness of the various area deprivation indices for these policy purposes. Key criteria identified in the report include:

- the index was calculated using data from a recent year
- the index is or can be updated frequently
- the data are nationally available
- the area for which the index is calculated (i.e., county, ZIP code, etc.) is appropriate for the program or policy

- the index is constructed from a substantial number of factors related to social risk, SDOH, and HRSN
- there are no significant proprietary concerns or other obstacles to accessing the index and data by policy-making organizations

As described in RAND's report, the various indices are constructed using a mix of factors that may reflect SDOH at the community level, HRSN of community members, or socioeconomic SRF proxies for HRSN.[24] Thus, evaluating and choosing among the indices depends on their primary use. It is also important to evaluate each measure based on the specific factors that are included or excluded for its construction and the potential policy use of the measure. For example, if food insecurity is a key social need, then indices that do not include a factor related to food security will not be optimal.

Another factor for consideration is whether different indices might be best depending on whether policies were targeted to address SDOH or HRSN – or whether the same index might serve both. For example, in assessing communities for policies to improve the availability of transportation, healthy food, or affordable housing, an area-level index constructed on relevant community-level factors may be optimal. In contrast, if the goal is to fund providers and communities to directly meet the current HRSN of individuals, then an index built more directly on individual HRSN may be preferable. Based on the RAND report, the indices studied predominantly rely on socioeconomic SRF such as income, poverty, race, ethnicity, and education. Some include housing measures calculated at the community level, such as SDOH, but many more are aggregated from housing needs at the individual level (HRSN) which may also be used as SDOH measures at the community level. Many indices include transportation through automobile ownership as a proxy for transportation barriers experienced by individuals, but none address public transportation infrastructure. Only a handful of indices address food security or availability. Thus, the accuracy of targeting resources for a program or policy based on an index would depend on the strength of the correlation between the selected index (based on its components) and the SDOH or HRSN the program or policy intends to target (objectives).

The information provided in Table 2 (Table 2.5 in the RAND report) and Appendix Tables B.1 – B.20 in the RAND report can be used for a detailed comparison of the indices. Using this information and the criteria described above, the three principal indices to consider for short-term policy use would be the **Area Deprivation Index (ADI)**, the **Social Deprivation Index (SDI)** and the **Social Vulnerability Index (SVI)**. The **Community Resilience Index (CRE)** from Census meets the basic criteria but is calculated into three groups reflecting a community's social risk level rather than a continuous index and therefore might be less useful for targeting funds or making payment adjustments on a sliding scale. One consideration that may favor ADI and SDI is that they do not include race or ethnicity measures, while the SVI does. As discussed above, we consider health inequities experienced by an individual or group based on their race or ethnicity as a result of specific drivers of inequities (e.g., systemic racism and discrimination) rather than as a driver or SRF itself. Since providers cannot be expected to address non-modifiable risk factors, it may be inappropriate to base payment adjustments on such factors as opposed to the specific drivers on inequity that affect these individuals.

[24] See Table 2.5 in the report

Table 2. Percentage of the Reviewed Indices that Include Indicators of Social Risk

Domain	Indicators	Percentage of indices that include indicator	Percentage of indices available at zip code level that include indicator (table 2.1)
Socioeconomic Position	• Income or wealth	90	100
	• Insurance	43	25
	• Education	81	88
	• Occupation/employment/unemployment	90	33
Race, Ethnicity and Cultural Context	• Race/ethnicity	29	13
	• Language/limited English proficiency	33	25
	• Nativity	5	0
Gender	• Gender	5	0
	• Sexual Orientation	0	0
Social Relationships	• Marital status/single-parent/female-headed household	67	88
	• Living alone	0	0
	• Social support	5	0
Residential and Community Context	• Community socioeconomic composition	(see above)	
	• Built environment	24	25
	• Social environment	19	13
	• Own/rent, housing type, cost burden, vacancy	67	75
	• Health system infrastructure	24	0
Social Needs	• Housing instability/crowding/quality of home	52	50
	• Food insecurity	5	0
	• Transportation problems/car ownership/access	62	63
	• Utility help needs/internet-telephone access	33	25
	• Interpersonal safety/violent crime in neighborhood	5	0
	• Disability	24	25
	• Health outcomes	14	0

Source: Table 2.5 in the report, "Landscape of Area-Level Deprivation Measures and Other Approaches to Account for Social Risk and Social Determinants of Health in Health Care Payments." Available at https://aspe.hhs.gov/reports/area-level-measures-account-sdoh.

Conceptually, the ADI and SDI capture similar concepts, although the ADI employs a much more detailed set of risk factors. On the other hand, the RAND report notes that the SDI is updated regularly while ADI's schedule is less certain. It is also important to note that neither of these three indices contains a factor representing food security or availability. In choosing between these indices, it will be useful to analyze the similarities and differences in areas that are identified as high deprivation. For example, analyses might focus on the characteristics of communities or providers that differ in their rankings based on the two indices.

ASPE'S ASSESSMENT OF CURRENT INDICES AND POSSIBLE FUTURE IMPROVEMENTS

The Federal government has already begun to incorporate SRF into Medicare payments. Using administrative data, hospital payments have been adjusted using the disproportionate share hospital (DSH) patient percentage, a measure of low-income patient days, since 1986.[25] More recently, CMS proposed to increase payments to new Accountable Care Organizations (ACOs) caring for enrollees dually eligible for Medicare and Medicaid or who live in areas with high deprivation, as measured by the ADI.

[25] https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/dsh.

As potential policies to address HRSN are considered and implemented, it will be critical to focus limited funding on communities and providers most in need. Based on our analysis of the RAND report, none of the existing indices are ideal for policies directed at addressing either SDOH or HRSN. The effectiveness of targeting funding for specific uses will be dependent on the correlation between the index used and the policy objectives. For example, if the objective is to address immediate needs for food or housing, how well does the area index correlate with these needs among communities? Existing area-level indices are mostly comprised of socioeconomic SRF. A recent study suggests that socioeconomic factors such as dual-eligibility status and income are imperfect proxies for the number of HRSN experienced by beneficiaries.[26] While it will be important to confirm this finding using national data, the implication of this finding is that the correlation between the area deprivation indices and specific social needs may be less than ideal.

With improving health equity and addressing SDOH and HRSN moving to the forefront of health policy, it is understandable that there is a need to move ahead with existing measures as opposed to either waiting for new data or potentially modifying current indices based on careful evaluation of their performance. For immediate policy development addressing HRSNs, the ADI and SDI are the best choices given our selection criteria. However, using area-level indices for other purposes, such as ACO benchmarks, may have other considerations. Moreover, we recommend continued study of how these indices would target funds, as well as development of indices that more directly target funds to HRSNs at the geographic level. It is important to consider, however, that once measures that distribute funds in a particular manner are put in place, even as a temporary policy, it can be difficult to make changes in response to new data or research. Indeed, communities and providers may quickly begin making investments based on new funding distributions.

It is therefore important to rapidly research the potential consequences of using the available indices. These studies can include: using survey and other data to examine overlap between SRF proxies such as dual-enrollment status and the specific HRSN they are intended to capture; examining the similarities and differences in area rankings based on different indices; examining rankings based on the indices in contrast with rankings based on administrative measures such as disproportionate share hospital patient percentages; examining how well the indices used at the area level target the specific providers with the most underserved patients, such as safety net hospitals; and examining how the private sector and other countries have used area-level indices in provider payments. These studies can pinpoint issues that arise prior to more widespread policy use of the existing measures and potentially suggest alternatives that might mitigate any negative or harmful unintended consequences.

[26] Long CL, Franklin SM, Hagan AS, Li Y, Rastegar JS, Glasheen B, Shrank WH, Powers BW, 2022. Health-Related Social Needs Among Older Adults Enrolled in Medicare Advantage. Health Affairs, 41:4, p557-562. https://doi.org/10.1377/hlthaff.2021.01547.

APPENDIX: A FRAMEWORK FOR CONSIDERING HEALTH EQUITY DRIVERS AND THE POTENTIAL POLICY USES OF AREA DEPRIVATION INDICES

As described in the document above, there are multiple, diverse, and interrelated drivers of health inequities and a broad range of potential policy responses. In thinking about the use of deprivation indices for purposes such as ranking communities by various criteria or distributing funds, it may be useful to place them within the health equity related policy streams in which they may be most effective. In particular, it may be useful to focus on their use for policies that HHS might be able to develop and implement in the near future. The conceptual framework presented below provides a way of thinking about the drivers of health inequities and policies that might address them.

Key Components of the Conceptual Framework

In operational terms, pursuing health equity can be defined as striving to eliminate disparities in health between more and less-advantaged social groups, i.e., groups that have varying levels of access to resources and opportunities, and also those groups that experience structural inequities including racism, sexism, ableism, transphobia, ageism, and other forms of systemic discrimination.[27,28] The framework presented below in Figure 1 is not intended to be a fully predictive model of how key drivers affect specific disparities in outcomes and does not identify all the potential and complex relationships that exist among factors but is intended to provide a conceptual approach to identifying and addressing key factors affecting disparities in health care and health outcomes.

The first critical aspect of health equity, as it is impacted by social determinants of health (SDOH) and other drivers, is identifying the groups for which concerns about disparities in outcomes, opportunity, and experience arise. The "Who Experiences Disparities" bar—the blue bar at the top of Figure 1—provides examples of groups that fit these definitions.

Figure 1 is set up so that key drivers of health, divided into three phases, combine to influence observed disparities in outcomes. Examples of these outcomes appear in Box D1 on the Figure. The three phases are shown in the 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 on disparities in outcomes is indicated by the grey arrow. Within each of these phases, key drivers are identified, along with examples of policies that might affect these drivers.

The first two rows of Figure 1 display key systemic factors and drivers within each of the three phases 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 inequities, and those factors that can be systemic drivers (the second row) of those differences. These factors and drivers also point across the care continuum towards outcomes in the last column. Additionally, Box D2 reflects health related social needs (HRSN) that result from differences in key drivers such as SDOH and affect health outcomes. Even with access to good medical care, these needs must be addressed for individuals to achieve their best health.

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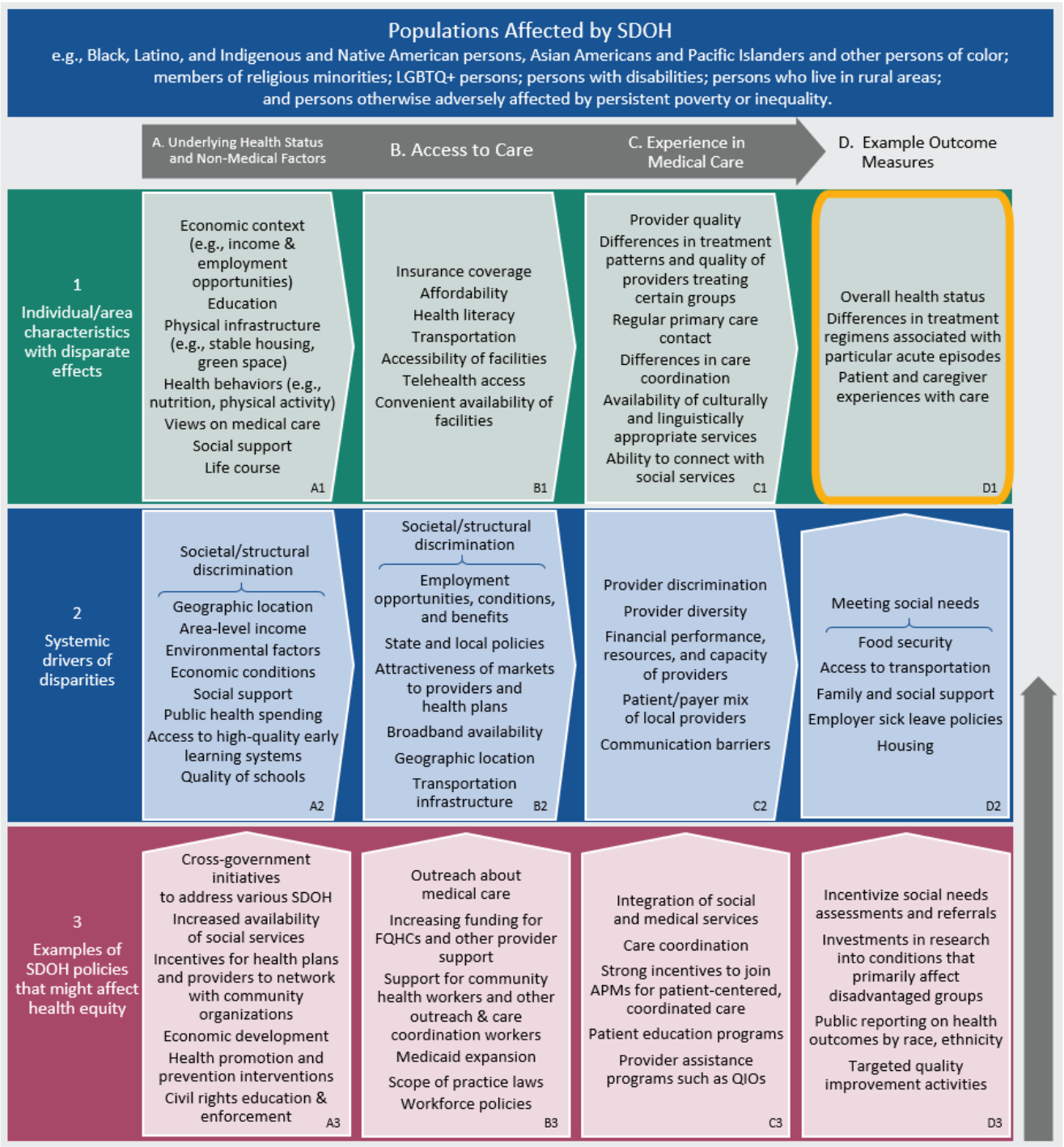
[27] Braveman PA, 2003. Monitoring Equity in Health and Healthcare: A Conceptual Framework. Journal of Health, Population and Nutrition. Sep;21:3, p181-192. Available at https://pubmed.ncbi.nlm.nih.gov/14717564/.

[28] Dover DC, Belon AP, 2019. The health equity measurement framework: a comprehensive model to measure social inequities in health. International Journal for Equity in Health. https://doi.org/10.1186/s12939-019-0935-0.

Figure 1. Health Equity Framework



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