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Federal funding may boost social determinants of health infrastructure

Federal-funding mechanisms represent an often-underused funding source for public- and private-sector stakeholders when enhancing SDoH data, analytics, and technology infrastructure.

This article is a collaborative effort by Fadesola Adetosoye, Tamara Baer, Jessica Kahn, Savannah Leonard, and Alex Mandel, representing views from McKinsey's Healthcare Practice.

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Social determinants of health (SDoH)—the conditions in which people live and the systems that shape those conditions—are increasingly receiving attention. The COVID-19 pandemic, by exacerbating inequities and highlighting the prevalence of unmet basic needs,[1] has accelerated efforts to address SDoH.[2] State Medicaid agencies, payers, providers, vendors, community-based organizations (CBOs), and other stakeholders have taken up the torch and are laying the foundations for long-term SDoH programs (see sidebar "What are social determinants of health?").

Despite the momentum, however, many stakeholders across the ecosystem are still in the early stages of addressing patients' SDoH sustainably and at scale. Stakeholders largely cite funding as the largest barrier to real progress.[3] Many stakeholders know of available funding for delivering services such as food assistance, housing support, and transportation. However, options for funding data, analytics, and technology infrastructure that can optimize efforts to deliver services are less well-known. But this funding does indeed exist. And it can be used to support data integration (collating social-needs data alongside clinical and other data) and screening and referral capabilities (business processes and capabilities that include SDoH data sets to drive enrollment into targeted case management profiles for patients' risk profile).

[1] Patrick Drake and Robin Rudowitz, "Tracking social determinants of health during the COVID-19 pandemic," Kaiser Family Foundation, April 21, 2022.
[2] The Centers for Medicare & Medicaid Services (CMS) has announced health equity is a strategic priority, the US Department for Health and Human Services (HHS) has prioritized strengthening equitable access to care and strengthening social well-being, and the Biden administration is focusing on health equity and complementary data capacity, such as through the Executive Order on Advancing Racial Equity and Support for Underserved Communities.
[3] "Addressing social determinants of health via Medicaid managed care contracts and section 1115 demonstrations," Association for Community Affiliated Plans, December 2018; Kim Nichols Dauner and Lacey Loomer, "A qualitative assessment of barriers and facilitators associated with addressing social determinants of health among members of a health collaborative in the rural Midwest," *BMC Health Services Research*, 2021, Volume 21; Emily Sokol, "Financial incentives biggest barrier to social determinants of health," RevCycleIntelligence, November 16, 2022; McKinsey Provider SDoH survey, December 2021.

What are social determinants of health?

This paper uses two phrases throughout: "unmet basic needs" and "social determinants of health" (SDoH). We define unmet basic needs as the lack of a basic resource such as food, safe housing, or transportation. An unmet basic need may or may not have an adverse effect on a person's health. SDoH is used to refer to the nonmedical factors that influence health outcomes.[1] The Centers for Disease Control and Prevention (CDC) defines SDoH as the conditions in the environments where people are born, live, learn, work, play, and age that affect a wide range of health risks and outcomes. Examples include education access and quality, neighborhoods and built environments, and economic stability.[2] Studies indicate that approximately 20 percent of an individual's health is related to clinical care. Nonclinical factors, including SDoH, are responsible for the remaining 80 percent.[3]

Across the healthcare industry, stakeholders are increasingly recognizing that addressing SDoH, which reflect unmet basic needs, can lead to improved health outcomes and better quality and costs of care.[4]

Other common terms include "social risk factors" or "social influencers of health." Language is increasingly evolving to recognize that social factors are influences on (rather than determinants of) health and well-being.

[1] "Social determinants of health," World Health Organization (WHO), accessed October 28, 2022.
[2] "Social determinants of health," Centers for Disease Control and Prevention (CDC), last reviewed March 29, 2022.
[3] *2020 county health rankings key findings report*, Country Health Ranking & Roadmaps, March 2020.
[4] "Review of evidence for health-related social needs interventions," The Commonwealth Fund, July 2019; "Addressing social determinants of health: Examples of successful evidence-based strategies and current federal efforts," Assistant Secretary for Planning and Evaluation, April 1, 2022.

In pursuing these programs and seeking to secure funding, coordination across stakeholders may be crucial. SDoH is cut across a variety of focus areas and could be addressed better by working across payers, providers, states, communities, and other local actors and agencies. SDoH vendors can work alongside states and other entities to identify these funding possibilities and unify disparate stakeholders to unlock financial assistance, potentially resulting in evidence-based solutions across systems, clinical departments, and programs—and, ultimately, increased impact (see sidebar "Federal funding opportunities for actors that address social determinants of health").

This article describes four federal financing mechanisms that are available to support SDoH data and analytics efforts and considerations for accessing them. While these insights primarily focus on possibilities for state Medicaid agencies, there are implications and potential opportunities for stakeholders across the ecosystem. This analysis is not exhaustive; rather, it provides a helpful starting point for planning and forming partnerships to support SDoH.

Federal funding opportunities for actors that address social determinants of health

State Medicaid agencies: These agencies support the administration and operation of the Medicaid program in their states and determine coverage for social determinants of health (SDoH) support. They also develop the data and infrastructure necessary to identify and address people's SDoH-related needs. These agencies are primary recipients of federal funding through mechanisms such as waivers and authorities. They can also partner with vendors, community partners, or providers to access new funding and allocate acquired capital—for example, using funding from a Section 1115 waiver to partner on closed-loop referrals.

SDoH vendors: Vendors are typically private organizations that contract with other actors to support SDoH service delivery or data and infrastructure. They can receive funding indirectly through partnerships and contracting, such as through work with state Medicaid agencies, managed-care organizations, or state health information exchanges.

Payers: These organizations cover members' medical costs and can work alongside providers to ensure members' health needs (including SDoH-related needs) are met. Funding can come through subcontracts with states on provision of services to beneficiaries.

Providers: Providers consist of physicians and other practitioners who provide direct care to patients, screen for unmet basic needs, provide referrals to support, and at times offer direct-service provisions (for example, a hospital offering food support). Federal funding can come indirectly through partnerships and subcontracting, such as risk-based payment models.

Community-based organizations (CBOs): These not-for-profit organizations primarily provide relief to the community—for example, through food banks and housing organizations. They can provide direct services for individuals with SDoH-related needs and may also support other actors with local knowledge and credibility. They may receive federal funding indirectly through grant programs, or they can receive additional funding through partnerships such as a managed-care organization referral partnership.

Other state and local agencies: These departments and agencies include counties, cities, behavioral-health facilities, and aging organizations. They help allocate resources to CBOs and other entities to address unmet basic needs. These groups are primary recipients of federal funding for select financing mechanisms, such as grants from national entities such as the CDC and through recent legislation such as the American Rescue Plan Act, which provided $350 billion to state, local, and other entities.[1]

[1] "Assistance for state, local, and tribal governments," US Department of the Treasury, accessed October 28, 2022.

Four federal-funding channels are available for SDoH infrastructure efforts

Stakeholders can consider four federal-funding channels to advance their SDoH goals: waivers and authorities, federal agencies and programs, emerging opportunities resulting from recent legislation, and managed-care standards and support. Some of these federal channels provide ongoing support, for example, through a federal match or reimbursement strategy, while others provide one-time support such as through grants (see sidebar "Definitions of funding terms"). Local- or state-level and private or philanthropic funding, while not evaluated in this article, may provide additional funding opportunities for stakeholders to consider.

1. Waivers and authorities

Although federal Medicaid funds are traditionally used to cover the costs of medical services, a variety of waivers and authorities have added flexibility so these funds can cover nonmedical services outside of the Medicaid state plan—such as case management, food support, and housing support—that contribute to health outcomes (Exhibit 1). This added flexibility may also cover data and analytics infrastructure to help improve how SDoH services are delivered and the outcomes of these services on people's lives.[4] The Centers for Medicare & Medicaid Services (CMS) articulated a number of these waivers, authorities, and other supports available to address SDoH in a letter to state health officials in 2021.[5] More recently,

[4] Elizabeth Hinton and Lina Stolyar, "Medicaid authorities and options to address social determinants of health (SDOH)," Kaiser Family Foundation, August 5, 2021.
[5] *Opportunities in Medicaid & CHIP to address SDoH*, CMS, January 7, 2021.

Definitions of funding terms

Federal match: A federal match is the share the federal government will contribute to a project based on the nonfederal share of costs the grantee is contributing to the effort. In Medicaid, there are two common types of federal matches:

— *Federal Medical-Assistance Percentage (FMAP).* For every dollar the state spends on Medicaid, the federal government matches at a rate that varies from year to year. FMAP is the portion paid by the federal government to states for their share of expenditures for providing Medicaid services as well as administering the Medicaid program and other human service programs. It is computed from a formula that considers the average per capita income for each state relative to the national average.[1]

— *Federal Financial Participation (FFP).* FFP is the share of each state's Medicaid administrative costs paid by the federal government (that is, matching funds for states' systems and data infrastructure expenditures, often at an enhanced match rate of 75 to 90 percent).[2]

Medicaid waivers and authorities: Under a Medicaid waiver or authority, a state can waive certain Medicaid eligibility requirements and expand offered services, covering care for people who might not otherwise be eligible (for example, waiving Section 1115 of Title XIX of the Social Security Act).[3]

Medical loss ratio (MLR): An MLR is the proportion of a premium a health plan spends on healthcare claims and quality improvement activities compared with administrative activities.[4]

[1] "Medicaid's federal medical assistance percentage (FMAP)," Congressional Research Service, July 29, 2020.
[2] "Federal match rates for Medicaid administrative activities," Medicaid and CHIP Payment and Access Commission (MACPAC), accessed October 28, 2022.
[3] "Waivers," MACPAC, accessed October 28, 2022.
[4] "Social determinants of health: Data sharing at the community level," Assistant Secretary for Planning and Evaluation, March 2021.

Exhibit 1

A variety of waivers and authorities can be used to support social determinants of health.

Channel: Waivers and authorities

Funding detail

▲ Federal match

Use case detail

● Yes ● Maybe

Funding mechanism	Primary SDoH[1] ecosystem recipient	Data, analytics, and technology infrastructure	Direct-service provision	Example SDoH focuses
▲ Section 1115 waiver	State Medicaid agencies	●	●	Focuses can include in-home service, supportive housing, and care management, with opportunities to expand to data and infrastructure investment
▲ Section 1915 waiver	State Medicaid agencies	●	●	Offerings can include home accessibility adaptations, employment services, case management, meal delivery, and home health aides, and may potentially expand to data and infrastructure investments
▲ Section 1905(a) State Plan Authority	State Medicaid agencies	●	●	Focuses can include SDoH data aggregation, screening, case management, and need-specific support (eg, finding housing or employment, paying bills)
▲ Section 2703 Health Homes	State Medicaid agencies	●	●	Offerings can include care management and referral to SDoH-related supports. Federal match can support direct-service provision and technical assistance needs

Note: Sustainability of funding mechanisms is likely to vary by funding type; federal matches and reimbursement strategies are often more long-term in nature.
[1]Social determinants of health.

the Medicaid and CHIP Payment and Access Commission (MACPAC) released an issue brief on SDoH financing strategies.[6]

While waivers and authorities primarily fund direct-service delivery authorities, states often have flexibility in the proposals they put forth through waivers—for example, they may define their own demonstration project or pilot for an 1115 waiver. But waivers also often include guidelines—such as demanding budget neutrality or that a project demonstrates value in terms of quality and cost to the Medicaid program—to ensure consistency in desired outcomes.[7] Federal matches from Medicaid waivers and authorities, as well as grants from the Center for Medicare & Medicaid Innovation (CMMI), are among the most commonly used federal-funding sources for state Medicaid agencies to support SDoH data and programming efforts to date (see sidebar "How California and North Carolina have harnessed waivers to advance SDoH data and technology infrastructure").

2. Federal programs and agencies

Federal programs and agencies encompass sources that regularly fund state Medicaid agencies and have supported SDoH and data and analytics infrastructure efforts, as well as sources that support SDoH efforts but are not commonly known for funding state Medicaid agencies (Exhibit 2).

[6] "Financing Strategies to Address the Social Determinants of Health in Medicaid," Medicaid and CHIP Payment and Access Commission (MACPAC), May 2022.
[7] *Opportunities in Medicaid,* Centers for Medicare & Medicaid Services (CMS), January 7, 2021.

Exhibit 2

Many federal programs and agencies are available to support social determinants of health.

Channel: Federal agencies and programs

Funding detail

▲ Federal match ▲ Direct funding

△ Grant

Use case detail

● Yes ● Maybe ● Unlikely

Funding mechanism	Primary SDoH[1] ecosystem recipient	Data, analytics, and technology infrastructure	Direct-service provision	Example SDoH focuses
Centers for Medicare & Medicaid Services Innovation Center (CMMI)	State Medicaid agencies, other state agencies, CBOs,[2] payers, providers	●	●	Overall focus on testing payment models with opportunity to focus on SDoH through specific initiatives as available
Center for Medicaid and CHIP Services (CMCS): Medicaid Enterprise Systems (MES) approvals	State Medicaid agencies	●	●	Focuses on supporting states in IT and infrastructure modernization to support Medicaid programs, including support for SDoH use cases and platform development
Center for Disease Control and Prevention (CDC)	Other state and local agencies, CBOs, others	●	●	Focuses on public health and presenting diseases, with occasional SDoH or data-specific support
Administration for Children and Families (ACF)	Other state and local agencies, CBOs, others	●	●	Varies, yet focuses are often on service provision (eg, childcare support), with block grants potentially providing flexibility for administration, which may support SDoH data efforts
US Health Resources & Services Administration (HRSA)	Other state and local agencies, CBOs, providers	●	●	Varies, but block grants can have flexibility to fund administration and technical assistance, which could include SDoH data and referral platform efforts
Substance Abuse and Mental Health Services Administration (SAMHSA)	Other state and local agencies, CBOs	●	●	Focuses are primarily on programs preventing and treating behavioral health needs; can include direct provision of SDoH services for select grants (eg, housing, transportation, food)
US Department of Agriculture (USDA)	Other state and local agencies, CBOs	●	●	Offerings often include direct food provision efforts, as well as capability building for select entities (eg, food bank capacity support)
US Department of Housing and Urban Development (HUD)	Other state and local agencies, CBOs	●	●	Offerings are heavily focused on service provision for housing (eg, rental assistance) with block grants having some flexibility for administration, which may support SDoH data efforts
US Department of Labor (DOL)	Other state and local agencies, CBOs	●	●	Offerings are focused on employment- and education-related support, with select initiatives supporting data efforts (eg, YouthBuild meets housing, education, and other needs)
Administration for Community Living (ACL)	Other state and local agencies, CBOs	●	●	Offerings are focused on services and supports for the elderly and individuals with disabilities; can include both direct-service provision and data and infrastructure enabler investments
HHS Office of Minority Health (OMH)	Other state and local agencies, CBOs	●	●	Offerings can include data and technology infra-structure investments (eg, accessing SDoH through local data initiatives) alongside more direct-service provision and efforts (eg, literacy initiatives)

Note: Sustainability of funding mechanisms is likely to vary by funding type; federal matches and reimbursement strategies are often more long-term in nature, whereas grants are often for a limited period or set amount, but this will vary by individual funding mechanism criteria.

[1]Social determinants of health.

[2]Community-based organizations.

How California and North Carolina have harnessed waivers to advance SDoH data and technology infrastructure

California and North Carolina provide examples of how states can harness waivers in combination with other funding sources (federal and otherwise) to advance social determinants of health (SDoH) service delivery and data and technology infrastructure across their Medicaid programs and beyond.

California is working to transform its Medicaid program (known as Medi-Cal) into a whole-person approach through the California Advancing and Innovating Medi-Cal (CalAIM) effort. The California Department of Health Care Services launched CalAIM in January 2022 to improve health outcomes and health equity across the state.[1] CalAIM envisions enhanced information exchange, coordination, and data integration across managed-care plans; county agencies; and physical-health, behavioral-health, community-based, and social-service providers.[2] The effort is supported by state funding in addition to several federal authorities, including 1115 and 1915(b) waivers, state plan amendments, and managed-care contracts.[3] The 1115 waiver is particularly relevant for SDoH technology, providing $1.4 billion over five years for an initiative aimed at capacity building, technical assistance, and other efforts, including closed-loop referrals.[4] To advance closed-loops referrals, CalAIM provides guidance for information sharing, standards to ensure platforms are accessible to contracted providers, and training and technical assistance to support providers in workflow changes and access.[5]

North Carolina, meanwhile, is advancing on multiple SDoH-related fronts[6]:

— *NCCARE360.* North Carolina developed NCCARE360, a statewide coordinated-care network to better connect individuals to local services and resources.[7] The NCCARE360 network uses a statewide closed-loop referral platform adopted by state agencies, health systems, community-based organizations (CBOs), and managed-care organizations (MCOs). It began with a public–private partnership between the North Carolina Department of Health and Human Services (NC DHHS), a foundation, an SDoH technology vendor, and United Way (a not-for-profit driving 211 resource directories).[8] Initial funding for the network came through the combination of private philanthropy and a Medicaid federal match. NCCARE360 has been expanded and continued by requiring and covering access for Medicaid MCOs and health systems to use the platform for an initial period.[9]

— *Healthy Opportunities Pilots.* Alongside NCCARE360, North Carolina has been driving SDoH impact through its Healthy Opportunities Pilots.[10] The pilots aim to both address unmet basic needs for members and build capacity for entities delivering social services, including connecting Medicaid members to reimbursable social-care services, streamlining eligibility and authorization processes, enabling CBOs to automatically invoice for services, and providing data to evaluate outcomes.[11] As a part of this effort, North Carolina has created standard screening questions for unmet basic needs and encourages providers to use NCCARE360.[12] The pilots started through an 1115 waiver that was approved as part of the state's waiver to transition to Medicaid

[1] "CalAIM explained: Overview of new programs and key changes," California Health Care Foundation, October 26, 2021; "CalAIM Initiative and programs," Partnership Healthplan of California, accessed October 28, 2022; Elizabeth Hinton and Michelle Tong, "California efforts to address behavioral health and SDOH: A look at whole person care pilots," Kaiser Family Foundation, March 17, 2022.
[2] "CalAIM and health data sharing: A road map for effective implementation of enhanced care management and in lieu of services," California Health Care Foundation, May 2021.
[3] "Updates on the CalAIM Section 1115 & Section 1915(b) waivers," California Department of Health Care Services (DHCS), January 2022.
[4] "CalAIM explained," October 26, 2021; Elizabeth Hinton and Michelle Tong, "California efforts to address," March 17, 2022; "Updates on the CalAIM," January 2022.
[5] "CalAIM and health data sharing," May 2021.
[6] Clarissa Donnelly-DeRoven, "'It's never been done before': How NC plans to use Medicaid dollars to improve social determinants of health," North Carolina Health News, March 9, 2022; "How North Carolina is using Medicaid to address social determinants of health," Center for American Progress (CAP), February 3, 2022
[7] "Building connections for a healthier North Carolina," NCCARE360, accessed October 28, 2022.
[8] "About NCCARE360," NCCARE360, accessed October 28, 2022.
[9] "A playbook to coordinate care across an entire state," Unite US, accessed October 28, 2022; Mandy Krauthamer Cohen, Elizabeth Cuervo Tilson, and Zachary Wortman, "Buying health for North Carolinians: Addressing nonmedical drivers of health at scale," *Health Affairs*, 2020, Volume 39, Issue 4; "How North Carolina is using Medicaid," February 3, 2022.
[10] "Healthy opportunities pilots," NCDHHS, last updated August 24, 2022.
[11] Ibid.
[12] "How North Carolina is using Medicaid," February 3, 2022.

How California and North Carolina have harnessed waivers to advance SDoH data and technology infrastructure (continued)

managed care.[13] Through the waiver, Centers for Medicare & Medicaid Services (CMS) granted $650 million in funding over five years, $100 million of which can be used for capacity building with a 50-50 federal match.[14] In this transition, North Carolina is advancing SDoH in four ways: having SDoH-related contract requirements, supporting CBOs delivering Healthy Opportunities Pilots' services, allowing plans to include SDoH service and infrastructure in the numerator of their medical loss ratios (MLRs), and requiring plans to participate in pilots.[15]

Both the North Carolina and California case studies demonstrate how states have used waivers alongside other sources to advance their SDoH technology efforts. While North Carolina has approached SDoH technology and closed-loop referral development through a single, state-supported network and platform, California is taking a different approach: supporting data-sharing standards and technical assistance across groups rather than through a single platform or network. These cases reflect the flexibility in how states could use waivers, third-party vendors, and other funding to develop and support SDoH infrastructure.

[13] "A playbook to coordinate," accessed October 28, 2022; "'It's never been done before," March 9, 2022; "Healthy opportunities pilots," NCDHHS, last updated August 24, 2022; "How North Carolina is using Medicaid," February 3, 2022.
[14] Ibid.
[15] "How North Carolina is using Medicaid," February 3, 2022; "North Carolina Medicaid transformation: Healthy opportunities in Medicaid managed care," Piedmont Triad Regional Council, June 27, 2019.

Traditional state Medicaid support. Traditional-funding sources that state Medicaid agencies can access come from both the CMMI and the Medicaid Enterprise System (MES) through the Center for Medicaid and CHIP Services (CMCS). CMMI provides grants to test modified payment approaches and, at times, offers specific grants to support SDoH initiatives. For example, CMMI's past Accountable Health Communities Model grants linked Medicare and Medicaid beneficiaries to community services with funding for screening social needs, referrals, and care navigation.[8] Additional SDoH-related funding opportunities are likely to arise from CMMI given that it prioritizes health equity as a core strategic objective and addressing SDoH can help achieve this equity.[9]

CMCS MES approval, by comparison, is an ongoing funding source to advance Medicaid infrastructure and technology. CMCS MES funding is commonly used by states to build broader data and infrastructure but has to date been a largely untapped source for SDoH data and infrastructure capability-building (see sidebar "An in-depth look at CMCS MES funding").

Funding from other government programs and agencies. Other federal programs and agencies whose missions align with SDoH-related priorities, such as the Health Resources and Services Administration, Department of Housing and Urban Development, and Department of Agriculture, among others, present additional potential federal-funding sources. Stakeholders may be able to codevelop SDoH data and referral solutions by considering potential flexibility under block grants (that is, grants from a federal to local authority, often with flexibility for use) or through partnerships with other organizations that commonly receive funding from these sources—such as cities, counties, local public-health departments, and not-for-profits.

[8] "Accountable health communities model," CMS, last updated October 11, 2022.
[9] "Innovation center strategy refresh," CMS, October 20, 2021.

An in-depth look at CMCS MES funding

Section 1903(a)(3) of the Social Security Act allows states to receive funding to modernize their IT systems and infrastructure to support Medicaid program management and administration needs, including managed care, clinical-decision support, and eligibility and enrollment. This funding is available to states to update and maintain IT systems to enhance the efficiency and effectiveness of the Medicaid program.[1] Under this, states have the flexibility to define technology and data infrastructure needs and use cases if they are tied to program outcomes, thereby providing the potential to establish SDoH use cases and platforms, such as closed-loop referral systems, screenings, and resource directories.[2]

States may receive a 90 percent federal match for design, development, and installation, and an ongoing 75 percent federal match for maintenance and operations activities. To access this funding, states must receive approval from the Centers for Medicare & Medicaid Services (CMS) by submitting advanced-planning documents (APDs). APDs may include a description of the state's proposed use of the funding, the outcomes that are supported by the proposed infrastructure, demonstration of compliance with regulatory standards, and procurement and staffing plans.[3] Under the proposed use of funding, when seeking a 75-25 percent match, states must have use cases certified by CMS as supporting the Medicaid Enterprise System (MES), demonstrating a value proposition specific to the Medicaid program with a clear statement of anticipated outcomes and key performance indicators for measurement.[4] In addition, states must be diligent in cost allocation—considering opportunities to collaborate across multiple programs.[5] Overall, the APD process requires a deep understanding of Medicaid agency goals, current state technological and data capabilities and gaps, and how the two can come together for impact.

While this funding mechanism has not been widely used for SDoH-related efforts yet, the broad requirements of the program allow for states to consider pursuing SDoH data and infrastructure support. States such as Maryland are starting to tap into the opportunity. Maryland transitioned its health information exchange (HIE) from HITECH (Health Information Technology for Economic and Clinical Health) funding to MES funding over a few years and is actively discussing SDoH data aggregation and other innovative use cases under their MES funding in partnership with HIE efforts.[6] States may consider MES funding and HIE partnerships together to unlock greater support.

[1] "Health IT advisory council," Connecticut Office of Health Strategy, July 25, 2021; "Mechanized claims processing and information retrieval systems-enhanced funding," CMS, March 31, 2016; "Strategies for supporting and strengthening Medicaid information technology during the COVID-19 crisis," State Health and Value Strategies, May 2020.
[2] Ibid.
[3] Ibid.
[4] Ibid.
[5] "Funding Medicaid health IT in the post-HITECH era," Audacious Inquiry, March 9, 2022.
[6] Lindsey Ferris, "Rethinking conventional wisdom on Medicaid IT funding," Healthcare IT News, January 31, 2022; "Funding Medicaid health IT in the post-HITECH era," Audacious Inquiry, March 9, 2022; "596th meeting of the Health Services Cost Review Commission," Maryland Health Services Cost Review Commission, June 8, 2022.

Others have set the precedent of using funding from these sources for SDoH-related technological support. For example, 211 San Diego is a not-for-profit organization connecting individuals with community, health, and disaster services. With a mix of corporate, foundation, and government resources—including US Department of Agriculture (USDA) resources supporting referral-related technology—it has developed a mobile application that gives users updates as they progress in the process of finding community services.[10]

Other agencies, such as the CDC, have historically been less traditional sources for state Medicaid support but may present a greater opportunity going forward. Indeed, the CDC is forecasting an investment of roughly $4 billion through grants for strengthening US public-health infrastructure, workforce, and data systems that may be open to entities such as state and local governments.[11]

[10] "Invest in our community," 211 San Diego, accessed October 28, 2022.
[11] "OE22-2203 strengthening U.S. public health infrastructure, workforce, and data systems," CDC, July 22, 2022.

3. Recent legislation

Recent laws such as the American Rescue Plan Act (ARPA) and the Bipartisan Infrastructure Law have increased the federal funding available to support SDoH-related efforts. This legislation is providing direct food and housing supports as well as investments in data modernization and infrastructure. For example, it was announced that funding from ARPA would also support the CDC's public health infrastructure, workforce, and data modernization efforts.[12]

Much of this funding will be seen through the federal programs and sources listed above, and SDoH stakeholders can watch for future grants and related opportunities from these new resources. An example of this is the inclusion of the Digital Equity Act in the Bipartisan Infrastructure Law, which allocates $2.75 billion over five years to address, for example, broadband infrastructure to improve healthcare outcomes in underserved communities (Exhibit 3).[13]

4. Managed-care standards and support

There is potential to unlock funding for SDoH through standards and supports related to managed care (Exhibit 4). Managed care—a funding model through which payments are per patient rather than per service, with varying degrees of financial risk—is not itself a federal funding mechanism. But states can access federal support through federal grant initiatives related to managed care. For example, CMS alternative payment model innovation funding, such as past State Innovation Model (SIM) grants, are related to managed care (see sidebar "How Michigan used SIM funding and MCO requirements to advance SDoH infrastructure"). The SIM initiative provided federal support for states advancing multipayer healthcare payment and delivery system reform models to achieve better quality of care, improve care outcomes, and deliver lower costs.[14] States may continue to look for future CMMI grants focused on advancing managed care and innovative payment models to unlock SDoH data and potential infrastructure support.

[12] "Strengthening U.S. public health infrastructure, workforce, and data systems," CDC, last reviewed September 7, 2022.
[13] Yvette Scorse, "NDIA celebrates the Senate passage of the infrastructure bill," National Digital Inclusion Alliance (NDIA), August 10, 2021.
[14] "State innovation models initiative: General information," CMS, last updated September 14, 2022.

Exhibit 3

Funds from recent legislation could potentially be harnessed for social determinants of health use cases.

Channel: Recent legislation

Funding detail

▲ Federal match ▲ Direct funding ▲ Grant

Use case detail

● Yes ● Maybe ● Unlikely

Funding mechanism	Primary SDoH[1] ecosystem recipient	Data, analytics, and technology infrastructure	Direct-service provision	Example SDoH focuses
American Rescue Plan Act of 2021 (ARPA)	State Medicaid agencies, other state and local agencies, payers, providers, CBOs[2]	●	●	Focuses are mainly direct-service provision, with some agency by local entities to invest in enablers such as SDoH data and referral capabilities
The Bipartisan Infrastructure Law	Other state and local agencies, CBOs	●	●	Focuses heavily on infrastructure investment; support for SDoH data and technology may be feasible if seen as an enabler to broader efforts
The Coronavirus Aid, Relief, and Economic Security Act (CARES)	Providers, state Medicaid agencies, other state and local agencies, CBOs	●	●	Focuses on immediate relief for challenges from COVID-19, with robust SDoH-related support and flexibility to support data and infrastructure needs such as funding allocated to public-health data-modernization efforts

Note: Sustainability of funding mechanisms is likely to vary by funding type; federal matches and reimbursement strategies are often more long-term in nature, whereas grants are often for a limited period or set amount, but this will vary by individual funding mechanism criteria.
[1]Social determinants of health.
[2]Community-based organizations.

How Michigan used SIM funding and MCO requirements to advance SDoH infrastructure

Michigan used State Innovation Model (SIM) funding and managed-care organization (MCO) requirements to advance SDoH data, analytics, and technology. The state received $70 million in SIM funding over four years to develop Community Health Innovation Regions, which built links between clinical and community resources.[1] It required MCO contracts to participate in the SIM initiatives, increasing support for and coordination across SDoH efforts.[2] The SIM-supported program focused on three components: population health, care delivery, and technology.[3] The technology component focused on using statewide infrastructure and related health information exchange initiatives to enable and support advances in population health and care-delivery strategies, addressing SDoH.[4]

The SIM technology team looked to develop a use case for the collection and reporting of SDoH data, identifying the data-sharing needs and requirements of Community Health Innovation Regions and community-based organizations (CBOs), and establishing standards for the data and technology platform for clinical-community linkages. SIM funding covered administrative needs, technical assistance, resource development, and workforce training to build capacity for care management and coordination, as well as data aggregation and analysis to support the creation and execution of program initiatives. The SIM grant officially ended in 2020, yet the state has looked to continue the work through initial state support and by disseminating the capability tools.[5]

In addition, Michigan furthers SDoH efforts through its MCOs by requiring them to do the following[6]:

- maintain a strategic plan to incorporate SDoH into data and analytics processes supporting population health
- have Quality Assurance and Performance Improvement (QAPI) plans in place to analyze data, including SDoH, to understand variations in outcomes and utilization and develop system interventions to address drivers of disparate outcomes

[1] "Michigan's State Innovation Model (SIM) initiative summary," Michigan Department of Health and Human Services Policy, Planning and Legislative Services Administration, October 25, 2018.
[2] "Addressing social determinants of health via Medicaid managed care contracts and section 1115 demonstrations," Association for Community Affiliated Plans, December 2018.
[3] "Michigan's State Innovation Model (SIM) initiative summary," October 25, 2018.
[4] "Addressing social determinants," October 2018; "Michigan's State Innovation Model (SIM) initiative summary," October 25, 2018.
[5] Ibid; "SIM initiative newsletter," MDHHS State Innovation Model, January 2020.
[6] "Addressing social determinants," October 2018.

Exhibit 4

States may be able to access federal support through federal-grant initiatives and federal standards related to managed care.

Channel: Managed-care standards and support

Funding detail

▲ Federal match ▲ Grant
▲ Reimbursement strategy

Use case detail

● Yes

Funding mechanism	Primary SDoH[1] ecosystem recipient	Data, analytics, and technology infrastructure	Direct-service provision	Example SDoH focuses
CMS[2] grant initiatives related to managed care (eg, past State Innovation Model funding)	State Medicaid agencies, payers, providers	●	●	When available, focuses on support for states advancing multipayer healthcare payment and delivery system reform models to achieve better quality and outcomes and lower costs
Managed care standards (eg, MLR[3] inclusion regulations)	State Medicaid agencies, payers, providers	●	●	Focuses on standards for what can be included in an MLR[3] for MCOs[4] (eg, quality-improvement activities may include wellness and SDoH-related initiatives)

Note: Sustainability of funding mechanisms is likely to vary by funding type; federal matches and reimbursement strategies are often more long-term in nature, whereas grants are often for a limited period or set amount, but this will vary by individual funding mechanism criteria.
[1]Social determinants of health.
[2]Centers for Medicare & Medicaid Services.
[3]Medical loss ratio.
[4]Managed-care organizations.

Data provides insight into who has unmet basic needs, and a referral platform can allow individuals to be connected to timely interventions that improve health outcomes.

Stakeholders can also take note of federal standards that can affect managed care, such as medical loss ratio (MLR) inclusion regulations.[15] MLR is a financial measurement defined by CMS that looks to demonstrate and ensure value for beneficiaries. This value is measured by quality improvement activities to improve healthcare outcomes, including wellness and SDoH.[16] Linking SDoH investments to quality improvement may help states unlock additional support.

Beyond these federal supports, states have the flexibility to encourage innovation in SDoH across managed-care organizations (MCOs). For example, MCOs can use value-added services and "in lieu of" services to provide services that may include SDoH-related benefits; states may also use procurement, contracts, and performance management across MCOs to encourage SDoH-related innovations.[17]

Potential actions to advance SDoH infrastructure efforts

Across funding mechanisms, states may consider eight actions to build on the current momentum around and increase emphasis on health equity and SDoH to advance SDoH data and technology infrastructure efforts and potentially capture the full value of available funding channels.

Integrating SDoH into broader strategic priorities. To unlock federal support for SDoH, states, vendors, payers, providers, and others are increasingly highlighting that SDoH is integral to broader strategic priorities across organizations rather than a one-off project. For the Medicaid program, for example, addressing SDoH could be part of the strategy to improve individual and population-level outcomes and to lower care delivery costs.

Articulating how SDoH data and infrastructure is a critical enabler. In addition to integrating SDoH into broader strategic priorities, stakeholders may wish to emphasize the importance of SDoH data, technology, and infrastructure as an enabler to unlocking the value from SDoH. For example, data provides insight into who has unmet basic needs, and a referral platform can allow individuals to be connected to timely interventions that improve health outcomes. Emphasizing the role of SDoH data, technology, and infrastructure in enabling these efforts may support states and other stakeholders in accessing less-traditional funding mechanisms for this purpose.

Bridging the gap between IT or data programs and service-delivery programs. To foster greater coordination and impact, IT and service delivery departments could work in tandem, recognizing

[15] "§158.150 Activities that improve health care quality," Code of Federal Regulations, September 14, 2022.
[16] "Social determinants of health: Data sharing at the community level," Assistant Secretary for Planning and Evaluation, March 2021; "§158.150 Activities," September 14, 2022.
[17] "CMS releases guidance on opportunities in Medicaid and CHIP to address SDoH," Mercer, January 2021; "How are payment reforms addressing social determinants of health? Policy implications and next steps," Milbank Memorial Fund, February 2021; "Maximizing federal investments to address SDoH," Center for American Progress (CAP); *Opportunities in Medicaid & CHIP to address SDoH*, CMS, January 7, 2021; David Raths, "Medicaid managed care RFPs illuminate SDOH approaches," Healthcare Innovation, January 4, 2022.

the value SDoH data and technology can have in accelerating and improving service delivery efforts.

Partnering and combining funding mechanisms. Stakeholders may consider combining or sequencing funding mechanisms—from multiple federal sources as well as state, local, private, and other sources—to potentially unlock greater resourcing and ensure sustainability. For example, if a state receives an 1115 waiver to advance SDoH data and technology, it may also pursue CMCS MES funding to advance the effort. To effectively

Exhibit 5

Funding mechanisms can be combined to optimize impact.

A state that would like to support a closed-loop SDoH[1] referral system considers what federal funding supports are available.

Waivers and authorities

Medicaid 1115 demonstration waiver: Grant to test whether the SDoH referral platform improves outcomes, lowers costs, and keeps the target population independent

Justification: Funding can be unlocked to demonstrate effect of the innovation, with potential for renewal and more continuous support. Aligns with Medicaid's program objectives and benefits the target population (eg, improved care management, seamless ways to connect individuals with supportive programs and keep them independent)

Federal programs and agencies

Center for Medicaid and CHIP Services (CMCS), Medicaid Enterprise System (MES): Federal match to support setup of the platform, then ongoing maintenance

Justification: Funding is a federal match for both start-up and ongoing costs. The effort aligns with MES and Medicaid objectives because investment can improve outcomes and lower costs

Centers for Disease Control and Prevention (CDC): Potential grant and partnership opportunities to bolster public-health infrastructure and advance health equity, particularly as it relates to unmet basic needs

Justification: The CDC is increasingly focusing on public-health infrastructure modernization, health equity, and SDoH, and such a partnership can advance both the CDC's and the state's aims

Administration for Children and Families (ACF): Potential grant and partnership opportunities to support vulnerable children and families (eg, TANF[2] block grant)

Justification: Aligns with the agencies' focuses and strategic objectives (eg, resource connection to support families in need)

Managed-care standards and supports

Federal grant initiatives related to managed care: While managed care itself is not a federal funding mechanism, states can access federal support through grant initiatives related to managed care as available, such as past State Innovation Model (SIM) grants

Federal standards affecting managed care and innovation flexibility: Federal standards can also affect managed care such as medical-loss ratios (MLRs); quality-improvement activities may include wellness and SDoH. States have flexibility to encourage innovation in SDoH across managed-care organizations (MCOs) such as in value-added services or "in lieu of" services

Justification: Investing in SDoH data and infrastructure aligns with managed-care objectives of improving population health quality outcomes and providing lower costs

Recent legislations

Recent legislation such as the American Rescue Plan Act and CARES Act provided both CDC and ACF funding: The CDC received funding for public-health modernization investments, making a grant here more feasible to explore. The ACF received funding to advance children, family, and community efforts in light of COVID-19

Justification: While not direct funding, resources from recent legislation provide justification for potential funding from federal programs and agencies

[1]Social determinants of health.
[2]Temporary Assistance for Needy Families.

streamline funding across partners, stakeholders may consider how to collaborate and work on joint efforts with a deliberate approach to cooperative governance. This partnership or coalition-based approach may unlock greater access to disparate funding mechanisms and ensure greater alignment across the SDoH ecosystem (Exhibit 5).

Expanding target beneficiary populations. Stakeholders could also consider steps to expand SDoH efforts to a variety of beneficiary populations, such as pregnant women and children, as SDoH data and technology enables a deeper understanding of needs and a greater reach with efforts. For example, closed-loop referrals can support a vast array of patients. This may also support states and other stakeholders in accessing less-traditional funding sources, such as from government agencies.

Evaluating governance and capability gaps. Across funding sources, clear programming governance and a strong understanding of current state data and technology capabilities and gaps could be key to success in SDoH efforts.

Assessing approaches to implement SDoH infrastructure. Stakeholders may consider approaches such as Medicaid contracting, MCO requirements and MLR allowances, health information exchange (HIE) partnerships, and department-specific initiatives to implement SDoH technology and infrastructure.

Considering how data is gathered and retained, stakeholders may also want to consider what types of data and data collection and transmission standards are required to support SDoH in the context of interoperability. As conversations on interoperability continue, stakeholders will likely need discussions on data ownership, data systems of truth, and how the data is used in a way that optimizes and contextualizes care delivery and outcomes that drives holistic impact for an individual.

Stakeholders across the broader healthcare ecosystem can come together and build on the momentum currently surrounding SDoH to potentially unlock transformational impact for patients and communities while also contributing to improved healthcare and economic productivity. Although numerous federal-funding possibilities are available in silos, a collaborative or partner-driven strategy—in which human services, Medicaid, and other stakeholders work together to use their relevant funding mechanisms to support the needs of their shared beneficiaries—could potentially boost the impact of SDoH efforts. This collaboration could encourage data sharing that may transform stakeholders' understanding of unmet basic needs, including how to address them.

Fadesola Adetosoye is an associate partner in McKinsey's Washington, DC, office, where **Jessica Kahn** is a partner; **Tamara Baer, MD,** is a senior expert and associate partner in the Boston office and is a practicing physician; **Savannah Leonard** is a consultant in the Charlotte office; and **Alex Mandel** is an associate partner in the Chicago office.

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