Proposed New Measure for HEDIS®[1] Measurement Year (MY) 2023:
Social Need Screening and Intervention (SNS-E)

NCQA seeks comments on a proposed new measure for inclusion in HEDIS MY 2023.

Social Need Screening and Intervention: The percentage of members who were screened, using prespecified instruments, at least once during the measurement period for unmet food, housing and transportation needs, and received a corresponding intervention if they screened positive. Six rates are reported:

- *Food screening*: The percentage of members who were screened for unmet food needs.
- *Food intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet food needs.
- *Housing screening*: The percentage of members who were screened for unmet housing needs.
- *Housing intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet housing needs.
- *Transportation screening*: The percentage of members who were screened for unmet transportation needs.
- *Transportation intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet transportation needs.

The measure excludes individuals who are enrolled in hospice or in Institutional Special Needs Plans (I-SNP), or who reside in long-term care institutions (LTI). It is stratified by age (≤17, 18–64, 65+). Screening instruments and intervention codes included in the measure have been identified as appropriate for each domain by The Gravity Project consensus process, a multi-stakeholder, public collective initiative aimed at developing standardized terminology for documentation and exchange of data on social determinants of health (SDOH).

NCQA developed this measure as part of an organization wide effort to advance health equity and hold health plans accountable for assessing and addressing the food, housing and transportation needs of their patient populations. These social needs have been identified as high priority and actionable by a multitude of health system entities, including health plans, providers and other key stakeholders, yet most health care quality measures continue to focus on *clinical* processes and outcomes—there are currently no national health plan measures that assess and address a patient's social needs. NCQA sees this as a critical quality measurement gap to fill.

Disparities in morbidity and mortality across social needs have been well documented over the last few decades, as leading health organizations increasingly elevate health equity as a priority.[2,3] Organizations such as the Centers for Disease Control and Prevention and the World Health Organization, and policy initiatives like Healthy People 2030, have indicated the need to pursue health equity in the face of widening disparities between subgroups in the United States.[4,5] Additionally, there is wide acknowledgment that social factors such as access to food, housing, transportation and social supports contribute significantly to health

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[1] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

[2] Baciu, A., Y. Negussie, A. Geller, J.N. Weinstein. 2017. *The State of Health Disparities in the United States.* National Academies Press. https://www.ncbi.nlm.nih.gov/books/NBK425844/

[3] Penman-Aguilar, A., M. Talih, D. Huang, R. Moonesinghe, K. Bouye, & G. Beckles. 2016. "Measurement of Health Disparities, Health Inequities, and Social Determinants of Health to Support the Advancement of Health Equity." *Journal of Public Health Management and Practice*, 22, S33. https://doi.org/10.1097/PHH.0000000000000373

[4] CDC. 2019. *Attaining Health Equity—Healthy Communities Program.* https://www.cdc.gov/nccdphp/dch/programs/healthycommunitiesprogram/overview/healthequity.htm

[5] Pendo, E., L.I. Iezzoni. 2020. *The Role of Law and Policy in Achieving Healthy People's Disability and Health Goals around Access to Health Care, Activities Promoting Health and Wellness, Independent Living and Participation, and Collecting Data in the United States.* Department of Health and Human Services, Office of Disease Prevention and Health Promotion. https://www.healthypeople.gov/sites/default/files/LHP_Disability-Health-Policy_2020.03.12_508_0.pdf

outcomes. In fact, 30%–55% of health outcomes are attributed to SDOH.[6] The proposed measure would encourage health plans to identify specific needs and connect members with the resources necessary to overcome social barriers to their wellness.

Testing confirmed a large performance gap in terms of documenting results of screening for social needs. In Medicare, screening performance rates were highest for food (12.6%), followed by transportation (3.5%) and then housing (3.3%). Intervention performance rates were high compared to screening, with highest rates for food (75.1%) followed by transportation (68.5%) and housing (24.3%). Denominator sizes were small (<30) for some intervention indicators, particularly housing and transportation, suggesting that some plans may struggle to meet the minimum denominator size for reporting the intervention indicators.

NCQA seeks general feedback on the measure and specific feedback on the following:

1. *Phasing in the intervention indicators*. Should NCQA implement the measure with the intervention indicators or introduce the intervention component at a later time, given the current small denominators (which may be a barrier to reporting for some plans)?
2. *Follow-up time frame.* If the intervention indicators are retained in the measure, should NCQA shorten the follow-up time frame from 30 days (e.g., 1 week,2 weeks)?
3. *Exclusion of members in I-SNPs and LTIs*. Should NCQA exclude members who receive these services?
4. *Screening instruments specified*. Current measure specifications require a limited set of standardized, social needs screening instruments: the Accountable Health Communities Health-Related Social Needs screening tool, the PRAPARE, We Care, WellRx and the Hunger Vital Sign. Is this list appropriate? Should NCQA include additional tools in the measure?

NCQA expert panel members strongly support the proposed measure and believe it is an important step toward holding health plans accountable for addressing the social needs of their members.

Supporting documents include the draft measure specification and evidence workup.

NCQA acknowledges the contributions of the Health Equity Expert and Care Coordination Work Groups, and the Geriatric and Technical Measurement Advisory Panels.

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[6] World Health Organization (WHO). (n.d.). *Social Determinants of Health*. https://www.who.int/westernpacific/health-topics/social-determinants-of-health

Measure title	Social Need Screening and Intervention	Measure ID	SNS-E
Description	The percentage of members who were screened, using prespecified instruments, at least once during the measurement period for unmet food, housing and transportation needs, and received a corresponding intervention if they screened positive. Six rates are reported: • *Food screening*: The percentage of members who were screened for unmet food needs. • *Food intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet food needs. • *Housing screening*: The percentage of members who were screened for unmet housing needs. • *Housing intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet housing needs. • *Transportation screening*: The percentage of members who were screened for unmet transportation needs. • *Transportation intervention*: The percentage of members who received a corresponding intervention within 1 month of screening positive for unmet transportation needs.		
Measurement period	January 1–December 31.		
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Clinical recommendation statement	**American Academy of Family Physicians:** The AAFP urges health insurers and payors to provide appropriate payment to support health care practices to identify, monitor, assess and address SDoH. **American Academy of Pediatrics:** The AAP recommends surveillance for risk factors related to social determinants of health during all patient encounters.

	American Diabetes Association:
	Assess food insecurity, housing insecurity/homelessness, financial barriers, and social capital/social community support and apply that information to treatment decisions. **A**
	Refer patients to local community resources when available. **B**
Citations	American Academy of Pediatrics. (2015). *Promoting Food Security for All Children.* https://pediatrics.aappublications.org/content/136/5/e1431.
	American Academy of Pediatrics. (2016). *Poverty and Child Health in the United States.* https://pediatrics.aappublications.org/content/137/4/e20160339#sec-12
	American Academy of Pediatrics. (2013). *Policy Statement. Providing Care for Children and Adolescents Facing Homelessness and Housing Insecurity.* https://pediatrics.aappublications.org/content/131/6/1206
	American Diabetes Association (2021). *Improving Care and Promoting Health in Populations: Standards of Medical Care in Diabetes—2021.* Diabetes Care, 44(Supplement 1), S7–S14. https://doi.org/10.2337/dc21-S001

Characteristics	
Scoring	Proportion.
Type	Process.

Stratification	• Product line:
	   – Commercial.
	   – Medicaid.
	   – Medicare.
	• Age:
	   – ≤17 years.
	   – 18–64 years.
	   – 65 and older.

Risk adjustment	None.
Improvement notation	A higher rate indicates better performance.
Guidance	**Allocation:** The member was enrolled with a medical benefit throughout the participation period. When identifying members in hospice, the requirements described in *General Guideline 17* for identification of hospice members using the monthly

	membership detail data files are not included in the measure calculation logic and need to be programmed manually.
	Reporting: The total is the sum of the age stratifications. Product line stratifications are not included in the measure calculation logic and need to be programmed manually.

Definitions	
Participation	The identifiers and descriptors for each organization's coverage used to define members' eligibility for measure reporting. Allocation for reporting is based on eligibility during the participation period.
Participation period	The measurement period.
Food screening instrument	Eligible screening instruments with thresholds for positive findings include:

Instruments	Screening Item	Positive Finding
Accountable Health-Communities Health Related Social Needs Screening Tool (AHC HRSN)	Within the past 12 months, you worried that your food would run out before you got money to buy more.	Often true Sometimes true
	Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.	Often true Sometimes true
Comprehensive Universal Behavior Screen (CUBS)	Tell us about your household and how you purchase food	I can meet basic food needs, but require occasional assistance My household is on food stamps I have no food or means to prepare it. I rely to a significant degree on other sources of free or low-cost food
Hunger Vital Sign (HVS)	Food insecurity risk	At risk
Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE)	Have you or any family members you live with been unable to get any of the following when it was	Food

		really needed in past 1 year?	
	U.S. Food Security Survey (Household, Adult, Child, 6-item)	Food security status	Low food security Very low food security
	We Care	Do you always have enough food for your family?	No
	WellRX	In the past 2 months, did you or others you live with eat smaller meals or skip meals because you didn't have money for food?	Yes

Housing screening instrument	Eligible screening instruments with thresholds for positive findings include:

Instruments	Screening Item	Positive Finding(s)
Accountable Health-Communities Health Relates Social Needs Screening Tool (AHC HRSN)	What is your living situation today?	I have a place to live today, but I am worried about losing it in the future I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)
	Think about the place you live. Do you have problems with any of the following?	Pests, such as bugs, ants, or mice Oven or stove not working Mold Smoke detectors missing or not working Lead paint or pipes Water leaks Lack of heat
Comprehensive Universal Behavior Screen (CUBS)	Tell us about your housing	I'm in stable housing that is safe but only marginally adequate I'm in transitional, temporary or substandard housing; and/or current

			rent/mortgage is unaffordable (over 30% of income) I'm homeless or threatened with eviction
	Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE)	What is your housing situation today?	I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park
		Are you worried about losing your housing?	Yes
	We Care	Do you think you are at risk of becoming homeless?	Yes
	WellRx	Are you homeless? Or worried that you might be in the future?	Yes

Transportation screening instrument

Eligible transportation screening instruments with thresholds for positive findings include:

Instruments	Screening Item	Positive Finding(s)
Accountable Health-Communities Health Relates Social Needs Survey (AHC HRSN)	In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?	Yes
Comprehensive Universal Behavior Screen (CUBS)	Access to transportation/mobility status	My transportation is available and reliable, but limited and/or inconvenient; drivers are licensed and minimally insured My transportation is available, but unreliable, unpredictable, unaffordable; may have car but no insurance, license, etc.

			I have no access to transportation, public or private; may have car that is inoperable
	Protocol for Responding to and Assessing Patients Assets, Risks and Experiences (PRAPARE)	Has lack of transportation kept you from medical appointments, meetings, work, or from getting things needed for daily living	Yes, it has kept me from medical appointments or from getting my medications Yes, it has kept me from non-medical meetings, appointments, work, or getting things that I need
	PROMIS	Current level of confidence I can use public transportation	I am not at all confident I am a little confident I am somewhat confident
	WellRx	Do you have trouble finding or paying for transportation?	Yes

Interventions	An intervention on, or up to 30 days after, the date of the first positive screening.
Initial population	Members enrolled at the start of the measurement period who also meet criteria for participation.
Exclusions	Members in hospice or using hospice services during the measurement period. Members who meet either of the following: • Enrolled in an Institutional SNP (I-SNP) any time during the measurement period. • Living long-term in an institution any time during the measurement period, as identified by the LTI flag in the Monthly Membership Detail Data File. Use the run date of the file to determine if a member had an LTI flag during the measurement period.
Denominator	**Denominator 1** The initial population, minus exclusions. **Denominator 2** All members in numerator 1 with a positive food screen finding between January 1 and December 1 of the measurement period. **Denominator 3** Equal to denominator 1. **Denominator 4** All members in numerator 3 with a positive housing screen finding between January 1 and December 1 of the measurement period.

	Denominator 5 Equal to denominator 1.
	Denominator 6 All members in numerator 5 with a positive transportation screen finding between January 1 and December 1 of the measurement period.
Numerator	**Numerator 1** Members in denominator 1 with a documented result for food screening performed between January 1 and December 1 of the Measurement Period. **Numerator 2** Members in denominator 2 receiving a food intervention on or up to 30 days after the date of the first positive food screen (31 days total). **Numerator 3** Members in denominator 3 with a documented result for housing screening performed between January 1 and December 1 of the Measurement Period. **Numerator 4** Members in denominator 4 receiving a housing intervention on or up to 30 days after the date of the first positive housing screen (31 days total). **Numerator 5** Members in denominator 5 with a documented result for transportation screening performed between January 1 and December 1 of the Measurement Period. **Numerator 6** Members in denominator 6 receiving a transportation intervention on or up to 30 days after the date of the first positive transportation screen (31 days total).

Data criteria (element level)

Value Sets:

- **SNIE_HEDIS_MY2023-1.0.0**
  - Food Intervention (https://www.ncqa.org/fhir/valueset/2.16.840.1.113883.3.464.1004.2262)
  - Housing Intervention (https://www.ncqa.org/fhir/valueset/2.16.840.1.113883.3.464.1004.2263)
  - Transportation Intervention (https://www.ncqa.org/fhir/valueset/2.16.840.1.113883.3.464.1004.2264)

- **NCQA_Hospice-1.0.0**
  - Hospice Encounter (https://www.ncqa.org/fhir/valueset/2.16.840.1.113883.3.464.1004.1761)
  - Hospice Intervention (https://www.ncqa.org/fhir/valueset/2.16.840.1.113883.3.464.1004.1762)

Data Elements for Reporting

Organizations that submit data to NCQA must provide the following data elements in a specified file.

Table SNS-E-: Metadata Elements for Social Need Screening and Intervention

Metric	Age	Data Element	Reporting Instructions
FoodScreening	0-17	InitialPopulation	For each Metric and Stratification
FoodIntervention	18-64	ExclusionsByEHR	For each Metric and Stratification
HousingScreening	65+	ExclusionsByCaseManagement	For each Metric and Stratification
HousingIntervention	Total	ExclusionsByHIERegistry	For each Metric and Stratification
TransportationScreening		ExclusionsByAdmin	For each Metric and Stratification
TransportationIntervention		Exclusions	(Sum over SSoRs)
		Denominator	For each Metric and Stratification
		NumeratorByEHR	For each Metric and Stratification
		NumeratorByCaseManagement	For each Metric and Stratification
		NumeratorByHIERegistry	For each Metric and Stratification
		NumeratorByAdmin	For each Metric and Stratification
		Numerator	(Sum over SSoRs)
		Rate	(Percent)

Health Equity and Social Determinants of Health (SDOH) in HEDIS®[1]
Workup

Topic Overview

NCQA seeks to promote health equity through performance measurement and strives to ensure that factors beyond clinical determinants are considered in the Healthcare Effectiveness Data and Information Set (HEDIS). As a part of this effort, NCQA is exploring the development of new measures aimed at explicitly addressing social determinants of health (SDOH), such as assessing for and addressing social needs.

SDOH in HEDIS

Currently in HEDIS, NCQA incorporates SDOH through a limited number of stratifications, including an existing socioeconomic status (SES) and disability stratification applied to four measures, and a new race and ethnicity stratification that was first applied to five measures beginning in measurement year (MY) 2022, with plans to expand to at least five additional measures each in MY 2023 and MY 2024.

A multitude of other non-clinical determinants of health may be addressed by health plans, medical providers, social service providers and community-based organizations (CBO) to improve patient care and outcomes. Evidence shows that unmet social risks and social needs reflect underlying structural discrimination and unequal access to resources in our society; these social factors also contribute to inequities in health care and health outcomes (AMA, 2020; APHA, 2019). There is wide acknowledgment that social factors such as access to food, housing, transportation and social support contribute significantly to health outcomes. In fact, 30%–55% of health outcomes are attributed to SDOH (WHO, n.d.). HEDIS does not currently require stratifications by social factors other than race, ethnicity, low-income status (LIS)/Dual Medicaid and Medicare eligibility (DE) and disability status, and does not include any social needs-related measures. NCQA sees this gap as an opportunity to expand the scope of HEDIS quality measurement and encourage health plan accountability for taking into account members' social needs as well as their health care needs.

Background, Prevalence and Importance

Background

The World Health Organization (WHO) defines SDOH as "the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life," including economic policies and systems, development agendas, social norms and political systems (WHO 2020). Several other leading health organizations have developed similar definitions from which to operate when working to achieve health equity (CDC, 2020; Healthy People 2030, 2020). Equally important terms often referred to in the health equity domain include "social risk factors" (adverse social conditions associated with poor health), such as social isolation or housing instability, and "social needs" (immediate necessities, as determined by an individual's preferences and priorities), such as seeking safety from a violent partner or requesting assistance applying to rent subsidy programs.

Such language is often employed to highlight the influence of various factors on health care access, as well as on outcomes (Alderwick, 2019). Disparities in morbidity and mortality across multiple social factors have been well documented over the last few decades as leading health organizations elevate health equity as a priority (Baciu, 2017; Penman-Aguilar, 2016). Organizations such as the Centers for Disease Control and Prevention (CDC) and the WHO, and policy initiatives like Healthy People 2030, have indicated the need to pursue health equity in the face of widening disparities between various subgroups in the United States (CDC, 2020; CSDH 2008; Pendo, 2020). Health care disparities occur across many dimensions, including race and ethnicity, gender, sexual orientation, socioeconomic status, disability status and geographic location (KFF 2020).

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Although social risk factors and needs may best be addressed at the societal level through economic and social policy changes, they may also be addressed at the organizational level through effective health plan interventions. Social needs cited as considerably impacts on health inequity include inadequate access to nutritious food, transportation barriers, insecure or unstable housing and social isolation (AMA, 2019; AAFP, 2019). Health systems, health plans, providers and other key stakeholders are actively investing financial resources in addressing these factors through a number of programs and initiatives ((APHA, 2019; Hinton et al., 2020; Hostetter & Klein, 2020). Given the focus on these four domains, NCQA explores each in depth in the following section.

Overview of Select Social Needs

Food

Food insecurity, defined as the disruption of food intake or eating patterns because of lack of money and other resources, affected approximately 10.5% of American households at some time during 2019 (Nord et al., 2005; US Department of Agriculture [USDA], 2020). This prevalence increases to 13.6% when there are children in the household (USDA, 2020). In 2016, 38% of Medicare members younger than 65 years and 9% of Medicare members 65 years and older reported experiencing food insecurity (Madden et al., 2020). Recent data collected by the Kaiser Family Foundation shows that food insecurity is a challenge for Medicaid members during the COVID-19 pandemic, with 20% of Medicaid adults reporting food insecurity in their household in early March (Hall et al., 2020). Food insecurity rates have been found to be higher in single parent households, Black and Hispanic households and households with incomes below the poverty line (USDA, 2020; Healthy People, 2020). Unemployed individuals, disabled adults and residents with limited transportation have also been identified as groups with higher risk of experiencing food insecurity (Healthy People, 2020).

Research suggests food insecurity is closely associated with decreased nutrient intake, poorer health and increased rates of behavioral and mental health conditions in all individuals (Burke et al., 2016; Gunderson & Ziliak, 2015). In children specifically, food insecurity was linked to higher odds of having asthma and having anemia compared to children living in food-secure households (Gunderson & Ziliak, 2015). In adults, evidence has found a strong correlation between food insecurity and increased rates of several chronic diseases, such as diabetes, hypertension and COPD (Gunderson & Ziliak, 2015; Seligman et al., 2010; Gregory & Coleman-Jensen, 2017). Food insecurity is associated with limitation in activities in daily living in older adults (Gunderson & Ziliak, 2015). Food insecurity may make it challenging for individuals to afford or adhere to appropriate diets to properly manage their medical conditions, for example, adhering to a diabetic diet to manage blood sugar levels.

At a national level, food assistance programs like the Supplemental Nutrition Assistance Program (SNAP), the Women, Infants and Children (WIC) program, and the National School Lunch Program (NSLP) are efforts to address barriers to healthy food access and have been shown to reduce food insecurity (Gregory & Coleman-Jensen, 2017; Healthy People, 2020; Ratcliffe et al., 2011). However, there are a number of interventions health plans have implemented to help address food insecurity. These include identifying members living with food insecurity through screenings, referring members and their families to food banks and assistance programs and creating new food distribution programs (Feeding America, 2021).

There are also documented examples of health plans partnering with local organizations to provide food assistance to their members. Health Partners Plans (HPP) developed the Food-as-Medicine program, where they partner with a local organization to provide members who are identified as experiencing

food insecurity 21 meals a week (Beaton, 2018). This program has documented success in reducing hospital admissions, ED visits and provider visits. Humana also has implemented meal sharing programs and food bank partnerships as part of its Bold Goal initiative to address food insecurity in older adults. BlueCross BlueShield of Arizona implemented the Nourishing Arizona program, a mobile produce program, for its membership (Beaton, 2018). In addition, Medi-Cal, the California state Medicaid program, implemented the first statewide meal program in the US (Badaracco et al., 2020). The percentage of Medicare Advantage (MA) plans covering meals for their members increased to 46% after CMS expanded supplemental benefits in 2019 to give plans the ability to address SDOH like food insecurity and to offer produce prescriptions or the delivery of medically tailored meals as a health care intervention to members (Badaracco et al., 2020; CMS, 2019).

Transportation   The American Hospital Association reports that 3.6 million individuals forgo needed medical care each year due to inadequate access to transportation. Transportation barriers occur for a variety of reasons, including, but not limited to, public transportation infrastructure, health care provider supply, transportation costs, vehicle access and time burden (AHA, 2017). In a survey conducted by Kaiser Permanente in 2019, 32% of American families reported experiencing barriers to transportation. The survey indicated that 1 in 5 Americans with unmet transportation needs reported their health as fair or poor (Kaiser Permanente, 2019). In 2019 McKinsey & Company conducted the *Consumer Social Determinants of Health Survey,* which found that people with an unmet transportation need were 2.6 times more likely to report multiple ED visits and 2.2 times as likely to report an inpatient stay over a 12-month period than people without an unmet transportation need.

Missed appointments, or "no-shows," have been linked to lower rates of preventive care, poorer health outcomes and higher acute-care utilization. A study of over 140,000 adult patients across 15 primary care practices in Massachusetts found that patients with higher no-show rates were more likely to have incomplete cervical and colorectal cancer screening, uncontrolled hbA1C and cholesterol and higher rates of ED visits and hospitalization (Hwang et al., 2015). However, access to medical care is not the only mechanism through which transportation barriers can influence health. Transportation has also been linked to access to nutritious food (Dennis et al., 2017), employment (Blumenberg & Pierce, 2016) and social isolation (National Center for Mobility Management, 2020). Because of this, CMS recently expanded the type of transportation benefits MA plans are able to provide—including coverage for nonmedical transportation (Kornfield et al., 2020),

Evidence indicates that transportation barriers may affect certain populations more than others, such as those with lower incomes and those residing in rural communities. A systematic review of transportation barriers and access to care found that individuals with lower SES were more likely to experience transportation barriers to health care access (Syed et al., 2013). A Pew Research Firm analysis calculated that the average car travel time to the nearest hospital for Americans living in rural areas was 17 minutes, compared to roughly 10 minutes for those living in urban areas. This indicates that the burden of travel time and vehicle access may be greater for individuals living in rural regions than those living in urban or suburban areas. Roughly 18% of Americans live more than 10.5 miles from the nearest hospital (Lam et al., 2018). Additional risk factors may include functional status; an analysis of the National Health Interview Survey from 1997–2017 found that the rate of individuals experiencing transportation barriers was highest among those of

lower income, Hispanic ethnicity and with functional limitations (Wolfe et al., 2020).

Organizations can address transportation barriers by understanding the drivers of inadequate transportation among their patients, assessing individual transportation access, partnering with community organizations to address transportation needs and supporting policies to improve transportation infrastructure and access in their communities (AHA, 2017). Examples of interventions that organizations are pursuing to address transportation barriers among their patients include partnering with ride-sharing services to provide transportation to medical appointments and enhancing virtual care access. Ride-sharing partnerships have grown in use in recent years, although evidence has been mixed as to their effectiveness. While some studies have shown a decrease in patient no-shows after implementation of ride-sharing programs (Silver et al., 2012), others have shown that such programs may not be appropriate or effective for all populations (Chaiyachati et al., 2018). For example, drivers of ride-sharing services may not be appropriately trained to support individuals with functional limitations to the extent that nonmedical emergency transport services are.

Housing

Housing barriers can be experienced as housing insecurity, housing instability and homelessness. Housing insecurity may be defined as difficulty obtaining safe, adequate and affordable housing, where housing instability may refer to challenges such as difficulty paying rent, overcrowding or moving frequently (Cox et al., 2017; Frederick et al., 2014). According to a nationally representative survey conducted by Kaiser Permanente in 2019, 35% of American families reported experiencing stress over a housing need. According to the National Alliance to End Homelessness, 17 out of every 10,000 Americans experienced homelessness on any given night as of January 2019 (NAEH, 2020). Housing can influence health outcomes through a number of different pathways, including stability of housing access, safety and quality of housing, affordability of housing (which may impact an individual's ability to afford other necessities like food and health care) and through neighborhood characteristics which can hinder or promote health (Taylor, 2018). Housing issues have been linked to a multitude of health outcomes, including self-reported health, stress, depression, anxiety and premature death (Burgard et al., 2012). Specifically, housing insecurity and instability have been linked to poorer access to primary and preventive care for adults (Martin et al., 2019), asthma exacerbation in children (Federico et al., 2020) and poorer treatment adherence and outcomes among people living with HIV (Aidala et al.,2016). According to a brief prepared by the American Hospital Association, homeless individuals are 5 times more likely to be admitted to the hospital (Health Research & Educational Trust, 2017).

Once a housing need is identified, follow-up interventions can include assistance with housing coordination, counseling and education, or referral to housing support services. Selected housing interventions for low-income people have been found to improve health outcomes and decrease health care costs. A large number of interventional studies demonstrate the potential for improving health through improved housing quality and safety. For example, studies in which asthma triggers are removed have repeatedly demonstrated health improvements and cost reductions among both children and adults (Taylor, L. 2018). Plan-level interventions can include paying for services such as housing location services, eviction prevention services, and training on tenant rights and responsibilities (Bailey, P. 2020).

While the health care system has an important role in connecting patients to housing, interventions at the community and policy level are also essential in reducing the burden of housing insecurity. According to the Center on Budget and Policy Priorities, at least 17 million households that are eligible for federal rental assistance do not receive it due to limited funding (Bailey, P. 2020).

Social isolation and loneliness

The National Academies of Sciences, Engineering, and Medicine (NASEM) defines social isolation as the objective lack of or limited social contact with others, marked by a person having few social network ties, living alone or having infrequent social contact with others. Loneliness is defined as the perception of social isolation or the subjective feeling of being lonely (NASEM, 2020). 35% of adults 45 and older report feeling lonely; 1 in 4 adults 65 and older are socially isolated (NASEM, 2020; CDC, 2020; Veazie et al., 2019). The prevalence of social isolation is concerning in older adults, who are at higher risk due to various risk factors such as the loss of family and friends, living alone, physical limitations, sensory impairment and chronic illness (CDC, 2020; Veazie et al., 2019). The prevalence of social isolation in older adults is notable, given that the older adult population is experiencing rapid growth; By 2060, nearly 25% of the United States will be 65 and older (Veazie et al., 2019; Healthy People 2030, n.d.). Other groups such as immigrants, racial and ethnic minorities and members of the LGBTQ community may also experience higher rates of social isolation and loneliness; however, literature providing evidence on the prevalence in these groups is sparse (CDC, 2020; Alcaraz et al., 2019; Caffrey, 2019)

Evidence shows that both social isolation and loneliness in adults 50 and older are closely linked to morbidity and mortality. In this population, social isolation is associated with a 50% increase in the risk of dementia, 29% increase in risk of heart disease and 32% increase in risk of stroke (CDC 2020; NASEM 2020). Additionally, older adults with heart failure that experience loneliness also have a 68% increased risk of hospitalization and a 57% increased risk in ED visits (CDC 2020; NASEM, 2020). A review of the National Health and Nutrition Examination Survey and National Death Index found that social isolation predicts mortality in a magnitude similar to that of smoking and high blood pressure, verifying that social isolation is a strong risk factor for mortality (Pantell et al., 2013).

Literature highlights significant barriers to addressing and preventing social isolation and loneliness at the health plan level, including lack of time in the clinic to assess for this social risk and lack of reimbursement for assessment and discussion with members under fee-for-service (FFS) payment systems (Escalante et al., 2021). While it is difficult to overcome these barriers, health plans have begun to address loneliness in their membership through interventions and initiatives centered on promoting social connections. For example, Humana developed "Papa Pal," a program that matches college students with MA members to provide social companionship and technology assistance and aid with daily activities (Humana, 2019). United Health Group has collaborated with the AARP to raise awareness for the AARP's "Connect2Affect" digital risk assessment platform. This platform is intended to reduce social isolation among adults 50 and older by promoting increased connections via a variety of resources, beginning with a social isolation assessment questionnaire (United Health Group, 2020).

Screening tools for social needs

Screening for food insecurity: Several health care facilities have incorporated food insecurity screenings into their EHRs to collect this information during patient visits (Feeding America, 2021). Most commonly used is the 2-question

and social risk factors	Hunger Vital Sign screening assessment, which has high sensitivity and specificity for identifying individuals experiencing food insecurity (Humana & Feeding America, 2020). Other screening assessments, such as U.S. Household Food Security Survey Module: Six-Item Short Form Economic Research Service and the U.S. Household Food Security Module, can also be used to identify food insecurity, though these questionnaires are longer (Health Care Without Harm, 2018).
	Screening for transportation needs: A multitude of existing screening tools can be used to screen for transportation needs, including, but not limited to, the AAFP Social Needs Screening tool, the PRAPARE instrument and the Accountable Health Communities Health-Related Social Needs Survey (SIREN, n.d.). As of February 2021, the Gravity Project by SIREN had identified 16 existing tools that include questions assessing patient transportation needs; 4 have existing LOINC codes that can document screening results electronically. The Gravity Project is working to develop a comprehensive, and standardized electronic coding terminology across screening and intervention in the transportation domain.
	Screening for housing needs: A multitude of existing screening tools can be used to screen for housing needs, including, but not limited to, the AAFP Social Needs Screening tool, PRAPARE, and the Accountable Health Communities Health-Related Social Needs Survey (SIREN, n.d.). The Gravity Project identified 23 instruments that include screening questions related to a patient's housing needs. Housing has been identified as a priority domain by the Gravity Project. As of December of 2020, the Gravity Project had developed data standards for the housing instability and homelessness domains and is expected to facilitate the submission and creation of screening and intervention coding terminology in the near future (Gravity Project, 2020).
	Screening for social isolation and loneliness: A number of tools are available to screen for social isolation and loneliness, but the NASEM considers two assessments to be among the best for identifying these social risks: the UCLA Loneliness Scale and the Berkman-Syme Social Network Index (NASEM, 2020). The UCLA Loneliness Scale is a self-administered 20-item tool that evaluates teen and adult patients' subjective feelings of loneliness. A 3-item version of this tool is used widely in research and clinical settings as a strategy to briefly assess loneliness (Stanford University, n.d.). The Berkman-Syme Social Network Index is used to identify social isolation by assessing for participation in 12 types of social relationships, including those with family members, friends and colleagues (NASEM, 2020; Whitaker Institute, n.d.). It was recommended for inclusion in EHRs by the National Academy of Medicine (NAM) in 2014 and has been implemented in clinical settings to allow providers to measure social integration in patients (NASEM, 2020; NAM, 2015).
Intersection of Social Needs	Social needs often overlap; individuals experiencing one social need may experience additional social needs that compound health risk. McKinsey's 2019 Consumer Health Insights Survey found that half of those reporting at least 1 unmet social need reported multiple unmet social needs; among Medicaid patients surveyed with at least 1 need, 67% reported multiple unmet social needs (McKinsey & Company, 2019). For example, food insecurity may not exist in isolation and may be closely linked to another social need such as access to reliable transportation and neighborhood characteristics (Healthy People, 2030). Individuals experiencing homelessness may also experience social isolation and loneliness resulting from stigma. While each individual social need may require targeted interventions and links to need-specific resources, it is important to consider that social needs often intersect and compound an individual's health risks.

Importance	Public health leaders have increasingly called for collaborative, coordinated approaches across different disciplines to address social determinants of health. It is estimated that 45%–57% of SDOH drivers exist outside the health care system; thus, calls for response to health disparities have echoed a need to implement interdisciplinary approaches (APHA, 2019; Daniel, 2018; AMA 2019).
	The American College of Physicians published a set of policy recommendations on SDOH, expressing support for cross-agency collaboration to maximize the impact of changes in policy (Daniel et al., 2018). The American Public Health Association (APHA) similarly indicated that cross-cutting interventions must be employed by organizations in different fields at the national, local and individual levels, in addition to work implemented through nongovernmental organizations (Chisolm, 2019). The need for the implementation and maintenance of measurable objectives when assessing disparities and health equity-driven goals is another topic in which many leading health care organizations are invested.
	Healthy People 2030 has expressed interest in strengthening the link between performance measurement and addressing social risks (APHA, 2019). The APHA also highlights the importance of measurement-oriented initiatives in decreasing health disparities. Researchers find that creating approaches with operational objectives can help health care organizations assess whether they are on track to meet health equity goals at various levels (individual, community, state, national).
COVID-19	The COVID-19 pandemic accentuates the need to address health disparities and underscores that living in an underserved environment and facing social adversity correlates directly to biased rates of infection and poor health outcomes (Holuka, 2020). Early studies show that several groups are at increased risk of contracting COVID-19 and dying from the coronavirus, including individuals 65 and older, racial and ethnic minorities and groups from economically depressed communities (Hatcher, 2020; Kim, 2020).
Financial impact	Beyond the human toll, unmet social needs and resulting health disparities place a considerable economic burden on society. Total overall costs of health inequities and premature deaths between 2003 and 2006 amounted to $1.24 trillion (AHPA, 2019). Experts estimate that eliminating health disparities during this time frame would have reduced this cost by $229.4 billion (LaVeist, 2009).
	Social needs can incur significant costs to individuals and society. For example, transportation barriers resulting in missed appointments cost the U.S. health care system up to $150 billion each year (Stewart, 2019). Organizations have found that investment in social services has shown reduced costs. Evaluation of a managed care organization social services referral program demonstrated a 10% reduction in mean expenditure per patient among patients reporting that their social needs were met (Pruitt et al., 2018). A social ROI analysis evaluated the impact of a hospital's affordable housing program on its community and found that for every dollar the hospital spent on its patients via the affordable housing program, between $1.30 and $1.92 returned to the community, suggesting that increased access to affordable housing for patients can produce a positive social value (Drabo et al., 2021).

Data Availability and Use (Social Needs)

Although the importance of addressing social needs for the purposes of equitable quality measurement is apparent, challenges remain, including how to accurately and feasibly identify social needs. Some data elements may be more readily available than others, and some data sources may demonstrate greater accuracy than others. Below is an analysis of the availability of social needs data in administrative claims and EHRs.

Claims   Documentation of social needs in administrative claims is increasing but remains uncommon.

In 2016, Medicare introduced "z-codes," a set of ICD-10 diagnosis codes related to SDOH. Z-codes are designed to capture social factors that influence a patient's health status, including, but not limited to, socioeconomic and psychosocial circumstances (CMS, 2020).

Analysis of z-code utilization among Medicare FFS beneficiaries found that among 33.7 million total beneficiaries in 2017, approximately 1.4% had claims with documented z-codes. The most commonly used z-codes were for homelessness, problems related to living alone, disappearance or death of a family member, problems related to psychosocial circumstances and problems in relationships with a spouse or partner.

The analysis concluded that the data likely underestimates patient social needs among Medicare FFS beneficiaries and that although SDOH screening may occur, the extent to which patient social needs are being documented in claims is unclear (CMS, 2020).

Another study examining z-code utilization from 2016–2017 using the National Inpatient Sample, a publicly available, all-payer, inpatient care database, resulted in similar findings. Of over 14 million hospitalizations, just 1.9% included a z-code. The study concluded that z-codes are not an accurate representation of the true burden of social needs among hospitalized patients (Truong et al., 2020).

There are some important considerations in evaluating the appropriateness of relying on claims to identify, prioritize and address social needs across a population. The effort of Gottlieb and colleagues to map social screening tools to existing z-codes revealed challenges: There may not be a social code that appropriately matches to an identified need; multiple social codes may apply; meaning may be lost in selecting a particular social code (Gottlieb et al., 2017). For example, because "lack of adequate food or safe drinking water" collapses several distinct social needs, meaning may be lost when attempting to understand and address population-level needs.

Despite the low utilization and limitations of ICD-10 social codes, efforts are underway to increase utilization and usefulness of SDOH documentation in claims.

- In 2019, the American Hospital Association released *ICD-10-CM Coding for Social Determinants of Health* in an effort to increase utilization of z-codes (American Hospital Association, 2019).

- The American Medical Association, in partnership with UnitedHealthcare, announced the desire to expand the existing set of z-codes to increase specificity and allow more accurate documentation of patient social needs (American Medical Association, 2019).

EHRs	EHR systems represent an opportunity to capture and utilize rich patient-level demographic and social needs data. The Office of the National Coordinator for Health IT's most recent certification criteria for Certified Electronic Health Record Systems requires that systems be able to collect structured information related to patient social, behavioral and psychological data, including, but not limited to, financial resource strain, education and social circumstances (ONC, 2015).
	Although evidence indicates that demographic data is routinely documented in EHR systems, there remains considerable variability in how patient social needs are screened for and documented in EHR systems. A study of EHR data for over 5 million patients seen in a multi-level health care system in Maryland found that ZIP code was documented for 95% of patients, race for 90% of patients and ethnicity for 50% of patients. By contrast, less than 1% of patients had data related to a social need documented in structured fields (Hatef et al., 2019).
	Barriers to documentation of SDOH in EHR systems include variability in availability of structured screening tools in each system and lack of staff training on screening for and documenting SDOH in the EHR. Variation in availability of structured SDOH fields may be attributed in part to EHR vendor preferences and priorities. A qualitative study of EHR vendor perspectives on and approaches to SDOH data collection in EHRs revealed that EHR vendors are actively investing in SDOH products, but vendors also highlighted that lack of standardization in SDOH screening instruments may lead to variation in how they approach SDOH data collection (Freij et al., 2019).
	Further variability is introduced in how—and if—clinicians document social needs, from screening tools to EHR fields. A study analyzing the feasibility of implementing an EHR-based SDOH screening tool found that clinicians may face challenges in screening for and documenting social needs due to a lack of sustainable resources to manage the follow-up workload involved in linking patients with SDOH needs to appropriate resources (Gold et al., 2018).
Social needs referral platforms	A fast-growing market of technology-based platforms has allowed greater connection between patients, medical providers, social service providers and community-based organizations. This section highlights a few examples of these platforms and portals that may be used to address social needs.
	Aunt Bertha developed a social care network to help individuals navigate the complex social service systems beyond the health care industry. It targets individuals seeking social care and helps customers find free and reduced-cost services, such as food pantries or assistance with housing payments. Aunt Bertha partners with verified nonprofits and social service organizations, which are added to a repository of resources that individuals can search for and connect with on the network platform. The network offers advanced features, such as EHR integration and referral tracking, so patients and/or providers and organizations are notified when connections are made. As of March 2021, 5.92 million people had engaged with Aunt Bertha's networking platform across all 50 states, while 29.4 million searches had been conducted by users (Aunt Bertha, n.d.).
	NowPow is a community referral platform that uses evidence-based, personalized referrals to help individuals meet health and social needs. NowPow allows providers across the health care and social care continuum (e.g., community health workers , outreach workers) to transmit health and social referrals through a centralized, standardized platform that streamlines the

referral workflow for all involved parties. This platform can be integrated with EHRs, health information exchanges and case management systems. It builds networks across organization types, including health care, CBO and education, allowing health care professionals to connect directly with network partners in the community to close the referral loop on all health and social needs. NowPow's architecture also supports resource supply-and-demand analytics across entire communities, making it useful for both individual- and population-level assessment of social needs referrals and uptake of services (NowPow, n.d.).

Unite Us builds coordinated care networks of health and social service providers. Network partners are connected through a shared technology platform, which supports screening and referral collaboration, communitywide care and secure bidirectional communication and alerts. The Unite Us infrastructure allows outcome tracking, so providers can assess and address service gaps while improving quality of care and reducing costs. The platform is embedded in the EHR system of every network partner, enabling streamlined electronic referral care plan management across all providers. Unite Us ensures sustained network growth by helping each partner build its platform framework to effectively analyze data and make it actionable within the communities the partner organization serves (Unite Us, n.d.).

In addition to existing tools, more opportunities to engage with social needs referral platforms are on the horizon. Epic Systems has partnered with several health systems in Wisconsin to embed an SDOH referral tool into provider EHRs. The goal is to allow care teams to easily access and document information related to screening and referrals for SDOH without having to navigate third-party vendor portals. The information exchange will also include a directory of community-based organizations that providers can use to directly refer patients to external resources (Raths, 2020).

Current State of SDOH and Equity in Policy and Measurement

National
For Medicare Contract Year 2023, CMS proposes that all Special Needs Plans include standardized questions on food insecurity, access to transportation and housing instability as part of their health risk assessments (CMS 2022).

A number of national programs and organizations have made efforts to highlight disparities in care and encourage collection of data to address SDOH. Notably, in 2021, CMS identified "Leverage Quality Measures to Promote Equity and Close Gaps in Care" as one of its five action plan goals, highlighting a commitment to develop a multi-year plan to address disparities. CMS stated it intent to incentivize plans to close equity gaps through pay-for-performance incentive programs (Schreiber, 2021).

In August 2020, the CDC released the new set of Healthy People 2030 objectives, which included objectives related to SDOH across five domains: Economic Stability, Education Access and Quality, Health Care Access and Quality, Neighborhood and Built Environment and Social and Community Context (CDC, 2020).

In June 2020, the DHHS Assistant Secretary for Planning and Evaluation delivered a report to Congress underscoring the importance of health plans and government agencies in measuring and addressing social risks. The report highlights that health plans can, and should, advocate for stronger collaborations and partnerships within and outside the health care system to advance health equity and improve the quality of care (ASPE, 2020).

The Comprehensive Primary Care+ program, a national advanced primary care medical home model with 2,783 practices and 52 payers participating as of 2020, requires practices to "identify patients' high priority health-related social needs and resources available in your community to meet those needs" (Center for Medicare and Medicaid Innovation, 2018).

State

Most states analyze and publicly report data on health disparities. States deploy varying approaches to measuring health equity, reporting a wide range of health indicators and relying on a multitude of national (e.g., ACS, National Vital Statistics System) and local (e.g., state surveys, local health departments) data sources.

The Center for Health Care Strategies conducted a qualitative study to understand the extent to which state Medicaid agencies collect SDOH data and how they use the data. Of eight states interviewed, all collect data on housing and employment; seven collect data on family and social supports (Center for Health Care Strategies, 2018). States increasingly require Medicaid Managed Care Organizations (MCO) to address SDOH in their contracts (Kushner & McConnell, 2019).

Some states have contracted with social referral platforms to improve coordination with community resources when delivering care. For example, Unite Us announced a new network in Arizona that will allow exchange of electronic referrals and the ability to track SDOH outcomes in communities across the state (Unite Us, 2021). North Carolina developed and implemented its own social referral platform, NCCARE360, which streamlines and standardizes referrals, mobilizes community partnerships and allows easy information sharing between medical and social services (NCDHHS, n.d.).

A handful of states have developed social risk factor screening measures in response to increasing interest in the impact of SDOH on Medicaid enrollee health status. States are actively sharing best practices and convening expert work groups to discuss decisions related to implementation of SDOH screening measures (e.g., where screening should be performed, measure data sources) (Bailit Health, 2020).

Quality measurement & endorsement organizations

Quality measurement organizations have recognized the importance of addressing equity through measurement of disparities and SDOH. In 2019, the National Quality Forum partnered with Aetna to issue a national call to action to address SDOH and convened a multi-stakeholder summit to develop a set of related recommendations. Included was a call to "develop key sets of measures to incorporate and align social determinants of health measurement and activity across the health ecosystem" (National Quality Forum, 2019b). NQF has recently partnered with Humana to develop thre electronic quality measures related to food insecurity (National Quality Forum, 2019a).

NCQA also issues Health Plan Accreditation and administers the Patient-Centered Medical Home (PCMH) program. As a part of its Population Health Management (PHM) program health plan Accreditation standards, entities must assess the characteristics and needs of their patient populations, including SDOH, and identify and offer community resources to meet those needs. The PCMH model requires practices to demonstrate processes to collect data on patient social needs (NCQA, 2020).

Funders, academics, other

There are multiple examples of innovative industry efforts to measure, report and use data to shine light on health disparities and equip communities with the information they need to address SDOH. Mathematica, Inc. developed the

Community Connector tool in 2019, a data visualization tool that describes how a community looks in terms of SDOH across six domains.

The Robert Wood Johnson Foundation has also funded a number of innovative initiatives; for example, it partnered with the University of Wisconsin Population Health Institute to maintain the County Health Rankings and Roadmaps program, an interactive tool that maps a range of clinical and social indicators, such as health behaviors, economic factors and physical environment, in almost every county across the 50 states. The tool relies on data from a multitude of national data sets, such as the American Community Survey and the Behavioral Risk Factor Surveillance System. Many indicators in the tool are stratified by age, gender, race, education and/or income (Robert Wood Johnson Foundation, n.d.).

In 2018, the Robert Wood Johnson Foundation funded initiation of the Gravity Project by SIREN, which aims to standardize coded data elements used to document SDOH in EHRs across four activities (screening, diagnosis, planning, interventions) and three social risk domains (food insecurity, housing instability and quality, transportation access). As of March, 2021, the food insecurity domain has been collated into a master list of adjudicated data elements, while housing instability and transportation are currently in draft phase, with target for HL7 inclusion in 2021 (HL7 International, n.d.).

Screening for SDOH

A growing number of guidelines and clinical practice policies in the U.S. relate to screening for social needs and links to resources. The AMA supports expanding access to SDOH screening tools, urges vendors to adopt SDOH templates and supports payment reform policy proposals that incentivize screening for SDOH and referral to community support systems (American Medical Association, 2019).

The American Hospital Association (AHA) Value Initiative developed guidance to assist hospital and health systems leaders as they engage patients in screening conversations. Guidance notes that although screening patients for social needs may be challenging, it is crucial that health care organizations develop screening approaches that enhance patient care and connect individuals to community-based organizations as needed (AHA, 2019).

The American Academy of Pediatrics recommends screening children for social risk factors during all patient encounters, as well as partnering with community organizations, intervention programs and schools to link patients to needed resources (American Academy of Pediatrics, 2016).

In 2020, the U.S. Preventive Services Task Force released a review of its methods for developing primary care-based recommendations for SDOH. It outlined considerations for new approaches for addressing SDOH in future recommendations and concluded that further research on these proposed methodological changes could position it to better integrate social risks into future preventive care recommendations (Davidson et al., 2020).

There is growing acknowledgment in the health care community of the need to identify and address social needs and health disparities. In 2017, the American Academy of Family Physician surveyed 5,000 family physicians and found that 83% agreed that family physicians should identify and help address patients' SDOH. 78% agreed that family physicians should partner with community organizations to address community health disparities (AAFP, 2019; AAFP, 2017; The Everyone Project, n.d.).

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Appendix A: Guidelines, Position Statements and Recommendations

Clinical and Policy Practice Guidelines: Social Determinants of Health and Health Equity

Organization, Year	Recommendation	Grade
American Academy of Pediatrics, 2016	The AAP recommends surveillance for risk factors related to social determinants of health during all patient encounters. Practices can use a written screener or verbally ask family members questions about basic needs such as food, housing, and heat.	Not graded
American College of Physicians, 2018	Policy Recommendations: 1. The American College of Physicians supports increased efforts to evaluate and implement public policy interventions with the goal of reducing socioeconomic inequalities that have a negative impact on health. Supportive public policies that address downstream environmental, geographical, occupation, education, and nutritional social determinants of health should be implemented to reduce health disparities and encourage health equity. 2. The American College of Physicians recommends that social determinants of health and the underlying individual, communities, and systemic issues related to health inequities be integrated into medical education at all levels. Health care professionals should be knowledgeable about screening and identifying social determinants of health and approaches to treating patients whose health is affected by social determinants throughout their training and medical career. 3. The American College of Physicians supports increased interprofessional communication and collaborative models that encourage a team-based approach to treating patients at risk to be negatively affected by social determinants of health. 4. The American College of Physicians supports the adequate and efficient funding of federal, state, tribal, and local agencies in their efforts to address social determinants of health, including investments in programs and social services shown to reduce health disparities of costs to the health care system and agency collaboration to reduce or eliminate redundancies and maximize potential impact. 5. The American College of Physicians supports increase research into the causes, effects, prevention, and dissemination of information about social determinants of health. A research agenda should include short- and long-term analysis of how social determinants affect health outcomes and increased effort to recruit disadvantaged and underserved populations into large-scale research studies and community-based participatory studies. 6. The American College of Physicians recommends policymakers adopt a "health in all policies" approach and supports the integration of health considerations into community planning decisions through the use of health impact assessments. 7. The American College of Physicians recommends development of best practices for utilizing electronic health record (EHR) systems as a tool to improve individual and population health without adding to the administrative burden on physicians. 8. The American College of Physicians recommends adjusting quality payment models and performance measurement assessments to reflect the increased risk associated with caring for disadvantaged patient populations. 9. The American College of Physicians recommends increased screening and collection of social determinants of health data to aid in health impact assessments and support evidence-drive decision making.	Not graded

Organization, Year	Recommendation	Grade
American Medical Association, 2019	Expanding Access to Screening Tools for Social Determinants of Health/Social Determinants of Health in Payment Models H-160.896. Our AMA supports payment reform policy proposals that incentivize screening for social determinants of health and referral to community support systems.	Not graded
American Public Health Association, 2019	The APHA goal is for the United States to become the healthiest nation in a generation by 2030. To accomplish this goal, APHA calls for the conduct of eight science-based key actions: • Build safe, healthy communities • Help all young children graduate from high school • Reverse growing income inequalities • Remove barriers to good health for everyone • Provide affordable, nutritious food for everyone • Effectively prepare for and respond to the health impacts of climate change • Provide quality health care to everyone • Strengthen public health infrastructure Furthermore, considerable literature exists denoting additional specific strategies in smaller localities that have led to improvements in health equity through addressing the social determinants of health. These strategies include, but are not limited to, research strategies (such as community-based participatory research), housing program and policy strategies (such as tenant-based rental assistance programs), and educational program and policy strategies (such as center-based early childhood education, full-day kindergarten programs, and high school completion programs).	Not graded
Institute of Medicine, 2009	Recommendation 3-1: An entity collecting data from individuals for purposes related to health and health care should: • Collect data on granular ethnicity using categories that are applicable to the populations it serves or studies. Categories should be selected from a national standard list (see Recommendation 6-1a) on the basis of health and health care quality issues, evidence or likelihood of disparities, or size of subgroups within the population. The selection of categories should also be informed by analysis of relevant data (e.g., Census data) on the service or study population. In addition, an open-ended option of "Other, please specify: " should be provided for persons whose granular ethnicity is not listed as a response option. • Elicit categorical responses consistent with the current OMB standard race and Hispanic ethnicity categories, with the addition of a response option of "Some other race" for persons who do not identify with the OMB race categories. Recommendation 3-2: Any entity collecting data from individuals for purposes related to health and health care should collect granular ethnicity data in addition to data in the OMB race and Hispanic ethnicity categories and should select the granular ethnicity categories to be used from a national standard set. When respondents do not self-identify as one of the OMB race categories or do not respond to the Hispanic ethnicity question, a national scheme should be used to roll up the granular ethnicity categories to the applicable broad OMB race and Hispanic ethnicity categories to the extent feasible.	

Organization, Year	Recommendation	Grade
	Recommendation 5-1: Where directly collected race and ethnicity data are not available, entities should use indirect estimation to aid in the analysis of racial and ethnic disparities and in the development of targeted quality improvement strategies, recognizing the probabilistic and fallible nature of such indirectly estimated identifications. Race and ethnicity identifications based on indirect estimation should be distinguished from self-reports in data systems, and if feasible, should be accompanied by probabilities. Interventions and communications in which race and ethnicity identifications are based on indirect estimation may be better suited to population-level interventions and communications and less well suited to use in individual-level interactions. An indirectly estimated probability of an individual's race and ethnicity should never be placed in a medical record or used in clinical decision making. Analyses using indirectly estimated race and ethnicity should employ statistically valid methods that deal with probabilistic identifications. Recommendation 6-3: Accreditation and standards-setting organizations should incorporate the variables of race, Hispanic ethnicity, granular ethnicity, and language need outlined in this report and associated categories (as updated by HHS) as part of their accreditation standards and performance measure endorsements. The Joint Commission, NCQA, and URAC should ensure collection in individual health records of the variables of race, Hispanic ethnicity, granular ethnicity, and language need as outlined in this report so these data can be used to stratify quality performance metrics, organize quality improvement and disparity reduction initiatives, and report on progress.	Not graded
U.S. Preventive Services Task Force, 2018	The USPSTF recommends that clinicians screen for intimate partner violence (IPV) in women of reproductive age and provide or refer women who screen positive to ongoing support services.	B Recommendation

Grading System Key

U.S. Preventive Services Task Force: What the Grade Means and Suggestions for Practice

Grade	Definition	Suggestion for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing to individual patients based on professional judgment and patient experiences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service only for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of the USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Appendix B: Environmental Scan Methodology

To gain a broad understanding of efforts underway in the realm of SDOH and health equity, NCQA conducted an environmental scan in fall 2020. The intent was to inform recommendations on how to accurately identify SES, race, ethnicity and SDOH using available data sources.

Literature Review Steps

1. In the initial search and title review, NCQA identified 651 peer-reviewed and 100 gray literature sources. NCQA excluded 458 peer-reviewed and 41 grey literature sources.

2. During the abstract review phase, NCQA analyzed 193 peer-reviewed and 59 gray literature sources. NCQA excluded 151 peer-reviewed and 8 grey literature sources.

3. In the final found of review, NCQA analyzed 42 peer-reviewed and 33 gray literature sources in full. These sources constitute the reference points for our research questions.

Our key research questions were as follows:

1. What race, ethnicity and SDOH data is available via administrative claims, community-level proxies and EHR? What is the feasibility, validity and reliability of that data?

2. What health outcomes show the greatest disparities by socioeconomic status? What health disparities are the highest policy priorities?

3. What is the current state of race, ethnicity and SDOH in quality measurement?

4. What are potential unintended consequences of measuring or reporting disparities in quality of care?