What would it take to reduce inequities in healthy life expectancy?

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The Urban Institute was founded 50 years ago by President Lyndon B. Johnson to provide "power through knowledge" to help solve the problems that weighed heavily on the nation's hearts and minds. Today, we're exploring promising solutions to advance equity and upward mobility and identifying what transformational leaders need to know to drive forward groundbreaking ideas. This brief is one of our eight-part Catalyst series, in which we share what it would take to advance bold solutions over the next 50 years.

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What would it take to reduce inequities in healthy life expectancy?

We can envision a future in which everyone in our nation has the same prospects for living a long and healthy life, no matter who they are or where they live. In this future, all people live in safe and healthy environments; enjoy reliable access to health care, nutritious food, and stable housing; and have the knowledge and opportunities to make healthy choices about diet and exercise. And none of us has to contend with the harms of persistent racial discrimination, violence, trauma, and injustice.

Federal and state policies that seek to make health insurance and health care universally accessible and affordable can directly affect health and life expectancy.[1] This brief, however, goes beyond health care and focuses on how the health care sector can shape people's health by addressing health-related social needs. Realizing equity in healthy life expectancy requires bold action not just by the health care sector, but by businesses, philanthropic groups, and nonprofit organizations with scopes extending far beyond the health sector and by all levels of government. Strategies that strengthen families' financial well-being by protecting and empowering them to build income and wealth play a foundational role, including expanding opportunities for lifelong learning and jobs that provide family-sustaining wages and benefits. It is also critical to find solutions to the challenges of affordable housing, neighborhood safety and environmental conditions, and public school quality. And across all these efforts, policymakers, thought leaders, and on-the-ground practitioners would need to confront and dismantle the structural barriers that sustain racial and economic inequities and injustice.

The challenge is urgent. Health inequities by race, ethnicity, and socioeconomic status exist at every stage of life, accumulate over time, and create gaps in both the length and the quality of people's lives.[2] In 2017, for example, the life expectancy for non-Hispanic black men in the US was 4.5 years shorter than that of non-Hispanic white men; the life expectancy for non-Hispanic black women was 2.7 years shorter than that of similar white women (Arias and Xu 2019). Plus, the life expectancy for poor people in the US is lower than that of rich people—and the gap is widening (Chetty et al. 2016; Dwyer-Lindgren et al. 2017; Geronimus et al. 2019). The history of social policy decisions in the US, which have often been shaped by underlying racism, has also exacerbated structural inequities that can affect health. Examples include zoning restrictions that limit low-cost or higher-density housing developments[3] and decisions of states with disproportionately large numbers of nonwhite residents not to expand Medicaid under the Affordable Care Act (Grogan and Park 2017).

Demographic changes, growing economic inequalities, and the cumulative effect of deleterious social policies threaten to worsen chronic disease prevalence and mortality in the decades ahead. Stagnating wages and the associated lack of resources both increase the risk of chronic disease morbidity and mortality among people at the bottom of the income and wealth distribution and make it difficult for them to afford preventive care or manage chronic health conditions to counteract these risks. An aging population could increase the prevalence of chronic disease in the US population and strain the budgets of government income support and health programs.[4] And if health and longevity gaps persist between racial and ethnic groups as the United States becomes more diverse (Ortman, Velkoff, and Hogan 2014), the increasing burdens of chronic disease and premature death could further increase government spending on health care, potentially to the exclusion of other critical programs.

The health care sector can help eliminate disparities in health and life expectancy. In addition to providing access to life-saving and life-enhancing medical care, health care providers, plans, and payers[5] increasingly recognize the importance of routine screenings, diagnosis, and treatment for trauma and for mental, behavioral, and physical health problems early in life and at other critical junctures over a person's lifetime. At the same time, however, racial and ethnic disparities persist in the rates of screening for disease and in the aggressiveness of treatment once a disease is diagnosed.[6]

The health care sector is also focusing more attention on understanding the complex factors that influence health and exploring ways to help meet people's health-related social needs. This broadening of perspective is motivated partly by the financial benefits of reducing the need for expensive medical treatment and partly by the growing understanding that social needs can undermine the benefits of medical treatment. Medicaid and Medicare[7] policymakers are increasingly exploring ways to improve health and reduce health care spending by addressing people's health-related social needs. Similarly, private entities in the health care sector, including managed care plans, accountable care organizations, and health provider networks, are testing new ways to help enrollees and patients meet their health-related social needs.

Five mutually reinforcing strategies could increase the effectiveness of the health care sector in helping people address their health-related social needs and in turn narrow inequities in health and healthy life expectancy:

- Payers, plans, and providers develop and implement standardized approaches to **systematically assess health-related social needs**.

- Private philanthropy and state or local governments **jointly develop, finance, and maintain community resource networks and platforms** where managed care organizations, providers, and consumers can connect with the health-related social services they need.

- State Medicaid programs **incentivize investments in nonmedical services with positive health-sector payoffs**.

- Federal, state, and local health officials **establish sustainable mechanisms for operating and financing programs** addressing health-related social needs that yield cross-sector payoffs.

- Private-sector health care payers and providers **align their organizational policies and activities** to maximize impact on health-related social needs.

Leaders in the health care sector already are seeking reliable, up-to-date evidence that would help them better target their efforts, partner more effectively with institutions in other sectors, and assess their effectiveness in improving health and health equity:

- To **identify high-value targets among health-related social needs**, health-sector policymakers and practitioners need rigorous evidence about both the incidence of specific social needs (e.g., hunger, housing instability, social isolation, or exposure to violence) and the potential payoffs of investments to address them, as measured by improvements in health and healthy life expectancy.

- Health care providers and payers considering investments in "upstream" factors and weighing where to concentrate their efforts would value a reliable, up-to-date, **actionable evidence base of proven interventions that resolve health-related social needs**, so they could have confidence in the impact of their investments.

- Federal, state, and local officials need independent **assessments of alternative cross-sector strategies to address health-related social needs that integrate health, social service, and other systems**.

This brief draws on an environmental scan and on interviews and group discussions with a broad array of changemakers in the health care sector. These conversations (1) highlighted innovative solutions being explored in Medicaid programs and by health plans, hospitals, and other health care providers across the country and barriers to further progress; (2) identified gaps in understanding about links among health, health care costs, economic deprivation, and social needs; and (3) suggested opportunities for new knowledge-building that could inform and accelerate solutions to help close deep and long-standing inequities in health and healthy life expectancy in the US.

Advancing Solutions: Health Care Sector Action, Investment, and Innovation

Five mutually reinforcing strategies—currently being pursued by health care payers, plans, and providers to address health-related social needs—could narrow inequities in health and healthy life expectancy. Leaders in the health care sector already are seeking reliable, up-to-date evidence that would help them better target their efforts, partner more effectively with institutions in other sectors, and assess their effectiveness in improving health and health equity.

Solution Set 1: Systematically Assess Health-Related Social Needs

With systematic information on the magnitude, distribution, and nature of unmet health-related social needs (including economic needs), state Medicaid programs,[8] Medicaid managed care plans, and providers could effectively target social interventions and community-level investments. Information on health-related social needs could also improve patient care plans and provide the basis for more equitable payment approaches. It could highlight for policymakers and other stakeholders the sectors (i.e., housing, transportation) where investments and policy changes are most needed to address unmet health-related social needs for Medicaid beneficiaries. In addition, standardized collection approaches could minimize burdens for Medicaid enrollees, who may have multiple entities collecting similar data on their unmet social needs.

Over two-thirds of Medicaid members are enrolled in comprehensive managed care organizations, or MCOs, making those health plans a powerful partner in screening enrollees for health-related social needs (MACPAC 2018, exhibit 29). Some MCOs and health care providers are collecting information on enrollees' social and economic risks as part of national, state, or provider-driven initiatives. Many of these initiatives have developed their own screening tools. Moving forward, standardized approaches to collecting data on social and economic needs of Medicaid members could help states develop programs to target enrollees' most pressing unmet social needs and could inform health plan contracting and payment strategies.

Implement Standardized Screening Tools

The Centers for Medicare & Medicaid Services (CMS) is requiring that health care providers use a standardized screening tool as part of the Accountable Health Communities (AHC) model. This voluntary demonstration is designed to test whether systematically identifying and addressing the health-related social needs of Medicare and Medicaid enrollees affects health care utilization, spending, quality of care, and health outcomes.[9] The screening tool, which is being implemented in hundreds of sites across all AHCs over five years, has 10 questions in five core domains: housing quality and instability, food insecurity, transportation problems, utility needs, and interpersonal safety.[10] Among other uses, the information derived from the screener will be combined with health care claims data to explore how health-related social needs drive health care costs and health outcomes among Medicare and Medicaid enrollees.[11]

As part of its State Innovation Model Initiative, the Michigan Medicaid agency has developed a screening tool and mandated its use among all health care providers participating in the Patient-Centered Medical Home program to assess patients' social needs. Participating providers also must establish links with community-based organizations that provide resources and social services and track initiation, follow-up, and outcomes of referrals (MDHSS 2018a).

In 2020, Medicaid MCOs in North Carolina will be required to conduct universal screenings within 90 days of a person's Medicaid enrollment and to share the collected information with the enrollee's primary care provider. Enrollees designated as having high social needs must be referred to a case manager charged with finding appropriate services in the community (NCDHHS 2018b).

Kaiser Permanente, which serves Medicaid beneficiaries in nine states, has developed its own comprehensive screening tool, Your Current Life Situation,[12] that collects information about difficulties with activities of daily living; child care; employment; food security; housing, legal or public benefits; medical, dental, and vision services; safety; transportation; and utilities. Clinic staff can fill out the tool on paper or via phone, and members can fill it out online in the patient portal. All responses are entered in electronic health records (EHRs), where issues requiring follow-up are immediately flagged. Kaiser Permanente has partnered with Health Leads, which connects health care and community service providers, to pilot a call center that reaches out to patients identified in EHRs as being at high risk of adverse health outcomes. Trained call center staff screen these patients for social needs, offer connections with resources in the community, and call periodically to assess whether patients' needs are being met. Kaiser Permanente has used these data to identify resources gaps across communities.[13]

Community health centers use the Protocol for Responding to and Assessing Patients' Assets, Risk, and Experiences (PRAPARE),[14] which covers some of the same ground as the AHC screener and Your Current Life Situation. However, PRAPARE screens differently, asking about housing worries as well as inability to pay for needed food, utilities, clothing, child care, and transportation; and including optional questions on safety and interpersonal violence.[15] The PRAPARE questionnaire can be integrated into EHRs to capture the data in the clinical workflow. Several health centers have piloted PRAPARE and another tool designed to facilitate referrals to local social service agencies (LaForge et al. 2018).

Expand the Use of ICD-10 Z Codes

Some health care provider associations and insurers—including the American Hospital Association (AHA 2018), the American Medical Association, and UnitedHealthcare[16]—and health care analysts (Daniel-Robinson and Moore 2019; Jones and Muller 2018) are advocating for widespread use and expansion of ICD-10 Z codes to capture patients' socioeconomic and psychosocial circumstances alongside clinical diagnoses.[17] With information on the health-related social and economic needs of their enrollees coded into claims data, Medicaid programs could better track and improve provider performance and beneficiary outcomes. In addition, ICD-10 Z codes could be used in risk adjustment of capitated payments to managed care plans that compensate plans caring for a higher share of people with identified unmet social needs that affect their medical needs and costs. Accounting for social needs in Medicaid payment models could help ensure adequate payment rates to support the health and well-being of the population and provide managed care plans and accountable care organizations (ACOs) greater incentives to identify and address members' health care and social needs. But new processes would need to be developed to verify the accuracy of the coding and to minimize risks of overpayments.

Massachusetts refined its Medicaid risk-adjustment model for MCOs and ACOs to include variables for unstable housing (defined as three or more addresses in single year or an ICD-10 Z code for homelessness on a claim or in encounter data) and a neighborhood stress score (a composite measure of financial stress using census data, such as percentage of families with incomes below the federal poverty level or percentage of unemployed adults).[18] Accounting for social determinants of health improved the power of the Massachusetts risk-adjustment model to predict health care costs and allowed the state to make more accurate payments to managed care plans (Ash et al. 2017).

However, physicians' time with patients is limited, averaging only 20 minutes an office visit in 2010 (Shaw et al. 2014). Documentation of social needs by physicians and other providers through ICD-10 Z codes, screening, or EHR prompts could place more demands on office visits and add to physician

administrative burdens. The American College of Physicians therefore recommends limiting such data collection to a small number of social needs with an established connection with health (Daniel, Bornstein, and Kane 2018).

Leverage Experimentation to Inform Screening Approaches

As these examples illustrate, plans and providers are not using a single approach to collect information on social risks and health-related social needs of the populations they are serving (Daniel-Robinson and Moore 2019).[19] The domains included in screening will determine which social needs Medicaid programs and managed care plans can identify, which in turn will drive how well they understand the prevalence of particular social needs among their enrollees and how they affect health care needs and costs. For example, a plan's assessment of how food insecurity affects health outcomes and health care costs will differ depending on the questions asked and the definition of food insecurity used. What's more, Medicaid programs and managed care plans may overstate the effects of certain social needs on health or spending if the screeners do not capture other social needs that commonly occur alongside the ones measured. The timing, frequency, and lookback period of screeners may also vary.

While North Carolina plans to implement a common social needs screener across all Medicaid managed care plans in the coming year, in other states, it is at the managed care plan's discretion which domains to include and which questions to ask. In addition, there is not yet a standard of practice for administering screenings, including who administers them (e.g., managed care organizations, physicians, care managers, or physician office staff), how data are stored (e.g., in the EHR or in separate datasets), and who has access to the data. Though variations in screening tools and implementation approaches may allow for more innovation, standardized screeners and screening protocols will minimize the burden on Medicaid enrollees and yield consistent information that could compare and track needs across different patient populations, plans, and geographies within the state. This could be accomplished through a standard set of questions on the Medicaid 834 enrollment form (Daniel-Robinson and Moore 2019). One potential middle ground could include universal initial screenings using a minimal number of questions, with in-depth follow-up for a subset of patients found at high risk for unmet social needs. This approach would allow for screening for needs, such as literacy, language barriers, or social support, that may affect health but are not included in initial screenings.

For Medicaid managed care plans that operate in multiple states, state mandates to use different screeners could add administrative complexity and cost burdens. Similarly, the variety of screeners in use could add to administrative burden for providers, potentially reducing the time they have to spend

on patient care. EHR burdens, in particular, are correlated with physician burnout, though physician burnout could be reduced if clinics have dedicated staff and resources available to help meet (not just screen for) patients' social needs (De Marchis et al. 2019; Linzer et al. 2016).

Overall, it is critical that the current experimentation with screening be leveraged to learn more about what instruments and schedules are feasible and most useful for managed care organizations, providers, and beneficiaries. In addition, it is critical to assess how data from screenings are used and whether some screening processes lead to more actionable data.

> **"Screening has to be done to figure out what's going on, but it's the very first step. I worry that plans will stop at screening—it's worse to screen and not follow up than to just not screen at all."**
>
> —*Jocelyn Guyer*, *Manatt Health Strategies*

Solution Set 2: Establish Community Resource Networks and Platforms

Having managed care organizations and providers identify enrollees' health-related social needs is a solid first step. But collecting information on unmet needs is not enough; providers and managed care plans will also need to help their patients *address* those social needs. Implementing and standardizing screening for social needs in health care settings will need to go hand in hand with developing strong referral systems so managed care organizations and providers can link patients with community-based services and keep track of what happens. Given that many community-based organizations and safety net programs are underfunded and lack the resources to address current needs, feedback loops will be critical for identifying areas where more investment is required.

To follow through effectively on patients' social needs, managed care organizations and health providers need real-time information on the resources available in their communities. Building local resource networks and platforms that include information about available social and other services could address several challenges in the current system, including the following:

- Health care organizations may not know where to refer patients or what community resources (e.g., food banks, housing assistance) are available. Though many state agencies, provider associations, advocacy groups, and philanthropic organizations collect and disseminate community referral resources, these lists are often incomplete, out of date, or duplicative, and real-time information about organizations' capacity to take on new clients and the quality of services offered is often not available.

- Health care organizations may lack formalized partnerships with community-based organizations to ensure they can exchange information and share data, receive bidirectional referrals, and close the loop on referrals to allow for tracking of outcomes. Privacy requirements such as the Health Insurance Portability and Accountability Act can also present barriers to data sharing. The complexity and cost of formalizing partnerships likely prevent individual managed care organizations and providers from acting.

- If more than one stakeholder forms and maintains such a network, it may place unnecessary burdens on community-based organizations, many of which rely on grant funding and lack the management systems or infrastructure parallel to the formalized referral, data-sharing, and outcomes-tracking practices of the health care system (Raday, Krodel, and Chan 2018).

"We are hoping that those relationships get established. That's a key part of this— relationship building and trust between different sectors."

Chris DeMars, Oregon Health Authority Transformation Center

A promising solution to the challenges of identifying resources to address health-related social needs is having private philanthropy, Medicaid programs, and state governments jointly develop, finance, and maintain community resource networks and platforms that include feedback loops between community partners and providers and plans. Pooling community resource information provides a critical resource for the health sector, its community partners, and people needing help who are not yet connected to health or social service providers. It also helps state governments map out resource gaps that are affecting their residents by geography and subgroup.

North Carolina has begun implementing a statewide electronic care coordination network platform, NCCARE360, supported by a public-private partnership between the North Carolina Department of

Health and Human Services and the Foundation for Health Leadership and Innovation. NCCARE360 integrates a directory of health care and social service organizations (including a dedicated call center and data team responsible for verifying the information) with a referral platform that enables health care and human service providers to exchange data and track outcomes efficiently and securely. The platform will be made available to health care and social service providers, health plans, and members of the public.[20]

Building upon its efforts to screen patients for social determinants of health, Kaiser Permanente is launching the Thrive Local initiative to link its members across the US to services and supports in their communities that address health-related social needs. The "social care network" will be integrated into Kaiser Permanente's EHRs and will track referrals and outcomes to assess how well needs are being met and to identify resource gaps.[21] Other managed care plans are implementing or using similar systems to help connect members to resources they need in their communities.[22] However, little information is available on the implementation, maintenance, and effects of technology-based referral applications (Cartier, Fichtenberg, and Gottlieb 2019).

Other promising approaches to link health care and community social service providers rely on cross-sector information exchange. The 2-1-1 San Diego referral service provides phone- and web-based care coordination via a team of health navigators and includes a cloud-based interactive database—Community Information Exchange (CIE)—that integrates data from housing, food programs, health care services, criminal justice, and other systems.[23] Health navigators use a comprehensive risk rating tool to assess a client's health and wellness needs, and then rank each client's needs on a continuum that ranges from *crisis* to *stable* to *thriving*. The 2-1-1 San Diego health navigation system is supported by monthly fees for patient referrals from participating organizations, while the technology and license costs are covered by a fee-for-service model through contracts with local health plans. The CIE has been developed and maintained through grants from a local foundation and the federal government and is currently free. However, both systems are reportedly exploring subscription-based financing to ensure future sustainability (Spencer and Hashim 2018).

A similar effort has been developed in Jackson, Michigan, and supported by the state's State Innovation Model funds. The Jackson Care Hub is a shared community platform that incorporates a social needs screening tool, a 2-1-1 resource directory, and an online management tool that enables referral tracking (MDHSS 2018b).

Although the use of online networking platforms is growing, not every community currently has the necessary infrastructure and resources to enable cross-sector collaboration and electronic data

exchange. Some communities are implementing solutions that do not involve the creation of platforms. With funding from the State Innovation Model initiative and Agency for Healthcare Research and Quality's EvidenceNOW Southwest initiative, Colorado developed the Regional Health Connectors program to facilitate connections between primary care providers and community-based behavioral health and social service organizations. The state is divided into 21 regions, each with an assigned regional health connector (a community member) who, in addition to connecting clinical and nonclinical service providers, is responsible for supporting practices in quality improvement efforts and recommending resources to improve health outcomes.

Likewise, the Pathways HUB Community Action program in Ohio relies on community health workers connecting at-risk people to health care and social services.[24] This program, which has a primary goal of reducing infant mortality, is funded by the Ohio Commission on Minority Health, Ohio Department of Medicaid, health plans, and grants from public and private organizations. Under the HUB Community Action program, hospitals, federally qualified health centers, and governmental agencies partner to deploy community health workers to locate community members at greatest risk for poor health outcomes; comprehensively assess health, behavioral, and social risk factors; and assign each risk to a Pathway, which is a standardized process to ensure the risk is addressed.[25] A key component of the model is measuring outcomes as each Pathway is completed and risks are reduced. A HUB functions as the central agency that contracts with community-based organizations, health care providers, health plans, and care coordination agencies and tracks and monitors service delivery and outcomes (AHRQ 2016b). This approach simplifies contracting for managed care plans because they need to contract with one entity as opposed to identifying and vetting individual service providers. The approach could also improve coordination of medical and social services for Medicaid members.

Other collaboration arrangements rely on an externally funded "backbone organization" to coordinate the activities of a consortium of organizations.[26] The AHC model tests two approaches for ensuring beneficiaries are connected to social services and community supports that may affect their health. Sites on the "assistance track" conduct an inventory of local community services (similar to identifying a community resource network) and help high-risk beneficiaries access services. Sites on the more advanced "alignment track" also assess whether local resources are responsive to beneficiaries' needs and encourage partner organizations to work together, which includes data sharing and analyses to identify resource gaps and develop quality improvement plans.[27] For both AHC model tracks, CMS is funding the administrative functions for bridge organizations (e.g., community-based organizations, health care organizations, local governments) to coordinate local efforts that could efficiently and effectively identify and address health-related social needs of Medicare and Medicaid beneficiaries.

Together, improved knowledge of unmet needs among Medicaid enrollees served by managed care plans and providers and the ability to connect to community resources would improve the chances that enrollees can have those needs met. However, community resources may be underfunded or unavailable, requiring the health sector to take additional steps to address those needs, as described in solutions 4 and 5. Moreover, such initiatives may rely on health care providers and managed care organizations acting against their financial interests. Once health care providers expend resources on screening and referral, they could lose revenue if those services work as intended and patients need fewer medical services. For managed care plans, having healthier enrollees can result in reduced capitation and risk adjustment payments from state Medicaid programs. The next solution examines how health care financing systems can encourage investments that address health-related social needs.

Solution Set 3: Incentivize Investments in Nonmedical Services with Health-Sector Payoffs

Health care providers and plans need appropriate financing mechanisms to play a sustained role in addressing health-related social needs. As the Medicare and Medicaid programs shift from paying for services to paying for outcomes, there has been increasing focus on identifying steps that the federal government, state governments, and health plans can take to reward nonmedical investments that have positive health impacts and/or that yield medical costs savings (Alderwick, Hood-Ronick, and Gottlieb 2019). To date, many of these investments have focused on generating short-term medical cost savings for high-need patients. In Medicaid, states and CMS have developed several approaches to encourage managed care plans and hospitals to invest in addressing enrollees' and patients' health-related social needs. These approaches generally fall into one of three categories: (1) imposing requirements, (2) creating incentives, and (3) removing barriers.

Given the innovation occurring across the country and the fact that some of it is taking place in the context of time-limited demonstrations, it will be important for CMS, states, managed care plans, and providers to learn from this experimentation to inform subsequent policy development and target new investments toward cost-effective activities.

Impose Requirements

State Medicaid programs are using contracting tools to require managed care organizations to screen for unmet health-related social needs, spend money to address social needs, and/or support

community-based organizations addressing those needs (Gifford et al. 2018; Manatt Health 2019). For example, Washington State's contracts require that MCOs identify and address members' social needs.[28] In Oregon, coordinated care organizations (CCOs), which are networks of health care providers given global budgets to care for Medicaid beneficiaries, are required to have a community advisory council. At least 51 percent of the council's members must be Medicaid enrollees, with the remainder representatives of the community. As of 2020, CCOs will be required to spend a portion of any year-end surpluses or excess reserves on addressing health disparities and social needs,[29] and their community advisory council must approve the approach.[30] A portion of this spending must be dedicated to housing-related services and supports, including supportive housing (OHA 2018). And in 2021, Oregon will require reporting on social need and health equity performance milestones.[31]

Starting in January 2020, Massachusetts will require its Medicaid ACOs to offer members "flexible services" that address social needs, such as having a safe and healthy living environment or adequate nutrition. ACO members who meet at least one health needs–based criterion (e.g., behavioral health need, complex physical condition, repeated emergency room visits) and have at least one risk factor (e.g., homelessness, nutrition deficiency) may receive pre-tenancy and tenancy supports (e.g., completing housing applications, communicating with landlords), home modifications (e.g., doorway modifications), and nutrition assistance (e.g., home-delivered meals, obtaining benefits from the Supplemental Nutrition Assistance Program, or SNAP, or the Special Supplemental Nutrition Program for Women, Infants, and Children, or WIC).[32] Finally, Arizona, as part of its Medicaid-covered behavioral health benefits, requires managed care organizations to provide supportive services such as case management, housing support, transportation, and assistance accessing community resources and social services, including applying for benefits from other safety net programs.[33]

Some states are also leveraging their regulatory and purchasing powers to require community reinvestment targeting upstream population-level health needs. In 2018, Arizona began requiring its managed care plans to reinvest 6 percent of any profits or surpluses in the community, building on its prior requirement for behavioral health authorities. Managed care plans have broad discretion in using these funds but must submit a community reinvestment report to the state (Manatt Health 2019).[34]

Massachusetts implemented a new approach to tapping health systems' financial resources to address community-wide social needs. The state requires hospitals, long-term care facilities, and other licensed health care facilities seeking a determination of need (DoN) for substantial capital expenditure, substantial change in service, an original license, or transfer of ownership to contribute 5 percent of the proposed project's capital expenditure to community-based health initiatives.[35] DoN applicants must develop, and submit as part of the application, plans to address the priority areas for this funding,

including social environment; built environment; housing, violence, and trauma; employment; and education (AGO 2018; DPH 2017). These funds are split between local and statewide projects that address social needs using a state-set formula.[36] For example, a $102 million proposed renovation project at Massachusetts General Hospital would provide $5 million in Community Health Initiative funds, including $1.3 million for statewide initiatives and $3.8 million for local initiatives.[37] In addition, the state's Office of the Attorney General has recently updated its voluntary community benefits guidelines for nonprofit hospitals to encourage hospitals to align their community benefit activities with strategies that address the state's six social determinants of health priorities (AGO 2018).

On the federal level, the Affordable Care Act requires all nonprofit hospitals to submit a community health needs assessment every three years that identifies and prioritizes significant health needs of the community with community input.[38] Nonprofit hospitals must also provide information on how they are addressing those identified needs with community benefit dollars.[39] Hospitals have used these assessments to identify health-related social needs and target community benefit dollars to addressing those needs.[40] In 2015, the American Hospital Association, Catholic Health Association of the United States, and Association of American Medical Colleges jointly lobbied the Internal Revenue Service to include hospital-sponsored housing activities as a community benefit.[41] One example of mobilizing community benefit dollars to tackle a pressing social problem comes from Portland, Oregon, where five hospitals and a health plan combined forces and provided $21.5 million to build new housing for the homeless (Kuehn 2019).

Incentivize Investment

States are increasingly using value-based purchasing, demonstration waivers, and other alternative payment models to support screening and referrals for health-related social needs. In some instances, states are using waivers or alternative payment methods to help fund nonmedical services or capacity-building within critical community-based organizations.[42] Medicaid managed care plans are increasingly taking advantage of these opportunities, using case management services, transportation assistance, and social needs screening and referral programs to help their enrollees access services.[43]

Some states have used waivers to encourage managed care plans to cover health-related services that are not generally covered by Medicaid. In Oregon, for example, CCOs are allowed to cover "flexible services," which are nonmedical services that may improve health.[44] But less than 1 percent of CCO spending went toward health-related services in the first five years of Oregon's waiver.[45]

Under North Carolina's Section 1115 waiver, the state will implement "healthy opportunity pilots" to provide evidence-based nonmedical services that address health-related social needs. Managed care organizations operating in the pilot regions will be provided with funds beyond their capitated rate to address housing instability, transportation and food insecurity, interpersonal violence, and toxic stress for Medicaid-enrolled pregnant women, children, and adults who meet the eligibility criteria (NCDHHS 2018a). To participate in the pilot, an adult Medicaid beneficiary must have at least one state-defined physical or behavioral health risk factor (e.g., multiple chronic conditions, high-risk pregnancy) and at least one social risk factor (e.g., housing or food insecurity). Children will also be eligible for the pilot, including neonatal intensive care graduates, babies with low birth weight, babies with neonatal abstinence syndrome, children from birth to age 21 with one or more significant uncontrolled chronic condition, children experiencing three or more adverse childhood experiences, and children in foster care (NCDHHS 2019). The North Carolina demonstration is distinctive in its focus on children, who are often overlooked when states and plans focus on high-need, high-cost populations. The demonstration also includes a strong evaluation design, which will provide important new insights about how coverage of these types of services affect the health and medical costs of enrollees (NCDHHS 2019).

"The issue with kids is the question about time horizon. Investments in kids won't pay off for many years, until they're adults. They're not costing Medicaid a lot at present."

—**David Adler,** *Robert Wood Johnson Foundation*

States are also exploring value-based models and contracting tools to support the provision of nonmedical services that affect health and medical costs. Oregon will offer bonus payments from 2021 to 2022 to CCOs that meet performance milestones in addressing social needs.[46] Massachusetts Medicaid ACOs can receive pay-for-reporting bonuses for conducting health-related social service assessments.[47] Minnesota requires its Medicaid Integrated Health Partnerships to propose at least one quality measure related to health equity and reducing health disparities.[48] Louisiana also requires its MCOs to propose quality measures related to improving population health and to describe their experience with using data on social needs to improve health status.[49]

Remove Barriers

Under the medical loss ratio policy, Medicaid MCOs are required to spend at least 85 percent of their revenues on medical care, including incurred medical claims and select quality improvement activities, such as case management, emergency transportation, and peer supports.[50] However, some spending to address enrollees' health-related social needs, like programs to address housing instability, may not count as either an incurred claim or a quality improvement activity. This creates a disincentive for MCOs to provide those services. States requiring managed care plans to invest in addressing enrollees' health-related social needs, including Arizona and Oregon, have worked to ensure that such investments can count as medical care.

Another potential barrier to investment in addressing social needs in Medicaid is "rate slide." Managed care organizations are paid a capitated, per enrollee rate to provide Medicaid services, and that rate must be based on plans' actual spending in the prior period. However, CMS rules exclude spending on "value-added" activities, like grab bars to reduce the risk of a fall, from rate-setting processes (Machledt 2017). In essence, CMS and state Medicaid programs capture the savings from MCO services that address social needs without financially supporting the continued provision of those services. Some states are working to address this problem. For example, North Carolina is providing new up-front funding for managed care plans to address health-related social needs that will not be part of the capitated payments (NCDHHS 2018a, 2019). Oregon includes the cost of flexible benefits for CCOs as part of "administrative load" in its rate-setting process (Optumas 2018).

While there is a strong push to involve the health sector more directly in addressing health-related social needs, several potential pitfalls and downsides need to be considered. First, many Medicaid enrollees have unmet social needs; given the chronic concerns about low payment rates in Medicaid,[51] requiring plans or providers to address additional health-related social needs could come at the expense of meeting patients' medical needs. Second, as social service provision shifts out of the community and into medical settings, it could raise the costs of those services, increase public spending, and undermine the community-based organizations that specialize in providing those services. Third, states, CMS, and managed care plans all have incentives to focus on short-term medical cost savings rather than longer-term statewide savings or cost efficiency across multiple sectors. In fact, CMS requires that Medicaid Section 1115 waivers, which have been used to support much of the state-level work to address enrollees' social needs, be budget neutral concerning federal Medicaid spending, meaning that any increased spending on addressing social needs must be offset by savings on medical needs over the course of the waiver. This imperative to generate short-term medical cost savings likely means prioritizing the needs of those with high medical costs. In geographic areas with limited

resources, this could mean that less support would be available for other population groups, such as children and young parents who tend to have low medical costs on average but for whom early intervention on health-related social needs could pay off in the future. Focusing on reducing unmet social needs to produce short-term cost savings could mean not addressing social needs that have serious long-term consequences for society.

Medicaid programs, managed care plans, and providers can help address the health-related social needs of enrollees; and Medicaid benefits, reimbursement, and contracting approaches can be structured to reward provision of nonmedical services that help improve patient health and lower health care costs. However, Medicaid and the health care sector will remain focused on providing direct medical care, and they can and should go only so far in addressing upstream factors affecting health, since addressing health-related social needs may come at the expense of providing medical care. If reducing health-related social needs is a high priority, policymakers will need to consider the cost savings and benefits generated outside the health sector.[52] In addition to realigning incentives and rewards within the health sector, policymakers will need to consider cross-sector financing approaches that reflect broader savings and benefits to society and how to sustain them.

Solution Set 4: Establish Sustainable Mechanisms for the Operation and Financing of Programs Addressing Health-Related Social Needs That Yield Cross-Sector Payoffs

From a national societal perspective, improving population health and health equity and reducing the need for medical care to treat disease and injury are almost certainly worthy goals; evidence suggests that the negative health impacts of poverty and unmet social needs cross years, departments, and levels of government (Holzer, Schanzenbach, and Duncan 2008; Nilsen 2007). Investment in children and families through public programs like Medicaid, the Children's Health Insurance Program, and SNAP pays off in other sectors, including improved family financial well-being, improved kids' performance in schools, lower use of health care services in adulthood, and reduced eviction rates, all of which are areas where future public spending is at stake.[53] However, the standard state and local government appropriations process operates on a one- or two-year planning horizon, is entirely separated by department or agency, and operates at a single geographic level (state, county, or city).

The narrow focus of public-sector budgeting complicates efforts to capture returns on investment in social needs when those returns accrue to multiple public- and private-sector entities. Health plans

and providers in a capitated environment have an even narrower focus and gain no benefit from improved societal outcomes other than lower utilization and spending on health services—and only if they retain members in their plan over time. These misalignments of incentives are sometimes referred to as a type of "wrong pockets" problem, wherein the return on investments made in one sector or period flows to other sectors or periods (i.e., the wrong pocket). This problem reduces the incentive to make the investment, even if total returns to society far outweigh the costs.

In addition, for providers in a fee-for-service environment, reduced health care utilization may be viewed as a negative outcome, even if it results from improved health. For example, addressing the underlying causes of asthma attacks by assessing homes and removing triggers could prevent asthma-related hospital stays and emergency room visits, but doing so would reduce hospital service use and undermine the bottom line for hospitals.[54]

"States operate on an 18-month budgeting cycle, and budgets are tight. When you're building out infrastructure, you need a longer time frame."

—*Kevin Moore, UnitedHealthcare Community and State, and former Medicaid director*

Pool and Coordinate Public Funding

Recognizing the cross-sector impacts of public investments, government agencies are expanding the frame of reference for return on investment beyond individual agencies and single budget cycles, using various "braiding and blending" approaches to strategically deploy separate funding streams toward common goals (TFAH 2018). One option is legislation to explicitly pool resources, such as Virginia's 1993 Children's Services Act. The Children's Services Act funds a case management model for at-risk children and youth by pooling state funds across social services, education, juvenile justice, and behavioral health agencies and allocating those funds to localities, where they are managed by a locally appointed team (Clary and Riley 2016).

> **"We're a state, not just a payer. We are thinking about what do we know about what works for kids age 0 to 8, regarding home-visiting programs, food housing, etc. We have a childhood action plan that is data driven. We identify interventions, think about how to fund them using various sources of funding."**
>
> —*Elizabeth Tilson, North Carolina Department of Health and Human Services*

Another approach establishes "children's cabinets"—collaborative coordinating bodies that draw from agencies with overlapping goals and separate funding streams.[55] For example, Maine recently reestablished a children's cabinet to align, prioritize, and maximize the use of state and federal funds, with a focus on expanding quality home-visiting programs, improving quality of child care and early childhood programs, and improving access to community-based services for at-risk youth.[56] Many states and localities have established a children's cabinet, and similar collaborations seem possible for other populations around health-related social needs.

Governance structures may be key to the success of children's cabinets and other cross-agency groups (Rennie Center 2009). Locating the cabinet within one of the collaborating agencies may make it difficult to establish trust with other agencies, so executive bodies with authority over all participating agencies (e.g., governor's or mayor's office) may be the best choice. To be successful, these entities need buy-in from all participating agencies on goals, as well as alignment on the strategies and funds each agency will use to achieve those goals. Agencies also need shared evidence of what interventions work to advance those goals, alignment on outcomes data collection and analysis, and coordination of budget planning. Achieving buy-in from the health care sector can be difficult, if not impossible, given that the result may be a smaller health care delivery system and lower health care spending.

Oregon's coordinated care organization model, organized and funded through the state's Medicaid waiver, is a health-focused example of organizing multiple stakeholders to provide medical and nonmedical services with a shared financial incentive. In this model, a CCO contracts with the state Medicaid agency for a global monthly payment tied to the risk profile of their enrollees and possible bonuses for meeting quality targets. In addition to using the pool of Medicaid funding for care coordination, CCOs have latitude to spend some resources on social needs such as food and housing, and CCOs across Oregon have made varied choices depending on their own assessments of enrollee needs.[57] But, to our knowledge, no one has published a systematic assessment of those variations (Alderwick, Hood-Ronick, and Gottlieb 2019).

Since 2012, the government of Hennepin County, Minnesota, has led the Hennepin Health plan, a Medicaid ACO available to nonelderly beneficiaries in the county (Hostetter, Klein, and McCarthy 2016). The plan assesses members' health-related social needs[58] to identify those at high risk and refers them to an ambulatory intensive care unit where a multidisciplinary team works to resolve primary and behavioral health care needs, as well as social needs like housing and employment assistance, before transitioning the member to a more permanent primary care home. The plan partners with local organizations that deliver nonmedical services and distributes part of the shared savings payments it receives from the state Medicaid agency to these partners. Early results from the Hennepin Health plan show increases in the use of recommended care among members with diabetes, vascular disease, and asthma and reductions in unnecessary care among members who receive housing assistance (Sandberg et al. 2014).[59]

Combine Public and Private Resources

In addition to coordinating government financing around common goals, the addition of private capital to public funding is an option for overcoming the wrong-pockets problem. Pay for success approaches, which are often structured as public-private partnerships, use private investments as a substitute for public funding when public funds are unavailable for specific purposes (or at all), in return for a share of the returns from those investments. While several criminal justice, housing, and education interventions are using this approach,[60] using it to address health-related social needs comes with significant challenges (Skopec 2018), and only a few such projects have been attempted.[61] The Social Impact Partnerships to Pay for Results Act included $100 million in federal funding to support pay for success outcomes payments, evaluations, and feasibility studies for projects led by state and local governments, which could yield important new evidence, though the eligibility requirements are narrowly defined by projected reduction in federal health care spending.[62]

Aligning for Health—a membership organization of health plans (including Medicaid managed care plans), health systems, and hospital associations—proposes to solve the wrong-pockets problem by addressing regulatory and funding barriers to cross-sector collaboration. This group advocates for more flexible federal regulations and funding opportunities to support development and testing of integrated, coordinated pilot programs that address social and health needs of Medicaid beneficiaries. To date, however, Aligning for Health has been unable to receive federal authorization and funding to support such demonstrations.

Researchers at George Mason University and Harvard Business School have developed a new hybrid approach that combines resources of private- and public-sector stakeholders, deriving from a theoretical economic model for overcoming the market failure introduced by "public goods." In this voluntary auction model (Nichols and Taylor 2018), major stakeholders that could benefit from an intervention and those who might be required to devote resources to that intervention submit confidential bids to a trusted broker indicating how much they would be willing to pay or need to be compensated for a given intervention. If the total willingness to pay across all stakeholders exceeds the required cost, the broker can then calculate a set of prices that distribute costs and benefits to make each stakeholder better off. To be implemented at scale, this approach to pooling resources may require changes to legislation or regulations governing how public agencies can spend resources. Several communities have expressed interest in pursuing the approach, and the researchers are seeking participants to study its feasibility starting in summer 2019.[63]

Several philanthropic and venture capital approaches to cross-sector collaborations aimed at improving population health and health equity have also developed in recent years. Wellville, a nonprofit effort founded by Angel investor Esther Dyson, and Purpose-Built Communities, an initiative supported by Warren Buffet and other investors, fund multisector community development projects focused on housing, education, nutrition, and resilience. Philanthropy is also supporting the Build Healthy Places Network, an effort to help communities develop sustainable collaborations between public and private community development and health partners to help define and achieve health equity goals. In Los Angeles County, the Magnolia Place Community Initiative, launched by the Children's Bureau of Southern California, has brought together residents and community resources across silos in four neighborhoods of South Central Los Angeles. Fostering a culture of cooperation, the participating communities adopted a conceptual framework of "strengthening families' protective factors" to improve child and family well-being. As part of the initiative, multiple services are located in a single neighborhood community center, facilitating warm handoffs between county agencies and improving the chances that multiple social needs get addressed in a timely manner (Bowie 2011).

States and localities are testing innovative strategies to address the wrong-pockets problem that leads to suboptimal funding for activities that yield benefits and savings across multiple sectors, levels of government, or on a longer time horizon. Important lessons will be learned from evaluations of these efforts that can help others undertake similar initiatives. But, it is unlikely that these initiatives can make a substantial dent in reducing unmet health-related social needs or the upstream factors that affect health in the immediate future because they are not being implemented at scale and because of the substantial governance, financing, and administrative hurdles that need to be overcome. The next

solution focuses on how the health sector can adopt organizational practices and push for policy changes that would reduce the prevalence and depth of unmet health-related social needs and bring about more equitable health outcomes.

Solution Set 5: Align Organizational Policies and Activities to Reduce Social Needs

Even if these four priority solutions were fully implemented, which would be a major accomplishment, people's health-related social needs will almost certainly outstrip the public and philanthropic assistance and resources available to address those needs. Just one in five people who meet the eligibility criteria for housing subsidies can receive them because of funding constraints (Scally et al. 2018), and millions of low-income adults report food insecurity and other material hardships (Karpman, Zuckerman, and Gonzalez 2018). These gaps raise fundamental questions about how much the health care sector can help with unmet social needs if the funding constraints in other sectors remain unaddressed.

In addition, many people with unmet health-related social needs who are not connected to the health care system—because, for example, they are uninsured or do not have identified health needs—will likely not be reached by strategies outlined in the four previous solutions. And, the health care sector affects the prevalence of health-related social needs in its community through its employment, training, contracting, pricing, bill collection, and investment practices. Therefore, the fifth solution involves health-sector institutions implementing organizational policies that reduce unmet health-related social needs and using their clout to advocate for policies that would help fill gaps and address underlying sources of disparities.

Spending on health care accounted for 17.9 percent of gross domestic product in 2017.[64] An estimated 16 million people worked in health care jobs in 2017,[65] and hospitals are often the largest employer in many communities.[66] As such, these institutions can shape the nature of the jobs that people have and the standard of living of many residents.

"There's potential for the industry to increase the number of quality jobs in the local economy and improve who in the economy gets access to those jobs. Income and income stability are huge drivers of social determinants. We always talk about value-based payment, but there has to be an intentionality to make sure the money doesn't just go the C-suite, but goes to lower-wage workers, like community health workers, who are helping to improve outcomes."

—*Sameera Fazili, Federal Reserve Bank of Atlanta*

Align Employment, Purchasing, Pricing, Billing, and Investment Practices

The wages and benefits that health systems and hospitals offer their employees and their use of contract labor affect the incomes and unmet health-related social needs of millions of people. Health system and hospital hiring and employment practices also affect equity within their community by shaping access to jobs, compensation, and benefits. Moreover, as a dominant employer in a local market, hospitals may have more power in labor negotiations—power that can depress wages and benefits more broadly. Indeed, greater hospital consolidation seems to exert downward pressure on wages (Prager and Schmitt 2019).

Many people in the US earning the minimum wage lack employer-sponsored benefits and experience material hardship.[67] The health care sector can reduce the extent and severity of health-related social and economic needs by raising wages and expanding access to benefits for their workers. With a tight labor market, hospitals in several cities have raised wages for their minimum-wage employees, but those increases may not be sustained during an economic downturn.[68] Certain hospitals have reportedly redirected salary increases slated for executives and other senior staff toward low-wage workers,[69] but they seem the exception rather than the rule.

Some health systems and hospitals are investing in initiatives that improve job quality and advancement opportunities for frontline health care workers.[70] As with increases in wages and benefits, these efforts may be motivated by the business imperative to reduce staff turnover and lower training and hiring costs rather than a desire to improve the living standards and job quality of employees. In either case, impacts will depend on whether these initiatives are sustained and adopted widely.

Hospitals can also support local economies and community development through their purchasing power (Dubb and Howard 2012).[71] In 2010, Henry Ford Health System, in partnership with Detroit Medical Center and Wayne State University, began participating in "Live Local, Buy Local, Hire Local." Funded by philanthropic dollars, the initiative aimed to support local communities by encouraging employees to live locally (e.g., offering forgivable home purchase loans, rental assistance), purchasing goods and services from local businesses, and creating access to employment opportunities for local residents. In the first three years of "Live Local, Buy Local, Hire Local," more than 2,000 people used the financial incentive to move into Detroit's Midtown neighborhoods, $16.5 million was spent on locally owned businesses, and 100 local residents were hired by Henry Ford Health System.[72] In another example, Cleveland Clinic recently turned over management of its laundry facilities to Evergreen Cooperative Initiative, an organization that creates living-wage jobs in some of Cleveland's poorest neighborhoods and allows workers to share in the business ownership.[73]

In addition to improving employment practices, hospitals and other health care providers can lower the prices they charge for care. Lowering prices would reduce public spending on health care and lower financial pressures on families—particularly for those with uninsured members or private plans that have high deductibles—and on businesses that provide employer-sponsored health insurance. Rapidly increasing hospital prices, which grew 42 percent between 2007 and 2014, are a key driver of health care spending growth in the United States (Cooper et al. 2019). In addition, hospital prices for employer-sponsored plans in 25 states are more than double Medicare rates, according to a recent study (White and Whaley 2019). Such high hospital prices put pressure on employers to increase employee premiums or deductibles, reducing families' financial resources available for other needs like housing, food, and child care.[74]

Because hospitals provide services that can be very costly, particularly for patients who are uninsured or have high-deductible health insurance plans, their billing and collection policies also affect the financial well-being of patients and their families (Melnick and Fonkych 2008; Rosenthal 2018).[75] Although hospitals provide uncompensated care and financial assistance to uninsured and underinsured patients, some also use collection agencies to resolve unpaid medical bills, a process that can lead to suing patients and garnishing their wages and bank accounts (Bruhn et al. 2019).[76] As recent examples from Tennessee and Virginia demonstrate, hospitals pursue collections and lawsuits against their low-income patients, including, in one nonprofit hospital's case, dozens of its own employees.[77] By changing billing and collections practices, as some hospitals are doing, hospitals can minimize the adverse financial consequences that accompany expensive hospital stays for low-income patients.[78]

Some hospitals are anchor institutions, focused on serving community needs and reinvesting in the local community.[79] The missions of nonprofit hospitals, which are obligated to give back to the communities they serve in exchange for their tax-exempt status, sometimes include addressing health disparities. For example, Bon Secours Health System has supported various efforts to revitalize economically isolated neighborhoods around its hospital campus in West Baltimore, including affordable housing development and support for community and child care centers, as well as workforce and education initiatives.[80]

Some hospitals and health systems also provide grants, donations, and in-kind contributions or invest directly in affordable housing and community development (AHA 2019a; Hack and Deane 2017; Reynolds et al. 2019).[81] Kaiser Permanente recently announced a $200 million impact investment through its Thriving Communities Fund to address housing concerns in communities it serves, including developing supportive housing and creating and preserving affordable housing.[82] In New York City, four hospitals are partnering with the state to revitalize Central Brooklyn in a project called the Vital Brooklyn Initiative. The development includes affordable housing with an integrated ambulatory care network.[83] And some hospitals have partnered with local community organizations to renovate vacant properties (e.g., Nationwide Children's Hospital in Columbus, Ohio), improve housing quality and help families afford housing (e.g., Allina Health and the Abbott-Northwestern Hospital in Minneapolis, MN), and support evaluations of community initiatives to improve housing quality (e.g., Mount Sinai Hospital in New York) (Kottke, Abariotes, and Spoonheim 2018).[84]

Health plans are also funding programs to address social needs.[85] CareSource has developed a program called JobConnect to help its enrollees in Georgia, Indiana, and Ohio find and maintain employment.[86] The program is also available to the parents of Medicaid-enrolled children in these three states who are not themselves Medicaid eligible. In addition, UnitedHealthcare has donated over $400 million to help build more than 4,500 affordable homes with on-site support services in 18 states.[87]

Advocate for Social Policies

Because of their size, resources, and political influence, health-sector institutions can influence federal, state, and local decisions on funding, programmatic, and regulatory issues that affect health-related social needs. Medicaid is expanding its role in addressing housing needs for groups, such as homeless people with chronic health problems, where the return on investment to the health sector is positive.[88] But Medicaid policy strictly limits the use of federal funds to cover housing expenses.[89] Given these constraints and the significant shortfall in available housing assistance, it is highly unlikely that

Medicaid, other health insurance payers, and plans will be able to provide enough funding and services to eliminate homelessness, housing instability, and housing affordability problems for all affected people or families.

Leaders of health institutions can, however, convene or join advocacy efforts pushing for changes in local land-use restrictions, zoning requirements, and other policies that aim to expand the available housing stock and increase access to affordable housing (Turner et al. 2019).[90] For example, Greater Oregon Behavioral Health, Inc.—a partner in the Eastern Oregon CCO—lobbied for changes in zoning codes in La Grande, Oregon, that allow development of "tiny cottages" to increase affordable housing options in the community.[91] Kaiser Permanente has advocated for state and federal affordable housing policies, including the Veterans and Affordable Housing Act of 2018, which provides for up to $4 billion for affordable housing initiatives and home loans for veterans.[92] And both Kaiser Permanente and Sutter Health are members of the Mayors & CEOs for U.S. Housing Investment initiative, which advocates for policy solutions to the affordable housing crisis and sustained federal support for housing resources. In an effort to target community benefit dollars to meet pressing needs, Boston Medical Center obtained permission to use all its funding designated for addressing community-based health needs as part of the DoN obligation toward affordable housing.[93]

As large employers with substantial financial resources, health systems and health plan executives and board members wield considerable political influence and can advocate for funding changes to key federal safety net programs and for other investments that would particularly benefit low-income groups. For example, SNAP benefits often fall short of meeting food assistance needs (Waxman, Gundersen, and Thompson 2018), and food insecurity has been associated with poor health outcomes (Gunderson and Ziliak 2015). When Congress deliberated major funding cuts for SNAP in 2018, Boston Medical Center, Partners HealthCare, Dartmouth Hitchcock Health, and more than 60 other health care providers, provider associations, and consumer groups across New England and New York signed a letter to Congress urging senators to oppose SNAP cuts.[94] Similarly, when substantial cuts to safety net programs, including SNAP, Temporary Assistance for Needy Families, and federal housing assistance were included in the 2018 federal budget proposal, the Catholic Health Association, representing more than 600 hospitals and 1,400 long-term care facilities, sent Congress a letter opposing the cuts.[95]

Health-sector institutions can also advocate for other federal policies and nutrition programs that address food insecurity. For example, the American Academy of Pediatrics has advocated for funding for nutritional programs such as WIC, SNAP, and school lunch programs to support healthy child development (Council on Community Pediatrics 2015). And the American Hospital Association called

for an extension of WIC program in the postpartum period to help overcome racial disparities in maternal and infant health outcomes (AHA 2019b).

Transportation barriers interfere with people's ability to maintain employment and get access to needed health and social services.[96] Health-sector leaders could advocate for improved public transportation systems and/or improved access to those systems through subsidies for low-income populations (Wizemann and Baciu 2016). For example, health centers in Boston found that many of their patients who arrived late or missed appointments relied on the bus system to travel to clinics. So, they have been advocating for policy changes to improve public transportation access and affordability and have connected patients to local groups advocating for improved transit policies.[97]

While health-sector leaders and institutions can certainly advocate for evidence-based policies and greater funding for safety net programs designed to target particular unmet health-related social needs, it may be even more important for them to use their political capital and resources to address underlying wealth and income inequities,[98] as those are key drivers of disparities in health and longevity (Khullar and Chokshi 2018; Krisberg 2016). Many health-related social needs, including food insecurity and housing instability, are driven by insufficient income and wealth (Gunderson, Kreider, and Pepper 2011; Pilkauskas 2018). Health institutions can advocate for poverty-reducing programs like the earned income tax credit along with education and child care policies like universal prekindergarten that can improve economic opportunities (Lustig and Cabrera 2019). The American Academy of Pediatrics, for example, has advocated for the earned income tax credit, the child tax credit, higher minimum wages, and job-training programs.[99]

Finally, implementing policies that close the large income and wealth gaps will likely reduce disparities in unmet social needs, health, and longevity. But eliminating racial inequities will also require confronting and overturning structurally racist policies and practices in education, employment, policing, and other areas (Kijakazi et al. 2019). Some health systems have developed programs to reduce racial and ethnic inequalities in health care treatment and outcomes through provider training and patient education (e.g., the Accountability for Cancer Care through Undoing Racism and Equity project),[100] but these efforts rarely extend to a broader focus on racial justice.

In one such effort, the Southern Jamaica Plain Health Center in Boston, Massachusetts, sought to understand and address obvious health disparities between its white patients and its patients of color by offering training to staff and community partners, developing a glossary to guide discussions about racial injustice, and advocating for policy changes to address racial inequity.[101] The knowledge and experiences gained through this effort culminated in a toolkit on how the health care delivery system

can address racial inequity in health care.[102] Efforts to improve cultural competency and raise provider awareness of the effects of discrimination and toxic stress on the health of their patients are likely necessary steps to combat the adverse effects of structural racism. Ultimately, policies will also be required that address the upstream conditions systematically damaging patient health and leading to racial and ethnic disparities in active life expectancy.

Building Knowledge Changemakers Need

In the absence of systematic evidence, Medicaid managed care plans and health care providers are often engaged in varied activities aimed at addressing health-related social needs without understanding what the effects of those activities will be. Consequently, the health care sector is not reliably targeting investments and resources to address the social needs that most affect health or health care costs, and those investments are therefore unlikely to be sustainable. Moreover, plans and providers lack guidance on how, when, and whom to screen and which referral approaches and resource networks and platforms to invest in and use. Even when plans and providers can identify specific social needs as promising targets for intervention, little evidence is available to help guide decisions over which interventions to employ.

Drawing on an environmental scan and on interviews and group discussions with stakeholders and other key informants, we identified three priorities for knowledge-building to help inform and support efforts that narrow socioeconomic and racial and ethnic disparities in health and active life expectancy:

1. Expand the use and analysis of administrative data links, and systematically assess how different health-related social needs across the life cycle drive health-sector outcomes and costs and outcomes and public outlays in other sectors so (a) health care payers and plans prioritize investments that achieve the largest net benefits in improving health outcomes and/or lowering health care costs and reducing disparities in healthy life expectancy and (b) policymakers take into account cross-sector payoffs when allocating resources.

2. Build the evidence base on the most cost-effective approaches for screening, referral, and provision of services addressing health-related social needs so payers, plans, and providers have the highest likelihood of improving health outcomes and reducing inequities in life expectancy sustainably.

3. Assess alternative approaches to overcoming the wrong-pockets problem and integrating health, social service, and other systems to help policymakers and other key stakeholders determine which approach(es) would work best in their setting and understand the expected costs and returns to different sectors.

These priorities will not address all the knowledge gaps that are preventing health-sector changemakers from making investments that reduce unmet health-related social needs that in turn may

reduce disparities in active life expectancy and improve health. But these priorities fill some critical gaps that payers, plans, and providers are facing. Each priority area is discussed below, with an emphasis on places where new research and methods are needed and how new knowledge could spur changes that lead to reduced health inequities and improved healthy life expectancies.

"When we're measuring blood pressure, we have a clear standard of what's good and not good. Social determinants of health is so new in this sector, there hasn't been an entity that has stepped up to say what role plans, hospitals, or providers should play. It's still trial and error. There's growing confidence that we have to do this to have an impact on outcomes and bend the cost curve. What's lagging behind is clearer definitions around the direction, which social determinants of health have the biggest impact, and which don't. Where is the specific ROI that the health care industry can lean on?"

—*Karin VanZant*, *CareSource*

Priority 1: Identify High-Value Targets among Health-Related Social Needs

People of color and people with low incomes disproportionately experience unmet health-related social needs; they also have disproportionately high rates of chronic disease and lower life expectancy.[103] Addressing inequities in healthy life expectancy will likely require addressing the high burden of poverty, food insecurity, housing insecurity, and transportation issues on racial and ethnic minorities and people with disabilities. Communities, Medicaid programs, and managed care plans often lack information on the prevalence and nature of the unmet health-related social needs of their populations, making it difficult to address those needs and improve health and well-being. Further, research is sparse estimating the causal effects of unmet health-related social needs on health outcomes, healthy life expectancy, and health care costs, as well as on outcomes and public outlays in other sectors. In addition, we are unaware of published research that explores how the effects of these social needs and corresponding costs vary across a lifetime (e.g., unmet social needs may have larger impacts on health and medical costs at certain ages), across racial and ethnic groups, and by income. Such research will be

critical to helping communities, state Medicaid programs, and managed care organizations target interventions to high-need groups and to prioritize investments that will have the maximum effect on narrowing disparities in healthy life expectancy.

Further, the literature on health-related social needs has not explored how long after attending to social needs we can expect to observe effects on health and health care costs, how much this varies by the type of need (e.g., food insecurity, housing insecurity, and trauma), or how to balance investments in upstream factors that have lagged, long-term payoffs like early childhood education against more immediate interventions like short-term housing after a hospitalization. Ultimately, the upstream investments may have a larger impact on reducing disparities in healthy life expectancy over time than short-term investments, but they are less likely to have a short-term positive return on investment for the health sector. Finally, to inform health-sector investments, researchers also need to explore how often different social needs co-occur with other types of needs and whether different combinations of needs have additive, overlapping, or multiplicative effects on outcomes. For example, food insecurity may have much greater adverse health effects when people are also experiencing housing instability and do not have places to store or prepare food.

Applying Knowledge to Accelerate Solutions

Having information on the unmet health-related social needs of enrollees would help state Medicaid programs, managed care organizations, and providers determine

- which social needs to prioritize in experimental payment and delivery models;

- how to structure value-based payment arrangements and use managed care contracting to achieve better outcomes and reduce health inequities; and

- how to mobilize community benefit dollars and other community resources to target upstream investments that reduce health care costs and narrow disparities in healthy life expectancy.

The availability of population-specific data on the prevalence of unmet health-related social needs and correlations of prevalence across different types of needs would allow payers and plans to focus on interventions that maximize returns in improving health, lowering health care costs, and/or reducing inequities in healthy life expectancy.

For example, the Massachusetts Department of Public Health has developed a database that combines relevant information from more than 300 systems across state agencies to assess how social needs are affecting population health and inform development of public health strategies (Spencer,

Freda, and McGinnis 2016). When data revealed that people released from Massachusetts prisons were substantially more likely to have a fatal opioid overdose than people not in the correctional system, the public health department collaborated with the justice system to implement interventions aimed at preventing overdoses upon release (Alie 2017).

When Hennepin County, Minnesota, developed an integrated administrative data system that included data from the health care, human services, criminal justice, and housing sectors, it found that Medicaid expansion enrollees, particularly those with mental health and substance use disorders, had a high level of cross-sector needs. This finding suggested that integrating medical care with services that address unattended social needs could reduce unnecessary utilization and costs across multiple public sectors while improving outcomes for individuals (Bodurtha et al. 2017).

Approaches to Knowledge-Building

Building the evidence to help changemakers target their efforts requires three key steps: (1) refinement and more standardization of methods that plans and providers use to collect data on social needs, (2) syntheses of existing evidence and new analyses of the interactive impacts of social needs on outcomes and costs in health and other sectors, and (3) dissemination of those findings to the different types of changemakers who can use them.

In 2016, CMS updated its Medicaid managed care rule, expanding care coordination requirements to include coordination with community-based social service providers and requiring plans to make their "best effort" to conduct an initial health risk assessment for new enrollees within 90 days.[104] Researchers should partner with managed care organizations to analyze the new information being collected about enrollees' social and economic needs along with the diagnosis, service use, and cost data from medical claims. Such analysis would give managed care plans and Medicaid programs a much better understanding of the social factors that affect health of Medicaid members and contribute to unnecessary health care utilization and spending.

Evaluating the alternative assessment tools in use, as well as assessing the different approaches used to reduce barriers to collecting health risk assessments, could ultimately allow Medicaid programs to have standardized, comprehensive information on the unmet health and social needs of their enrollees and to understand how those factors shape health outcome and costs. ICD-10 Z codes, which capture information on patients' social needs including education and literacy, employment, occupational exposure, housing and economic circumstances, social environment, upbringing, primary social support, and psychosocial circumstances,[105] are another potential source of standardized

information on social and economic risk factors that could be aggregated to the population level. Z codes generally are not being used in health care settings, but recent changes to coding guidelines could lead to broader use of these codes (AHA 2018; Lewis et al. 2016; Torres et al. 2017). As a critical first knowledge-building step, researchers could partner with plans and providers to test and evaluate Z codes in health care settings.

To guide efforts to address unmet health-related social needs, payers and plans need scientifically rigorous information about how unmet social needs affect health care spending, health outcomes, healthy life expectancy, and disparities in these outcomes by race and class. Research organizations and other stakeholders can support these efforts by collecting, synthesizing, and sharing high-quality research on the short- and long-term health effects of unmet social needs, and how those effects vary by age, race or ethnicity, income, and disability status. Research organizations can also work with states and managed care organizations to identify gaps in that research, develop new studies to fill those gaps, and ensure that new programs to address unmet health-related social needs are designed to facilitate evaluation. In addition to building high-quality evidence of how unmet social needs affect health and nonhealth outcomes and costs, plans and payers would greatly benefit from a systematic translation of these studies into cost-benefit analyses for the health sector and other sectors, including the timing of those costs and benefits over a lifetime and variations across populations.

Research organizations can also help design and exploit integrated data repositories crossing multiple state programs. Analyses conducted using these repositories help policymakers at all government levels and other changemakers understand how investments and policy changes in one sector affect outcomes and costs in other sectors. For example, Washington State's Department of Social and Health Services developed an integrated database that includes administrative data from more than 30 systems across several state departments and agencies, including Medicaid, employment, courts, and criminal justice. An analysis of these data showed that a parent's continuous receipt of Temporary Assistance for Needy Families benefits while their child was removed from home contributed to higher rates and speedier family reunification. This finding reportedly led Washington State officials to continue this policy as opposed to cutting benefits for parents when children were in out-of-home placements (Annie E. Casey Foundation 2017).

Other state and local governments could benefit from working with research partners to build these types of administrative data linkages and use them to address pressing policy questions. Or, researchers could help states explore machine-learning approaches to data matching that do not require a completely integrated administrative data portal. Both approaches are complicated and resource-intensive, but their potential to both improve and more efficiently prioritize public outlays and

sequence policy steps would likely be appealing across the political spectrum. In addition, these approaches can highlight variations in unmet social needs across racial and ethnic groups and income levels, potentially allowing for targeted efforts to reduce inequities in healthy life expectancy. Thus, highlighting the use-cases of existing systems and helping governments across the country develop their own systems are both key to this knowledge-building priority.

Priority 2: Build an Actionable Evidence Base of Proven Interventions That Resolve Health-Related Social Needs

Health plans and payers are increasingly engaged in screening, referrals, and follow-ups to address a wide variety of social needs; some plans and payers are also financing interventions to address social needs. However, this work is proceeding without guidance on what approaches could address unmet social needs cost-effectively. Consequently, the health sector is not necessarily financing screenings, referrals, or social services in the most efficient manner. Payers, plans, and providers lack easy access to information on the costs and benefits of alternative approaches to screening, referral, and provision of social services and how they vary across settings and population subgroups. In addition, there is little information about the potential downsides to these activities, so payers, plans, and providers are unable to account for, and attempt to mitigate, unintended consequences. While priority 1 addresses gaps in the knowledge necessary to prioritize the most pressing needs in the populations served by states, plans, and providers, this priority discusses building an actionable, high-quality evidence base to allow these stakeholders to quickly identify "what works" and minimize duplicative, time-consuming experimentation and literature searches.

Applying Knowledge to Accelerate Solutions

Information on the cost-effectiveness of different approaches to assessing and resolving enrollees' unmet health-related social needs would help payers and plans focus on approaches that have the best prospects for improving health outcomes, reducing health care costs, and/or reducing inequities in healthy life expectancy. Actionable evidence on what works, including short- and long-term return on investment in the health sector and in other sectors, would provide state Medicaid programs with the guidance they need to impose requirements and create incentives for addressing unmet social needs in managed care contracting and to implement value-based payment models that would yield the largest potential gains. Such an evidence base would also help plans and providers choose the most efficient ways to meet the new screening and referral requirements that many states are implementing.

"Payers are interested in knowing about the actual evidence base for an intervention: Will it improve x, y, or z? If I have limited dollars, where should I invest them? What interventions should I invest in, from among the available options?"

—*Enrique Martinez-Vidal, Association for Community Affiliated Plans*

Approaches to Knowledge-Building

Changemakers in the health sector who are helping patients address their health-related social needs need quick, centralized access to information about the costs and benefits of particular interventions, alternative financing models, and evidence-based screening and referral practices. However, because the evidence base is currently thin, addressing this priority will require expanding the evidence base alongside gathering and synthesizing high-quality, actionable evidence. Helping changemakers better target their efforts to address social needs requires four key steps:

1. systematically assess existing evidence on screening approaches, and build further evidence as necessary to support standardization of evidence-based screening tools

2. systematically assess existing evidence on referral approaches, and conduct evaluations to build new evidence on the most effective approaches to referral

3. systematically assess existing evidence and identify priority areas for creation of new evidence about the costs and benefits of different types of interventions to help patients address the needs identified through social needs screenings

4. partner with health care providers and payers to design demonstrations and conduct rigorous evaluations that build new evidence on screening, referrals, and interventions designed to address specific health-related social needs

To support state Medicaid programs and managed care organizations in choosing and/or standardizing screening tools, researchers could assess evidence drawn from the varied approaches that plans and providers have implemented and develop new evidence where evaluations are lacking. First, researchers could assess the literature on screening approaches to determine the strength of existing evidence and identify gaps. Next, researchers could address gaps in the evidence base by partnering with state Medicaid agencies, managed care plans, providers, and/or community-based organizations to design and implement robust evaluation plans, including identifying screening

approaches that would merit testing using randomized controlled trials. This approach would ensure that evidence from early innovators is available to inform later adopters and subsequent policies and practices implemented by payers and plans.

One big challenge providers and plans cite with requirements to screen for social needs is that they do not know where to refer patients with identified unmet health-related social needs. As indicated above, states, localities, and plans are using alternative approaches to develop and maintain community resource networks that support referrals.[106] Researchers can assess the evidence base for technology-based platforms, as well as other referral approaches, and develop new studies to further explore the most effective approaches. To date, very little research has been conducted on the effectiveness of alternative community resource networks and platforms, their costs and benefits, and managed care organization, provider, and enrollee experiences using these networks. Researchers can help fill these gaps by partnering with jurisdictions implementing these approaches to design and implement strong evaluations. Jurisdictions that have not yet set up community networks would benefit from a systematic assessment of the evidence base for community resource networks and platforms and other referral approaches, including what has and has not worked, how much different approaches cost, whether the networks have made referrals to social services more efficient and effective, and whether referral programs have improved enrollee health outcomes. This could be accomplished through partnerships between research organizations and early implementer states and with wide dissemination of the results.

In addition, state Medicaid programs, managed care organizations, and providers are increasingly exploring direct funding of programs to address unmet health-related social needs. However, there is currently little evidence on the outcomes and short- and long-term return on investment for specific interventions, making it difficult to choose which interventions to implement with limited funds (IUHRP 2016; Taylor et al. 2016; Tsega et al. 2019).[107] Both CMS's Accountable Health Communities demonstration and the North Carolina Medicaid demonstration have strong accompanying evaluations that have the potential to provide concrete evidence about the impacts of alternative screening and referral approaches and the cost-effectiveness and return on investment of alternative approaches for addressing the social needs that are covered under the pilot projects. But there will be important opportunities to learn even more. Researchers could partner with managed care organizations in North Carolina to test the relative merits of alternative service delivery approaches—for example, for an enrollee with food insecurity, what are the relative costs and outcomes associated with facilitating SNAP enrollment or maintenance of SNAP benefits, providing vouchers for food, referring to a food

bank, or providing home delivery of meals? What voucher amounts, number of meal deliveries, or timing of benefits is most effective, and for which enrollees?

Research efforts to build an actionable evidence base of proven interventions could build on the Social Interventions Research and Evaluation Network, which maintains an evidence library of health care–based interventions that address patients' social needs. The library, which emphasizes "resources that carefully describe and evaluate the social needs components of these interventions,"[108] includes more than 770 journal articles, research reports, issue briefs, and commentaries published since 2000. Assessing, distilling, and synthesizing the findings from these studies will be critical steps to provide payers and plans with actionable, accessible information.

It is critical that the evidence base on screening, referral, and interventions to address social needs also highlight any negative effects on plans, providers, and enrollees. For example, how does social needs screening by physicians affect the doctor-patient relationship? Can screening be conducted without increasing physician or provider workloads? Is screening for social needs coming at the expense of other tasks? Are beneficiaries reluctant to provide information about their social needs to their health plan or their providers, and do they want help addressing their unmet social needs? Are existing social services sufficient to address unmet social needs? If the social service sector is unable to handle the volume of needs in a community, will economic incentives shift their focus to the new populations to the detriment of populations they currently serve?

Priority 3: Assess Strategies for Integrating Health, Social Services, and Other Systems

Changemakers in both government and private sectors are testing various approaches to overcome the wrong-pockets problem and align investment decisions across different public and private actors and sectors. To date, however, no one appears to have systematically assessed the conditions necessary for implementing these approaches, nor has anyone compared these alternative approaches to assess what makes one more likely to succeed than another. Moreover, most evaluations of individual programs do not account for the costs and benefits of coordinated interventions because those are accrued across multiple sectors, extending beyond the scope of the stakeholders who commission the evaluation.

> **"We have a lot of good evidence about intervening within a sector, but where we could really see a payoff is across sectors. We have to get good numbers to convince officials at the state and federal levels to let the funds flow, which is a necessary condition to get these projects done."**
>
> —*Stuart M. Butler*, *Brookings Institution*

Applying Knowledge to Accelerate Solutions

As more communities, cities, and states consider collaborative strategies to address health-related social needs, they will need a body of evidence that shows net positive returns, both economic and noneconomic, across multiple sectors. This detailed accounting will be a guide to determining which public and private stakeholders need to be included in any cross-sector initiative. After identifying key participants, decisionmakers would need how-to guides that describe the advantages and disadvantages of various solutions to the wrong-pockets problem. To be most useful to changemakers, enumeration of the relative advantages and disadvantages of each approach should also address how to overcome differences in governance across stakeholders and legal and regulatory barriers, along with how well each approach sustains collaboration and promotes beneficial investments.

Approaches to Knowledge-Building

Several activities can support stakeholders making and implementing policies to solve the wrong-pockets problem.

First, comparative evaluations of existing approaches would supplement and synthesize the small amount of current evaluation work on individual cross-sector initiatives. These comparative evaluations would require a mix of qualitative and quantitative methods to answer process questions about the formation, legal structures, and governance of the collaboratives and to analyze their effects on outcomes within participating sectors and outside those sectors. Integrated multisector databases would be a key resource for any such work.[109] Some evaluation work is planned for the Wellville, Purpose Built Communities, and Magnolia Place interventions, and federal and state evaluations are under way for government-directed initiatives like AHCs and ACOs. Other approaches, such as children's cabinets, have yet to be formally evaluated. Even where evaluations are planned, they may

not include robust process and impact assessments and may fail to compare the success of these projects to both the status quo and alternative approaches to addressing the wrong-pockets problem.

Second, new approaches being developed and implemented, such as the voluntary multi-stakeholder auction approach described above in solution set 4, would optimally include a rigorous evaluation to ensure others can learn from their experiences. As much as possible, design choices for the intervention should consider what would constitute a valid counterfactual. Similarly, for approaches like pay for success, which has been implemented on a limited basis in the health sector but is still largely untested, research partnerships that build on the existing evaluations to address broader process and impact questions could yield valuable insights to inform future efforts.

Finally, backbone organizations and collaboratives like children's cabinets would benefit from technical assistance and research support to address analytic challenges, provide access to salient and digestible findings drawn from curated repositories of evidence on the bidirectional relationships between social factors and health, and build and maintain multisector databases of participant outcomes for evaluation purposes.

Notes

1   Maximizing the extent to which the health sector contributes to reductions in inequities in health and life expectancy will require addressing racial, ethnic, and socioeconomic disparities in access to affordable health insurance and health care (AHRQ 2016a; Chen et al. 2016; Orgera and Artiga 2018; Shelley, Kilgore, and Cherrington 2017). For examples of Urban Institute research on the impacts of expanding access to affordable health insurance coverage and care, see the "Health Care Reform in Massachusetts" page on the Urban website (https://www.urban.org/policy-centers/health-policy-center/projects/health-care-reform-massachusetts), along with Caswell and Waidmann (2017); Garrett, Gangopadhyaya, and Dorn (2017); Lipton et al. (2016); McMorrow et al. (2017); Sommers, Long, and Baicker (2014); and Wherry, Kenney, and Sommers (2016).

2   This Catalyst brief focuses on how to address persistent health inequities along racial, ethnic, and economic lines. The proposed solutions could be adapted to address health inequities along other characteristics, such as disability status and geography.

3   See Maya Brennan, Emily Peiffer, and Kimberly Burrowes, "How Zoning Shapes Our Lives," How Housing Matters, June 12, 2019, https://howhousingmatters.org/articles/zoning-shapes-lives/.

4   See Chatterjee et al. (2014); Hung et al. (2011); Ortman, Velkoff, and Hogan (2014); and Raghupathi and Raghupathi (2018).

5   Providers include doctors, nurses, and hospitals. Plans are largely private companies that manage networks of providers and administer payments to those providers. Payers include governments that fund public programs like Medicare and Medicaid as well as private payers, such as employers, that fund medical care through insurance plans.

6   See Fiscella and Sanders (2016); Goel et al. (2003); McGuire and Miranda (2008); Musselwhite et al. (2016); Robinson, Davis, and Robinson IV (2017); Shavers and Brown (2002); and White (2009).

7   Medicare finances health care services for the elderly and people with disabilities. Medicaid finances health and long-term care for low-income people of all ages.

8   Although these issues are of growing importance across payers, this discussion focuses on Medicaid, particularly Medicaid coverage for people who are not also eligible for Medicare.

9   Thirty organizations are participating in the AHC model. For more information, see the initiative's page on the CMS website, https://innovation.cms.gov/initiatives/ahcm/.

10   Providers may use questions that screen for needs in eight supplemental domains: financial strain, employment, family and community support, education, physical activity, substance use, mental health, and disabilities ("The Accountable Health Communities Health-Related Social Needs Screening Tool," CMS, accessed August 21, 2019, https://innovation.cms.gov/Files/worksheets/ahcm-screeningtool.pdf).

11   The AHC model will support community "bridge organizations" to test promising approaches aimed at connecting beneficiaries with social services and community supports that address their health-related social needs. The AHCs in the assistance track help high-risk beneficiaries access services to address identified needs. The AHCs in the alignment track develop partnerships to ensure needed community services are available (CMS, "Accountable Health Communities (AHC) Model Assistance and Alignment Tracks Participant Selection," April 6, 2017, https://www.cms.gov/newsroom/fact-sheets/accountable-health-communities-ahc-model-assistance-and-alignment-tracks-participant-selection).

12   The shorter-form version of the questionnaire is available at https://sirenetwork.ucsf.edu/sites/sirenetwork .ucsf.edu/files/Your%20Current%20Life%20Situation%20Questionnaire%20v2-0%20%28Core%20and

%20supplemental%20items%2C%20annotated%20with%20triggers%20and%20sources%29%28v11-10-16%29.pdf.

13 Nirav R. Shah, Artair J. Rogers, and Michael H. Kanter, "Health Care That Targets Unmet Social Needs," NEJM Catalyst, April 13, 2016, https://catalyst.nejm.org/health-care-that-targets-unmet-social-needs/.

14 "PRAPARE," National Association of Community Health Centers, accessed August 21, 2019, http://www.nachc.org/research-and-data/prapare/.

15 The 2016 version of the screener is available at http://www.nachc.org/wp-content/uploads/2018/05/PRAPARE_One_Pager_Sept_2016.pdf.

16 Andis Robeznieks, "New ICD-10 Codes Will Help Physicians Tackle Social Barriers to Care," American Medical Association, April 2, 2019, https://www.ama-assn.org/practice-management/digital/new-icd-10-codes-will-help-physicians-tackle-social-barriers-care.

17 "Persons with Potential Health Hazards Related to Socioeconomic and Psychosocial Circumstances," ICD10 Data, August 21, 2019, https://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z55-Z65.

18 Arlene Ash, "MassHealth Risk Adjustment Model Social Determinants of Health," Massachusetts Executive Office of Health and Human Services, October 14, 2016, https://www.mass.gov/files/documents/2016/10/pv/1610-risk-adjustment-open-public-meeting.pdf.

19 See also "Social Need Screening Tools Comparison Table," Social Interventions Research and Evaluation Network, accessed August 21, 2019, https://sirenetwork.ucsf.edu/tools-resources/mmi/screening-tools-comparison/adult-nonspecific.

20 No Kid Hungry NC, "NCCare 360 Selected to Build a New Tool for a Healthier North Carolina—The NC Resource Platform," No Kid Hungry, August 21, 2018, http://nokidhungrync.org/nccare360-selected-to-build-a-new-tool-for-a-healthier-north-carolina-the-nc-resource-platform/.

21 Steven Ross Johnson, "Kaiser to Launch Social Care Network," Modern Healthcare, May 6, 2019, https://www.modernhealthcare.com/care-delivery/kaiser-launch-social-care-network.

22 Aunt Bertha (https://company.auntbertha.com/) is one example of a national system.

23 "What Is CIE?" Community Information Exchange, accessed August 21, 2019, https://ciesandiego.org/what-is-cie/.

24 "The Pathways Community HUB Model," Community Action Akron Summit, accessed August 21, 2019, https://www.ca-akron.org/pathways-community-hub-model.

25 "Pathways HUB Community Action," Community Action Akron Summit, accessed August 21, 2019, https://www.ca-akron.org/pathways-hub-community-action.

26 Shiloh Turner, Kathy Merchant, John Kania, and Ellen Martin, "Understanding the Value of Backbone Organizations in Collective Impact," Stanford Social Innovation Review, July 17, 2012, https://ssir.org/articles/entry/understanding_the_value_of_backbone_organizations_in_collective_impact_1.

27 Centers for Medicare & Medicaid Services, Accountable Health Communities Funding Opportunity Announcement, Number CMS-1P1-17-001, January 5, 2016, available at https://www.grantsolutions.gov/gs/preaward/previewPublicAnnouncement.do?id=55237.

28 "Washington State Health Care Authority Model Contract," Washington State Health Care Authority, accessed August 21, 2019, https://www.hca.wa.gov/assets/billers-and-providers/model_contract_ahmc.pdf.

29 Oregon Health Authority (OHA), "Appendix C: Administrative Rule Concepts," Coordinated Care Organizations 2.0 request for applications, RFA OHA-4690-19, January 25, 2019, https://www.oregon.gov/oha/OHPB/CCODocuments/04-CCO-RFA-4690-0-Appendix-C-Administrative-Rule-Concepts-Final.pdf.

30 OHA, "Attachment 10—Social Determinants of Health and Health Equity," Coordinated Care Organizations 2.0 request for applications, RFA OHA-4690-19, January 25, 2019, https://www.oregon.gov/oha/OHPB/CCODocuments/09-CCO-RFA-4690-0-Attachment-10-SDOH-HE-Questionnaire-Final.pdf.

31 OHA, "Attachment 10—Social Determinants of Health and Health Equity."

32 "MassHealth Flexible Services Program," MassHealth, November 2018, https://www.mass.gov/files/documents/2018/11/14/MassHealth%20Flexible%20Services%20One%20Pager.pdf.

33 "Covered Medical Services," Arizona Health Care Cost Containment System (AHCCCS), accessed August 21, 2019, https://www.azahcccs.gov/Members/AlreadyCovered/coveredservices.html.

34 See also AHCCCS, amendment to contract # YH19-0001, effective October 1, 2018, https://www.azahcccs.gov/Resources/Downloads/ContractAmendments/ACC/ACC_Contract_Amend_1.pdf.

35 "105 CMR 100.00: Determination of Need," Massachusetts Department of Public Health, December 28, 2018, https://www.mass.gov/regulations/105-CMR-10000-determination-of-need.

36 The goals of the Massachusetts Statewide Community-Based Health Initiative (CHI) are to (1) direct resources for activities tied to these six priority areas in underserved parts of the state with no hospital presence, (2) support regional and collaborative CHI processes and (3) fund tools and resources to support systemwide and local evaluation of CHI programs (AGO 2018; DPH 2017).

37 Partners Healthcare System Inc., "DON Application #PHS-19040915-HE Attachments," April 26, 2019, https://www.mass.gov/files/documents/2019/05/06/partners-MGH-system-application-attachments.pdf.

38 "Internal Revenue Bulletin: 2015-5," Internal Revenue Service, https://www.irs.gov/irb/2015-05_IRB.

39 "What Is a Community Health Needs Assessment (CHNA)?" American Lung Association, last updated May 9, 2018, https://www.lung.org/our-initiatives/tobacco/cessation-and-prevention/hospital-community-benefits/what-is-a-community-health-needs-assessment.html.

40 See, for example, "Community Health Needs Assessments," Kaiser Permanente, accessed August 5, 2019, https://about.kaiserpermanente.org/community-health/about-community-health/community-health-needs-assessments.

41 Lisa Gilden (vice president and general counsel/compliance officer, The Catholic Health Association of the United States), Melinda Reid Hatton (senior vice president and general counsel, American Hospital Association), and Janis M. Orlowski (chief health care officer, Association of American Medical Colleges), electronic letter to Sunita Lough and Tamara Ripperda of the Internal Revenue Service, July 14, 2015, https://www.chausa.org/docs/default-source/advocacy/071415-joint-letter-to-irs-on-housing-as-community-benefit.pdf. See the December 18, 2015, update at https://www.irs.gov/charities-non-profits/exempt-organizations-update-archive.

42 See CHCS (2018); Daniel-Robinson and Moore (2019); Manatt Health (2019); Van Buren (2018); and Hailey E. Davis and Patricia M. Boozang, "Manatt on Health: Medicaid Edition," Manatt Health, May 2, 2018, https://www.manatt.com/Insights/Newsletters/Manatt-on-Health-Medicaid-Edition/Leveraging-Medicaid-Managed-Care-to-Advance-Value.

43 With very limited exceptions, states cannot use federal Medicaid funding to cover housing costs such as room and board, job training, or work supports such as child care (Bachrach, Guyer, and Levin 2016; Manatt Health 2019; Van Buren 2018; and Tina Kartika, "How States Address Social Determinants of Health in Their Medicaid Contracts and Contract Guidance Documents," National Academy for State Health Policy, accessed August 5, 2019, https://nashp.org/wp-content/uploads/2018/08/Social-Determinants-of-Health-in-Medicaid-Contracts-plus-CT-12_6_2018.pdf.

44 Vikki Wachino (director, Centers for Medicare & Medicaid Services), letter of approval to Lori Coyner (Medicaid director, Oregon Health Authority), January 12, 2017, https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/or/or-health-plan2-ca.pdf.

45 Diana Crumley and Rob Houston, "Refining Oregon's Medicaid Transformation Strategy through CCO 2.O: A Q&A with the Oregon Health Authority," Center for Health Care Strategies Inc., April 16, 2019, https://www.chcs.org/refining-oregons-medicaid-transformation-strategy-through-cco-2-o-a-qa-with-the-oregon-health-authority/.

46 OHA, "Attachment 10—Social Determinants of Health and Health Equity."

47 MassHealth, "MassHealth Comprehensive Quality Strategy," accessed August 5, 2019, https://www.mass.gov/files/documents/2018/12/27/masshealth-comprehensive-quality-strategy-november2018.docx.

48 Rachel Matulis, "Prioritizing Social Determinants of Health in Medicaid ACO Programs: A Conversation with Two Pioneering States," Center for Health Care Strategies Inc. blog, May 2, 2018, https://www.chcs.org/prioritizing-social-determinants-health-medicaid-aco-programs-conversation-two-pioneering-states/.

49 Louisiana Department of Health, request for proposals for Louisiana Medicaid managed care organizations, RFP # 3000011953, February 25, 2019, http://ldh.la.gov/assets/medicaid/RFP_Documents/RFP3/MCO_RFP.pdf.

50 "Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability," 81 Fed. Reg. 27498 (May 5, 2016).

51 Rebecca Beitsch, "Are Medicaid's Payment Rates So Low They're Discriminatory?" *Stateline* (blog), Pew Charitable Trusts, September 22, 2017, https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2017/09/22/are-medicaids-payment-rates-so-low-theyre-discriminatory.

52 Stuart Butler, "JAMA Forum: How 'Wrong Pockets' Hurt Health," News at JAMA, August 22, 2018, https://newsatjama.jama.com/2018/08/22/jama-forum-how-wrong-pockets-hurt-health/.

53 See Gassman-Pines and Bellows (2018), Schubel (2017), Wheaton and Tran (2018), Wherry et al. (2015), and Zewde and Wimer (2019). Also see "Chart Book: Economic Security and Health Insurance Programs Reduce Poverty and Provide Access to Needed Care," Center on Budget and Policy Priorities, last updated March 21, 2018, https://www.cbpp.org/research/poverty-and-inequality/chart-book-economic-security-and-health-insurance-programs-reduce#part1; Karina Wagnerman, "Medicaid Expansion Reduced Unpaid Medical Debt, Improved Financial Well-Being for Families," Georgetown University Health Policy Institute Center for Families and Children, August 2, 2017, https://ccf.georgetown.edu/2017/08/02/medicaid-expansion-reduced-unpaid-medical-debt-improved-financial-well-being-for-families/; and Heidi Allen, Erica Eliason, Naomi Zwede, and Tal Gross, "Health Insurance and Housing Stability: The Effect of Medicaid Expansion on Evictions," presentation at the AcademyHealth annual research meeting, June 2–4, 2019, Washington, DC, https://academyhealth.confex.com/academyhealth/2019arm/meetingapp.cgi/Paper/32631.

54 Jay Hancock, Rachel Bluth, and Daniel Trielli, "Hospitals Find Asthma Hot Spots More Profitable to Neglect Than Fix," Kaiser Health News, December 6, 2017, https://khn.org/news/hospitals-find-asthma-hot-spots-more-profitable-to-neglect-than-fix/.

55 "Children's Cabinet Playbook," The Forum for Youth Investment, accessed August 21, 2019, https://forumfyi.org/ccn/aligning-people/.

56 "Governor Mills: By Reinstating the Children's Cabinet, We Are Recommitting Our State Government to Making Our Children a Top Priority," Office of Governor Janet T. Mills, May 2, 2019, https://www.maine.gov/governor/mills/news/radio_address/governor-mills-reinstating-childrens-cabinet-we-are-recommitting-our-state.

57 For examples of CCO initiatives, see "OHA Health Stories," http://www.oregonhealthstories.com/.

58 "Life Style Overview," Hennepin County Medical Center, accessed August 21, 2019, https://www.azahcccs.gov/PlansProviders/Downloads/TI/CoreComponents/Hennepin%20Health%20Life%20Style%20Overview.pdf.

59 See also "Hennepin Health-Housing Navigation Services," *Housing Is* Clearinghouse, accessed August 5, 2019, https://housingis.org/sites/default/files/Hennepin-Health-Housing-Navigation-Services.pdf.

60 For more information, see the "Policy Areas" section of the Urban Institute's Pay for Success portal, https://pfs.urban.org/get-started/issue-areas.

61 "Pay for Success and Health," Urban Institute, accessed August 5, 2019, https://pfs.urban.org/get-started/issue-areas/content/pay-success-and-health.

62 "Social Impact Partnerships to Pay for Results Act (SIPPRA)," Urban Institute, accessed August 5, 2019, https://pfs.urban.org/get-started/issue-areas/content/social-impact-partnerships-pay-results-act-sippra.

63 "Welcome to the Collaborative Approach to Public Good Investments!" George Mason University College of Health and Human Services, June 7, 2019, https://capgi.gmu.edu/index.php/2019/06/07/invitation/.

64 "National Health Expenditures 2017 Highlights," Centers for Medicare & Medicaid Services, accessed August 21, 2019, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/highlights.pdf.

65 Derek Thompson, "Health Care Just Became the US's Largest Employer," *The Atlantic*, January 9, 2018, https://www.theatlantic.com/business/archive/2018/01/health-care-america-jobs/550079/.

66 Alyssa Rege, "Hospitals Are the Biggest Employers in These 13 States," *Becker's Hospital Review*, November 14, 2018, https://www.beckershospitalreview.com/hospital-management-administration/hospitals-are-the-biggest-employers-in-these-13-states.html.

67 See Goldman, Gupta, and Hernandez (2018); Karpman, Zuckerman, and Gonzalez (2018); Rae et al. (2019); and "Millions of Low-Wage Workers in the US Are Struggling to Survive," Oxfam, June 21, 2016, https://www.oxfamamerica.org/explore/stories/millions-of-low-wage-workers-in-the-us-are-struggling-to-survive/.

68 Steven Porter, "Hospitals Hike Minimum Wage in Geographic Clusters," Health Leaders, December 27, 2018, https://www.healthleadersmedia.com/finance/hospitals-hike-minimum-wage-geographic-clusters.

69 Ryan Grenoble, "Dallas Executives Raise Hospital's Minimum Wage by Scrapping Their Own Bonuses," *Huffington Post*, June 18, 2014, https://www.huffpost.com/entry/dallas-minimum-wage-increase_n_5507718; "To Save Money, These 13 Health Systems Are Raising Wages. (Yes, Really.)," Advisory Board, February 5, 2019, https://www.advisory.com/daily-briefing/2019/02/05/hospital-wages.

70 "2019 CareerSTAT Frontline Healthcare Worker Champions," National Fund for Workforce Solutions, accessed August 21, 2019, https://nationalfund.org/initiatives/careerstat/.

71 See also Johnny Magdaleno, "Hospitals Can Be Key to Healthy People, Healthy Economies," *Next City*, November 29, 2016, https://nextcity.org/daily/entry/hospitals-jobs-workforce-revitalizing-local-economies; and "Purchasing," Hospital Toolkits, accessed August 21, 2019, https://hospitaltoolkits.org/purchasing/.

72 "What Works: Collectively, Midtown Anchors Spark Urban Renewal," Initiative for a Competitive Inner City, accessed August 21, 2019, http://icic.org/anchor-institutions/works-collectively-midtown-anchors-spark-urban-renewal/.

73 "Collaboration between Cleveland Clinic and Evergreen Cooperative Laundry Supports Health and Wellbeing of Local Community," Newsroom, May 20, 2018, https://newsroom.clevelandclinic.org/2018/05/10/collaboration-between-cleveland-clinic-and-evergreen-cooperative-laundry-supports-health-and-wellbeing-of-local-community/.

74   Megan McCarthy-Alfano, Aaron Glickman, Kristin Wikelius, and Janet Weiner, "Measuring the Burden of Health Care Costs for Working Families," *Health Affairs* blog, April 2, 2019, https://www.healthaffairs.org/do/10.1377/hblog20190327.999531/full/.

75   See also "Limitations on Hospital Charges, Billing and Collections," Prosperity Now, August 21, 2019, http://scorecard.prosperitynow.org/2016/measure/limitations-on-hospital-charges-billing-and-collections; Darla Mercado, "Why Your Health-Care Costs Are So High—Even If You're Insured," CNBC, August 8, 2018, https://www.cnbc.com/2018/08/08/why-your-healthcare-costs-are-so-high—even-if-youre-insured.html; and Alanna Moriarty, "5 Hospital Bad Debt Statistics You Need to Know," Definitive Healthcare, March 21, 2019, https://blog.definitivehc.com/hospital-bad-debt-statistics-you-need-to-know.

76   See also William C. Thomas, "The Nonprofit Hospital That Makes Millions, Owns a Collection Agency and Relentlessly Sues the Poor," *ProPublica*, June 27, 2019, https://www.propublica.org/article/methodist-le-bonheur-healthcare-sues-poor-medical-debt.

77   In one case from 2017, a hospital sued one of its housekeepers, who earned $16,000 a year, for more than $23,000 (Thomas, "The Nonprofit Hospital That Makes Millions").

78   Selena Simmons-Duffin, "Hospitals Earn Little from Suing for Unpaid Bills. For Patients, It Can Be 'Ruinous'," WAMU 88.5, June 25, 2019, https://wamu.org/story/19/06/25/hospitals-earn-little-from-suing-for-unpaid-bills-for-patients-it-can-be-ruinous/; Ayla Ellison, "Methodist Le Bonheur Suspends Debt Collection Suits amid Backlash," Beckers Hospital Review, July 8, 2019, https://www.beckershospitalreview.com/finance/methodist-le-bonheur-suspends-debt-collection-suits-amid-backlash.html.

79   Jaime Rosenberg, "Health Systems Take On Role as Anchor Institutions, Enhance Community Development," *American Journal of Managed Care*, July 25, 2018, https://www.ajmc.com/newsroom/health-systems-take-on-role-as-anchor-institutions-enhance-community-development; Donald F. Schwarz, "What You Need to Know about Hospital Roles in Community Investment," Robert Wood Johnson Foundation blog, March 15, 2017, https://www.rwjf.org/en/blog/2017/03/can-hospitals-defy-tradition.html; Ted Howard, "How Communities Can Make the Most of Their Anchor Institutions," *Governing*, January 9, 2014, https://www.governing.com/gov-institute/voices/col-communities-local-government-anchor-institutions-democracy-collaborative-dashboard.html.

80   "Economic Development," Bon Secours, accessed August 21, 2019, https://bonsecours.com/baltimore/community-commitment/economic-development.

81   See also Purpose Built Communities, "Can the Healthcare Industry Make Communities Healthy?"

82   Kaiser Permanente, "Announcing $200M Impact Investment to Address Housing Crisis," news release, May 18, 2018, https://about.kaiserpermanente.org/community-health/news/kaiser-permanente-announces-200-million-impact-investment-partne.

83   Jamie Morgan, "Hospitals Partner to Create Healthy and Affordable Housing," Health Facilities Management, July 2, 2018, https://www.hfmmagazine.com/articles/3392-hospitals-partner-to-create-healthy-and-affordable-housing.

84   "Healthy Neighborhoods Healthy Families," Nationwide Children's Hospital, accessed August 21, 2019, https://www.nationwidechildrens.org/about-us/population-health-and-wellness/healthy-neighborhoods-healthy-families.

85   Christy Marks, "How Health Plans Address the Social Determinants of Health," CareCentrix blog, March 20, 2019, https://www.carecentrix.com/blog/how-health-plans-address-the-social-determinants-of-health.

86   "Life Services," CareSource, accessed August 21, 2019, https://www.caresource.com/ga/members/tools-resources/life-services/medicaid/.

87 UnitedHealth Group "UnitedHealthcare's Investments in Affordable Housing to Help People Achieve Better Health Surpass $400 Million," news release, March 26, 2019, https://www.unitedhealthgroup.com/newsroom/2019/2019-03-26-uhc-affordable-housing-path-metro-villas.html.

88 Brian Castrucci and John Auerbach, "Meeting Individual Social Needs Falls Short of Addressing Social Determinants of Health," *Health Affairs* blog, January 16, 2019, https://www.healthaffairs.org/do/10.1377/hblog20190115.234942/full/.

89 Vikki Wachino (director, Center for Medicaid and CHIP Services), "Coverage of Housing-Related Activities and Services for Individuals with Disabilities," informational bulletin, Center for Medicaid and CHIP Services, June 26, 2015, https://www.medicaid.gov/federal-policy-guidance/downloads/cib-06-26-2015.pdf.

90 Purpose Built Communities, "Can the Healthcare Industry Make Communities Healthy?" Medium, February 25, 2019, https://medium.com/@purposebuiltcs/can-the-health-care-industry-make-communities-healthy-d09feb0537e6; "Emerging Strategies for Integrating Health and Housing," Urban Institute, accessed August 21, 2019, https://www.urban.org/policy-centers/cross-center-initiatives/social-determinants-health/projects/emerging-strategies-integrating-health-and-housing; Carol Wilkins, "Partnering with Hospitals to End Homelessness," United States Interagency Council on Homelessness, August 18, 2016, https://www.usich.gov/news/partnering-with-hospitals-to-end-homelessness/.

91 "Changing Zoning Codes to Spur Affordable Housing Development in Eastern Oregon," OHA Health Stories, June 12, 2019, http://www.oregonhealthstories.com/tiny-cottage-zoning-codes/.

92 Bechara Choucair, "Sound the Alarm: Our Housing Crisis Is a Health Crisis," Kaiser Permanente blog, March 11, 2019, https://www.kpihp.org/blog/sound-the-alarm-our-housing-crisis-is-a-health-crisis/.

93 Pam Bailey, "Interview with Megan Sandel: The Secrets to Hospital-Housing Partnerships," NeighborWorks America blog, April 3, 2018, http://www.neighborworks.org/Blog-IdeaWorks/Interview-with-Megan-Sandel-The-secrets-to-hospital-housing-partnerships.

94 "Northeast Health Care Organizations Urge Senators to Oppose Health-Harming Proposals to Supplemental Nutrition Assistance Program (SNAP) in Farm Bill," Children's Health Watch, June 12, 2018, https://childrenshealthwatch.org/northeast-health-care-organizations-urge-senators-to-oppose-health-harming-proposals-to-supplemental-nutrition-assistance-program-snap-in-farm-bill/.

95 Carol Keehan (president and CEO, Catholic Health Association of the United States), letter to Representatives Diane Black and John Yarmuth, July 18, 2017, https://www.chausa.org/docs/default-source/advocacy/071817-cha-letter-to-house-budget-committee-on-fy2018-budget-resolution.pdf.

96 Pedro Nicolaci da Costa, "There's a Major Hurdle to Employment That Many Americans Don't Even Think About—and It's Holding the Economy Back," *Business Insider*, January 27, 2018, https://www.businessinsider.com/lack-of-transport-is-a-major-obstacle-to-employment-for-americas-poor-2018-1; Mikayla Bouchard, "Transportation Emerges as Crucial to Escaping Poverty," *New York Times*, May 7, 2015, https://www.nytimes.com/2015/05/07/upshot/transportation-emerges-as-crucial-to-escaping-poverty.html; Ahmed et al. (2001); Arcury et al. (2006); Silver, Blustein, and Weitzman (2012); Syed, Gerber, and Sharp (2013).

97 "EJ Awardee Spotlight: Equity, Public Transit and Health Access Project," Alternatives for Community and Environment, May 10, 2016, https://ace-ej.org/ej-awardee-spotlight-equity-public-transit-health-access-project; https://ace-ej.org/node/11765.

98 See the Next50 financial well-being and job quality Catalyst briefs for assessments of the policies required to promote greater financial security, successful employment and earnings, and an ability to meet basic needs (Ratcliffe et al. 2019; Spaulding et al. 2019).

99 "Federal Advocacy: Poverty," American Academy of Pediatrics, accessed August 21, 2019, https://www.aap.org/en-us/advocacy-and-policy/federal-advocacy/Pages/Poverty.aspx.

100 "ACCURE: Accountability for Cancer Care through Undoing Racism and Equity," Center for Health Promotion and Disease Prevention at UNC Chapel Hill, accessed August 21, 2019, https://hpdp.unc.edu/research/projects/accure-accountability-for-cancer-care-through-undoing-racism-and-equity/.

101 Martha Hostetter and Sarah Klein, "In Focus: Reducing Racial Disparities in Health Care by Confronting Racism," The Commonwealth Fund, September 27, 2018, https://www.commonwealthfund.org/publications/newsletter-article/2018/sep/focus-reducing-racial-disparities-health-care-confronting.

102 Hostetter and Klein, "In Focus: Reducing Racial Disparities"; "Liberation in the Exam Room: Racial Justice and Equity in Health Care," Institute for Healthcare Improvement, accessed August 21, 2019, http://www.ihi.org/resources/Pages/Tools/Liberation-in-the-Exam-Room-Racial-Justice-Equity-in-Health-Care.aspx.

103 AHRQ 2018; Artiga et al. 2016; Braveman et al. 2010; Chetty et al. 2016; Chokshi 2018; Dwyer-Lindgren et al. 2017); Alvin Powell, "Federal Insurance Has Helped Many, but System's Holes Limit Gains, Harvard Analysts Say," *Harvard Gazette*, February 22, 2016, https://news.harvard.edu/gazette/story/2016/02/money-quality-health-care-longer-life/; Joel Achenbach, "Life Expectancy Improves for Blacks, and the Racial Gap Is Closing, CDC Reports," *Washington Post*, May 2, 2017, https://www.washingtonpost.com/news/to-your-health/wp/2017/05/02/cdc-life-expectancy-up-for-blacks-and-the-racial-gap-is-closing/?utm_term=.a313e0ab6a68.

104 Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, and Revisions Related to Third Party Liability, 81 Fed. Reg. 27498 (May 5, 2016).

105 "Persons with Potential Health Hazards Related to Socioeconomic and Psychosocial Circumstances," ICD10 Data, accessed August 21, 2019, https://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z55-Z65.

106 "NCCARE360," North Carolina Department of Health and Human Services, accessed August 21, 2019, https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/nccare360; Steven Ross Johnson, "Kaiser to Launch Social Care Network," *Modern Healthcare*, May 6, 2019, https://www.modernhealthcare.com/care-delivery/kaiser-launch-social-care-network.

107 Corinne Lewis and Martha Hostetter, "Tools and Strategies to Effectively and Sustainably Address Patients' Social Needs," Commonwealth Fund blog, November 13, 2018, https://www.commonwealthfund.org/blog/2018/tools-and-strategies-effectively-and-sustainably-address-patients-social-needs; "Food as Medicine Model: A Framework for Improving Member Health Outcomes and Lowering Health Costs," Health Partners Plans, undated, https://www.healthpartnersplans.com/media/100225194/food-as-medicine-model.pdf.

108 "Evidence Library," Social Interventions Research and Evaluation Network, accessed August 21, 2019, https://sirenetwork.ucsf.edu/tools/evidence-library.

109 The National Center for Health Statistics has linked data from the 1999–2016 National Health Interview Survey and the 1999–2016 National Health and Nutrition Examination Survey to administrative data from the US Department of Housing and Urban Development to allow for examination of relationships between housing and health. See "NCHS Data Linkage," Centers for Disease Control and Prevention, National Center for Health Statistics, last updated June 20, 2019, https://www.cdc.gov/nchs/data-linkage/hud.htm.

References

AGO (Office of the Massachusetts Attorney General). 2018. *The Attorney General's Community Benefits Guidelines for Non-Profit Hospitals*. Boston: Office of Attorney General Maura Healey.

AHA (American Hospital Association). 2018. "ICD-10-CM Coding for Social Determinants of Health." Chicago: AHA.

———. 2019a. "Making the Case for Hospitals to Invest in Housing." Chicago: AHA.

———. 2019b. "Overcoming Racial Disparities and Social Determinants in the Maternal Mortality Crisis." Statement for the US House of Representatives Committee on Ways and Means, Washington, DC, May 16.

Ahmed, Syed M., Jeanne P. Lemkau, Nichol Nealeigh, and Barbara Mann. 2001. "Barriers to Healthcare Access in a Non-Elderly Urban Poor American Population." *Health and Social Care in the Community* 9 (6): 445–53. https://doi.org/10.1046/j.1365-2524.2001.00318.x.

AHRQ (Agency for Healthcare Research and Quality). 2016a. *2015 National Healthcare Quality and Disparities Report and 5th Anniversary Update on the National Quality Strategy*. Rockville, MD: AHRQ.

———. 2016b. *Pathways Community HUB Manual: A Guide to Identify and Address Risk Factors, Reduce Costs, and Improve Outcomes*. Rockville, MD: AHRQ.

———. 2018. *2017 National Healthcare Quality and Disparities Report*. Rockville, MD: AHRQ.

Alderwick, Hugh, Carlyn M. Hood-Ronick, and Laura M. Gottlieb. 2019. "Medicaid Investments to Address Social Needs in Oregon and California." *Health Affairs* 38 (5): 774–81. https://doi.org/10.1377/hlthaff.2018.05171.

Alie, Robyn. 2017. "State Targets Social Determinants to Improve Public Health Status." *Vital Signs* 22 (3): 1, 4.

Annie E. Casey Foundation. 2017. "Using Integrated Data Systems to Improve Child Welfare Outcomes." Baltimore: Annie E. Casey Foundation.

Arcury, Thomas A., John S. Preisser, Wilbert M. Gesler, and James M. Powers. 2006. "Access to Transportation and Health Care Utilization in a Rural Region." *Journal of Rural Health* 21 (1): 31–38. https://doi.org/10.1111/j.1748-0361.2005.tb00059.x.

Arias, Elizabeth, and Jiaquan Xu. 2019. "United States Life Tables, 2017." *National Vital Statistics Reports* 68 (7): 1–66. Hyattsville, MD: National Center for Health Statistics.

Artiga, Samantha, Julia Foutz, Elizabeth Cornachione, and Rachel Garfield. 2016. *Key Facts on Health and Health Care by Race and Ethnicity*. Menlo Park, CA: Kaiser Family Foundation.

Ash, Arlene, Eric O. Mick, Randall P. Ellis, Catarina I. Kiefe, Jeroan J. Allison, and Melissa A. Clark. 2017. "Social Determinants of Health in Managed Care Payment Formulas." *JAMA Internal Medicine* 177 (10): 1424–30. https://doi.org/10.1001/jamainternmed.2017.3317.

Bachrach, Deborah, Jocelyn Guyer, and Ariel Levin. 2016. "Medicaid Coverage of Social Interventions: A Road Map for States." New York: Milbank Memorial Fund.

Bodurtha, Peter, Renee Van Siclen, Erik Erickson, Mark Legler, Lisa Thornquist, Kate Diaz Vickery, Tyler Winkelman, Courtney Hougham, and Ross Owen. 2017. "Cross-Sector Service Use and Costs among Medicaid Expansion Enrollees in Minnesota's Hennepin County." Hamilton, NJ: Center for Health Care Strategies.

Bowie, Patricia. 2011. *Getting to Scale: The Elusive Goal*. Seattle: Casey Family Programs.

Braveman, Paula A., Catherine Cubbin, Susan Egerter, David R. Williams, and Elsie Pamuk. 2010. "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us." *American Journal of Public Health* 100 (S1): S186–96. https://doi.org/10.2105/AJPH.2009.166082.

Bruhn, William E., Lainie Rutkow, Peiqi Wang, Stephen E. Tinker, Christine Fahim, Heidi N. Overton, and Martin A. Makary. 2019. "Prevalence and Characteristics of Virginia Hospitals Suing Patients and Garnishing Wages for Unpaid Medical Bills." *Journal of the American Medical Association*. https://doi.org/doi:10.1001/jama.2019.9144.

Cartier, Yuri, Caroline Fichtenberg, and Laura Gottlieb. 2019. "Community Resource Referral Platforms: A Guide for Health Care Organizations." San Francisco: University of California, San Francisco, Social Interventions Research and Evaluation Network.

Caswell, Kyle J., and Timothy A. Waidmann. 2017. "The Affordable Care Act Medicaid Expansions and Personal Finance." *Medical Care Research and Review*. https://doi.org/10.1177/1077558717725164.

Chatterjee, Anusuya, Sindhu Kubendran, Jaque King, and Ross DeVol. 2014. "Checkup Time: Chronic Disease and Wellness in America." Santa Monica, CA: Milken Institute.

CHCS (Center for Health Care Strategies). 2018. *Addressing Social Determinants of Health via Medicaid Managed Care Contracts and Section 1115 Demonstrations*. Washington, DC: Association for Community Affiliated Plans.

Chen, Jie, Arturo Vargas-Bustamante, Karoline Mortensen, and Alexander N. Ortega. 2016. "Racial and Ethnic Disparities in Health Care Access and Utilization under the Affordable Care Act." *Medical Care* 54 (2): 140–46. https://doi.org/10.1097/MLR.0000000000000467.

Chetty, Raj, Michael Stepner, Sarah Abraham, Shelby Lin, Benjamin Scuderi, Nicholas Turner, Augustin Bergeron, and David Cutler. 2016. "The Association between Income and Life Expectancy in the United States, 2001–2014." *Journal of the American Medical Association* 315 (16): 1750–66. https://doi.org/10.1001/jama.2016.4226.

Chokshi, Dave A. 2018. "Income, Poverty, and Health Inequality." *Journal of the American Medical Association* 319 (13): 1312–13. https://doi.org/10.1001/jama.2018.2521.

Clary, Amy, and Trish Riley. 2016. "Pooling and Braiding Funds for Health-Related Social Needs: Lessons from Virginia's Children's Services Act." Washington, DC: National Academy for State Health Policy.

Cooper, Zack, Stuart Craig, Martin Gaynor, Nir J. Harish, Harlan M. Krumholz, and John Van Reenen. 2019. "Hospital Prices Grew Substantially Faster Than Physician Prices for Hospital-Based Care in 2007–14." *Health Affairs* 38 (2): 184–89. https://doi.org/10.1377/hlthaff.2018.05424.

Council on Community Pediatrics. 2015. "Promoting Food Security for All Children." *Pediatrics* 136 (5): e1431–38. https://doi.org/10.1542/peds.2015-3301.

Daniel, Hilary, Sue S. Bornstein, and Gregory C. Kane. 2018. "Addressing Social Determinants to Improve Patient Care and Promote Health Equity: An American College of Physicians Position Paper." *Annals of Internal Medicine* 168 (8): 577–78. https://doi.org/10.7326/M17-2441.

Daniel-Robinson, Lekisha, and Jennifer E. Moore. 2019. "Innovation and Opportunities to Address Social Determinants of Health in Medicaid Managed Care." Washington, DC: Institute for Medicaid Innovation.

De Marchis, Emilia, Margae Knox, Danielle Hessler, Rachel Willard-Grace, J. Nwando Olayiwola, Lars E. Peterson, Kevin Grumbach, and Laura M. Gottlieb. 2019. "Physician Burnout and Higher Clinic Capacity to Address Patients' Social Needs." *Journal of the American Board of Family Medicine* 32 (1): 69–78. https://doi.org/10.3122/jabfm.2019.01.180104.

DPH (Massachusetts Department of Public Health). 2017. *Determination of Need: Community-Based Health Initiative Planning Guideline*. Boston: DPH.

Dubb, Steve, and Ted Howard. 2012. *Leveraging Anchor Institutions for Local Job Creation and Wealth Building*. Washington, DC: The Democracy Collaborative at the University of Maryland.

Dwyer-Lindgren, Laura, Amelia Bertozzi-Villa, Rebecca W. Stubbs, Chloe Morozoff, Johan P. Mackenbach, Frank J. van Lenthe, Ali H. Mokdad, and Christopher J. L. Murray. 2017. "Inequalities in Life Expectancy among US Counties, 1980 to 2014: Temporal Trends and Key Drivers." *JAMA Internal Medicine* 177 (7): 1003–11. https://doi.org/10.1001/jamainternmed.2017.0918.

Fiscella, Kevin, and Mechelle R. Sanders. 2016. "Racial and Ethnic Disparities in the Quality of Health Care." *Annual Review of Public Health* 37:375–94. https://doi.org/10.1146/annurev-publhealth-032315-021439.

Garrett, Bowen, Anuj Gangopadhyaya, and Stan Dorn. 2017. *Workers Gaining Health Insurance Coverage under the ACA*. Washington, DC: Urban Institute.

Gassman-Pines, Anna, and Laura Bellows. 2018. "Food Instability and Academic Achievement: A Quasi-Experiment Using SNAP Benefit Timing." *American Educational Research Journal* 55 (5): 897–927. https://doi.org/10.3102%2F0002831218761337.

Geronimus, Arline T., John Bound, Timothy A. Waidmann, Javier M. Rodriquez, and Brendan Timpe. 2019. "Weathering, Drugs, and Whack-a-Mole: Fundamental and Proximate Causes of Widening Educational Inequity in U.S. Life Expectancy by Sex and Race, 1990–2015." *Journal of Health and Social Behavior* 60 (2): 222–39. https://doi.org/10.1177%2F0022146519849932.

Gifford, Kathleen, Eileen Ellis, Barbara Coulter Edwards, Aimee Lashbrook, Elizabeth Hinton, Larisa Antonisse, and Robin Rudowitz. 2018. *States Focus on Quality and Outcomes amid Waiver Changes: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2018 and 2019*. San Francisco: Kaiser Family Foundation.

Goel, Mita Sanghavi, Christina C. Wee, Ellen P. McCarthy, Roger B. Davis, Quyen Ngo-Metzger, and Russell S. Phillips. 2003. "Racial and Ethnic Disparities in Cancer Screening: The Importance of Foreign Birth as a Barrier to Care." *Journal of General Internal Medicine* 18:1028–35. https://doi.org/10.1111/j.1525-1497.2003.20807.x.

Goldman, Tanya L., Pronita Gupta, and Eduardo Hernandez. 2018. "The Struggles of Low-Wage Work." Washington, DC: Center for Law and Social Policy.

Grogan, Colleen M., and Sunggeun Park. 2017. "The Racial Divide in State Medicaid Expansions." *Journal of Health Politics, Policy, and Law* 42 (3): 539–72. https://doi.org/10.1215/03616878-3802977.

Gunderson, Craig, Brent Kreider, and John Pepper. 2011. "The Economics of Food Insecurity in the United States." *Applied Economic Perspectives and Policy* 33 (3): 281–303. https://doi.org/10.1093/aepp/ppr022.

Gunderson, Craig, and James P. Ziliak. 2015. "Food Insecurity and Health Outcomes." *Health Affairs* 34 (11): 1830–39. https://doi.org/10.1377/hlthaff.2015.0645.

Hacke, Robin, and Katie Grace Deane. 2017. *Improving Community Health by Strengthening Community Investment: Roles for Hospitals and Health Systems*. Cambridge, MA: Center for Community Investment.

Holzer, Harry J., Diane W. Schanzenbach, and Greg J. Duncan. 2008. "The Economic Costs of Childhood Poverty in the United States." *Journal of Children and Poverty* 14 (1): 41–61. https://doi.org/10.1080/10796120701871280.

Hostetter, Martha, Sarah Klein, and Douglas McCarthy. 2016. "Hennepin Health: A Care Delivery Paradigm for New Medicaid Beneficiaries." New York: The Commonwealth Fund.

Hung, William W., Joseph S. Ross, Kenneth S. Boockvar, and Albert L. Liu. 2011. "Recent Trends in Chronic Disease, Impairment and Disability among Older Adults in the United States." *BMC Geriatrics* 11 (47). https://doi.org/10.1186/1471-2318-11-47.

IUHRP (Institute on Urban Health Research and Practice). 2016. *Population Health Investments by Health Plans and Large Provider Organizations—Exploring the Business Case*. Boston: Northeastern University, IUHRP.

Jones, Jim, and Sima Muller. 2018. "Social Determinants of Health and Medicaid Payments." Washington, DC: Deloitte Center for Government Insights.

Karpman, Michael, Stephen Zuckerman, and Dulce Gonzalez. 2018. "Material Hardship among Nonelderly Adults and Their Families in 2017: Implications for the Safety Net." Washington, DC: Urban Institute.

———. 2019. "Despite Labor Market Gains in 2018, There Were Only Modest Improvements in Families' Ability to Meet Basic Needs." Washington, DC: Urban Institute.

Khullar, Dhruv, and Dave A. Chokshi. 2018. "Health, Income, and Poverty: Where We Are and What Could Help." *Health Affairs* Health Policy Brief. https://doi.org/10.1377/hpb20180817.901935.

Kijakazi, Kilolo, K. Steven Brown, Donnie Charleston, and Charmaine Runes. 2019. "What Would It Take to Overcome the Damaging Effects of Structural Racism and Ensure a More Equitable Future?" Next50 Catalyst brief. Washington, DC: Urban Institute.

Kottke, Thomas, Andriana Abariotes, and Joel B. Spoonheim. 2018. "Access to Affordable Housing Promotes Health and Well-Being and Reduces Hospital Visits." *Permanente Journal* 22 (1): 106–09. https://doi.org/10.7812/TPP/17-079.

Krisberg, Kim. 2016. "Income Inequality: When Wealth Determines Health: Earnings Influential as Lifelong Social Determinant of Health." *The Nation's Health* 46 (8): 1–17.

Kuehn, Bridget M. 2019. "Hospitals Turn to Housing to Help Homeless Patients." *Journal of the American Medical Association* 321 (9): 822–24. doi:10.1001/jama.2018.21476.

LaForge, Kate, Rachel Gold, Erika Cottrell, Arwen E. Bunce, Michelle Proser, Celine Hollombe, Katie Dambrun, Deborah J. Cohen, and Khaya D. Clark. 2018. "How 6 Organizations Developed Tools and Processes for Social Determinants of Health Screening in Primary Care: An Overview." *Journal of Ambulatory Care Management* 41 (1): 2–14. https://dx.doi.org/10.1097%2FJAC.0000000000000221.

Lewis, Joy H., Kate Whelihan, Isaac Navarro, Kimberly R. Boyle, and SDH Card Study Implementation Team. 2016. "Community Health Center Provider Ability to Identify, Treat, and Account for the Social Determinants of Health: A Card Study." *BMC Family Practice* 17 (121): 1–12. https://doi.org/10.1186/s12875-016-0526-8.

Linzer, Mark, Sara Poplau, Stewart Babbott, Tracie Collins, Laura Guzman-Corrales, Jeremiah Menk, Mary Lou Murphy, and Kay Ovington. 2016. "Worklife and Wellness in Academic General Internal Medicine: Results from a National Survey." *Journal of General Internal Medicine* 31 (9): 1004–10. https://dx.doi.org/10.1007%2Fs11606-016-3720-4.

Lipton, Brandy J., Laura R. Wherry, Sarah Miller, Genevieve M. Kenney, and Sandra Decker. 2016. "Previous Medicaid Expansion May Have Had Lasting Positive Effects on Oral Health of Non-Hispanic Black Children." *Health Affairs* 35 (12): 2249–58. https://doi.org/10.1377/hlthaff.2016.0865.

Lustig, Adam, and Marilyn Cabrera. 2019. *Promoting Health and Cost Control in States: How States Can Improve Community Health and Well-Being through Policy Change*. Washington, DC: Trust for America's Health.

Machledt, David. 2017. "Addressing the Social Determinants of Health through Medicaid Managed Care." New York: The Commonwealth Fund.

MACPAC (Medicaid and CHIP Payment and Access Commission). 2018. *MACStats: Medicaid and CHIP Data Book*. Washington, DC: MACPAC.

Manatt Health. 2019. "Addressing Social Factors That Affect Health: Emerging Trends and Leading Edge Practices in Medicaid." Princeton, NJ: Princeton University, Woodrow Wilson School of Public and International Affairs, State Health and Value Strategies Program.

McGuire, Thomas G., and Jeanne Miranda. 2008. "Racial and Ethnic Disparities in Mental Health Care: Evidence and Policy Implications." *Health Affairs* 27 (2): 393–403. https://dx.doi.org/10.1377%2Fhlthaff.27.2.393.

McMorrow, Stacey, Jason A. Gates, Sharon K. Long, and Genevieve M. Kenney. 2017. "Medicaid Expansion Increased Coverage, Improved Affordability, and Reduced Psychological Distress for Low-Income Parents." *Health Affairs* 36 (5): 808–18. https://doi.org/10.1377/hlthaff.2016.1650.

MDHHS (Michigan Department of Health and Human Services). 2018a. *2018 PCMH Initiative Participation Guide*. Lansing: MDHHS.

———. 2018b. "Jackson Community Health Innovation Region Innovative Approaches to Reinvent Health: Year Two Highlights." Lansing: MDHHS.

Melnick, Glenn A., and Katya Fonkych. 2008. "Hospital Pricing and the Uninsured: Do the Uninsured Pay Higher Prices?" *Health Affairs* 27 (2): w116–22. https://doi.org/10.1377/hlthaff.27.2.w116.

Musselwhite L. W., C. M. Oliveira, T. Kwaramba T, N. de Paula Pantano, J. S. Smith, J. H. Fregnani, R. M. Reis, E. Mauad, F. L. Vazquez, and A. Longatto-Filho. 2016. "Racial/Ethnic Disparities in Cervical Cancer Screening and Outcomes." *Acta Cytologica* 60: 518–26. https://doi.org/10.1159/000452240.

NCDHHS (North Carolina Department of Health and Human Services). 2018a. "Healthy Opportunities Pilots Fact Sheet." Raleigh: NCDHHS.

———. 2018b. "Using Standardized Social Determinants of Health Screening Questions to Identify and Assist Patients with Unmet Health-Related Resource Needs in North Carolina." Raleigh: NCDHHS.

———. 2019. *North Carolina's Healthy Opportunities Pilots: A Review of Proposed Design for Interested Stakeholders.* Raleigh: NCDHHS.

Nichols, Len M., and Lauren A. Taylor. 2018. "Social Determinants as Public Goods: A New Approach to Financing Key Investments in Healthy Communities." *Health Affairs* 37 (8): 1223–30. https://doi.org/10.1377/hlthaff.2018.0039.

Nilsen, Sigurd R. 2007. "Poverty in America: Consequences for Individuals and the Economy." Statement before the Chairman, House of Representatives Committee on Ways and Means, Washington, DC, January 24.

OHA (Oregon Health Authority). 2018. *CCO 2.0 Recommendations of the Oregon Health Policy Board.* Portland: OHA, Policy and Analytics Division.

Optumas. 2018. *CCO Rate Development Actuarial Certification: January 1, 2019–December 31, 2019 Capitation Rates.* Scottsdale, AZ: Optumas.

Orgera, Kendal, and Samantha Artiga. 2018. "Disparities in Health and Health Care: Five Key Questions and Answers." San Francisco: Kaiser Family Foundation.

Ortman, Jennifer M., Victoria A. Velkoff, and Howard Hogan. 2014. *An Aging Nation: The Older Population in the United States.* Suitland, MD: US Census Bureau.

Pilkauskas, Natasha. 2018. "The Effect of Income on Housing Instability and Living Arrangements: Evidence from the Earned Income Tax Credit." Working Paper #1–17. Ann Arbor: Poverty Solutions at the University of Michigan.

Prager, Elena, and Matt Schmitt. 2019. "Employer Consolidation and Wages: Evidence from Hospitals." Working paper. Washington, DC: Washington Center for Equitable Growth.

Raday, Sophia, Nima Krodel, and Alexandra Chan. 2018. "Human Services Organizations: Partnering for Better Community Health: Actionable Advice from the Healthy Outcomes Initiative." New York: Nonprofit Finance Fund.

Rae, Matthew, Gary Claxton, Larry Levitt, and Daniel McDermott. 2019. "Long-Term Trends in Employer-Based Coverage." New York: Peterson Center on Healthcare.

Raghupathi, Wullianallur, and Viju Raghupathi. 2018. "An Empirical Study of Chronic Diseases in the United States: A Visual Analytics Approach to Public Health." *International Journal of Environmental Research and Public Health* 15 (3): 431. https://doi.org/10.3390/ijerph15030431.

Ratcliffe, Caroline, Caleb Quakenbush, and William J. Congdon. 2019. "What Would It Take to Ensure That Every Family Can Achieve and Maintain Financial Security?" Washington, DC: Urban Institute.

Rennie Center. 2009. "Toward Interagency Collaboration: The Role of Children's Cabinets." Boston: Rennie Center for Education Research and Policy.

Reynolds, Kathryn, Eva H. Allen, Martha Fedorowicz, and Joycelyn Ovalle. 2019. *Affordable Housing Investment: A Guide for Nonprofit Hospitals and Health Systems.* Washington, DC: Urban Institute.

Robinson, W., K. Davis, and W. Robinson IV. 2017. "Ethnic Disparities in Screening, Treatment and Outcomes in Women with Cervical Carcinoma." *Gynecologic Oncology* 147 (1): 193–94. https://doi.org/10.1016/j.ygyno.2017.07.020.

Rosenthal, Elisabeth. 2018. "Review of *An American Sickness: How Health Care Became Big Business and How You Can Take It Back.*" *Missouri Medicine: The Journal of the Missouri State Medical Association* 115 (2): 128–29.

Sandberg, Shana F., Clese Erikson, Ross Owen, Katherine D. Vickery, Scott T. Shimotsu, Mark Linzer, Nancy A. Garrett, Kimry A. Johnsrud, Dana M. Soderlund, and Jennifer DeCubellis. 2014. "Hennepin Health: A Safety Net Accountable Care Organization for the Expanded Medicaid Population." *Health Affairs* 33 (11): 1975–84. https://doi.org/10.1377/hlthaff.2014.0648.

Scally, Corianne P., Samantha Batko, Susan J. Popkin, and Nicole DuBois. 2018. *The Case for More, Not Less: Shortfalls in Federal Housing Assistance and Gaps in Evidence for Proposed Policy Changes.* Washington, DC: Urban Institute.

Schubel, Jessica. 2017. *Medicaid Helps Schools Help Children.* Washington, DC: Center on Budget and Policy Priorities.

Shavers, Vickie L., and Martin L. Brown. 2002. "Racial and Ethnic Disparities in the Receipt of Cancer Treatment." *Journal of the National Cancer Institute* 94 (5): 334–57. https://doi.org/10.1093/jnci/94.5.334.

Shaw, Meredith K., Scott A. Davis, Alan B. Fleischer, and Steven R. Feldman. 2014. "The Duration of Office Visits in the United States, 1993 to 2010." *American Journal of Managed Care* 20 (10): 820–26.

Shelley, John, Meredith Kilgore, and Andrea Cherrington. 2017. "Reducing Disparities in Access to Health Care." *Health Affairs* 36 (12): 2211. https://doi.org/10.1377/hlthaff.2017.1241.

Silver, Diana, Jan Blustein, and Beth C. Weitzman. 2012. "Transportation to Clinic: Findings from a Pilot Clinic-Based Survey of Low-Income Suburbanites." *Journal of Immigrant and Minority Health* 14 (2): 350–55. https://doi.org/10.1007/s10903-010-9410-0.

Skopec, Laura. 2018. "Pay for Success in Health Care: Challenges and Opportunities." Washington, DC: Urban Institute.

Sommers, Benjamin D., Sharon K. Long, and Katherine Baicker. 2014. "Changes in Mortality after Massachusetts Health Care Reform: A Quasi-experimental Study." *Annals of Internal Medicine* 160 (9): 585–93. https://doi.org/10.7326/M13-2275.

Spaulding, Shayne, Marcela Montes, Matthew Chingos, and Ian Hecker. 2019. "What Would It Take to Enable All Workers to Develop the Skills to Succeed in a Changing Labor Market?" Next50 Catalyst brief. Washington, DC: Urban Institute.

Spencer, Anna, Bianca Freda, and Tricia McGinnis. 2016. "Measuring Social Determinants of Health among Medicaid Beneficiaries: Early State Lessons." Hamilton, NJ: Center for Health Care Strategies.

Spencer, Anna, and Sana Hashim. 2018. "2-1-1 San Diego: Connecting Partners through the Community Information Exchange." Hamilton, NJ: Center for Health Care Strategies.

Syed, Samina T., Ben S. Gerber, and Lisa K. Sharp. 2013. "Traveling towards Disease: Transportation Barriers to Health Care Access." *Journal of Community Health* 38 (5): 976–93. https://doi.org/10.1007/s10900-013-9681-1.

Taylor, Lauren A., Annabel Xulin Tan, Caitlin E. Coyle, Chima Ndumele, Erika Rogan, Maureen Canavan, Leslie A. Curry, and Elizabeth H. Bradley. 2016. "Leveraging the Social Determinants of Health: What Works?" *PLoS ONE* 11 (8): 1–20. https://doi.org/10.1371/journal.

TFAH (Trust for America's Health). 2018. "Braiding and Blending Funds to Support Community Health Improvement: Compendium of Resources and Examples." Washington, DC: TFAH.

Torres, Jacqueline, John Lawlor, Jeffrey D. Colvin, Marion Sills, Jessica L. Bettenhausen, Amber Davidson, Gretchen J. Cutler, Matt Hall, and Laura Gottlieb. 2017. "ICD Social Codes: An Underutilized Resource for Tracking Social Needs." *Medical Care* 55 (9): 810–16. https://doi.org/10.1097/MLR.0000000000000764.

Tsega, Mekdes, Corinne Lewis, Douglas McCarthy, Tanya Shah, and Kayla Coutts. 2019. "Review of Evidence on the Health Care Impacts of Interventions to Address the Social Determinants of Health." New York: The Commonwealth Fund.

Turner, Margery Austin, Solomon Greene, Corianne Payton Scally, Kathryn Reynolds, and Jung Choi. 2019. "What Would It Take to Ensure Quality, Affordable Housing for All in Communities of Opportunity?" Next50 Catalyst brief. Washington, DC: Urban Institute.

Van Buren, Rick. 2018. "State Approaches to Financing Social Interventions through Medicaid." Presentation given at the Medicaid and CHIP Payment and Access Commission Public Meeting, Washington, DC, April 19–20.

Waxman, Elaine, Craig Gunderson, and Megan Thompson. 2018. "How Far Do SNAP Benefits Fall Short of Covering the Cost of a Meal?" Washington, DC: Urban Institute.

Wheaton, Laura, and Victoria Tran. 2018. *The Antipoverty Effects of the Supplemental Nutrition Assistance Program*. Washington, DC: Urban Institute.

Wherry, Laura R., Genevieve M. Kenney, and Benjamin D. Sommers. 2016. "The Role of Public Health Insurance in Reducing Child Poverty." *Academic Pediatrics* 16 (3 Suppl.): S98–S104. https://dx.doi.org/10.1016%2Fj.acap.2015.12.011.

Wherry, Laura R., Sarah Miller, Robert Kaestner, and Bruce D. Meyer. 2015. *Childhood Medicaid Coverage and Later-Life Health Care Utilization*. Working Paper 20929. Cambridge, MA: National Bureau of Economic Research.

White, Arica L. 2009. "Racial/Ethnic Disparities in Colorectal Cancer Screening and Survival in a Large Nationwide Population-Based Cohort." PhD diss., University of Texas. ProQuest AAI3366836.

White, Chapin, and Christopher Whaley. 2019. *Prices Paid to Hospitals by Private Health Plans Are High Relative to Medicare and Vary Widely: Findings from an Employer-Led Transparency Initiative*. Research Report 3033. Santa Monica, CA: RAND Corporation.

Wizemann, Theresa, and Alina Baciu. 2016. "Cross-Sector Collaboration to Provide Transportation Services in Rural/Small Urban/Suburban Settings." In *Exploring Data and Metrics of Value at the Intersection of Health Care and Transportation: Proceedings of a Workshop*, 37–52. Washington, DC: National Academies Press.

Zewde, Naomi, and Christopher Wimer. 2019. "Antipoverty Impact of Medicaid Growing with State Expansions over Time." *Health Affairs* 38 (1): 132–38. https://doi.org/10.1377/hlthaff.2018.05155.

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