DECEMBER 2020

RECOMMENDATIONS FOR MISSOURI MEDICAID TRANSFORMATION

Paying for value & prioritizing the social determinants of health

CENTER FOR HEALTH ECONOMICS AND POLICY

Institute for Public Health at Washington University in St. Louis

CONTENTS

Executive Summary

Missouri's Medicaid system faces many of the same challenges confronting healthcare delivery systems nationwide: how to enhance access to high-quality care and improve patient outcomes while containing the trend of rising health care costs. To achieve these goals, state leaders in the Department of Social Services have expressed interest in a transition to value-based care.[1] Currently, almost all payments in Missouri Medicaid are fee-for-service, with the healthcare provider receiving a separate payment for each service rendered. Stakeholders in Missouri have expressed growing interest in mechanisms that pay for the value of care — I .e. rewarding high-quality, cost-effective care that achieves optimal patient outcomes — rather than simply paying for the volume of care delivered. At the same time, there is a growing understanding that "value" may include investing in improving patient health by addressing the unmet social needs of patients, such as food and housing insecurity or a lack of transportation; collectively, these risk factors are known as the social determinants of health. As Missouri implements its expansion of Medicaid and responds to the COVID-19 pandemic and its aftermath, the state is at a critical inflection point, with new opportunities to build innovative value-based payment models that center the social determinants of health.

In July 2020, the Center for Health Economics and Policy and the Clark-Fox Policy Institute at Washington University hosted *Missouri Medicaid Transformation: A Dialogue on Implementation*, a virtual event intended to generate innovative ideas for improving Medicaid payment in Missouri. The event was the fourth in a series called *Transforming Healthcare in Missouri (THM)*. Participants were divided into small groups and tasked with proposing innovative ways of paying for care, with a focus on improving health equity and addressing the social determinants of health. The following four potential solution categories arose from stakeholder conversations:

Center for Health Economics and Policy
INSTITUTE FOR PUBLIC HEALTH AT WASHINGTON UNIVERSITY

Clark-Fox Policy Institute
BROWN SCHOOL AT WASHINGTON UNIVERSITY

Executive Summary: Solution Categories

1. Expand Primary Care Health Homes (PCHH/PCMH) to include a greater number of Medicaid enrollees

- PCHH are a model that has been successfully implemented on a limited scale in Missouri and on a broader scale in other states. The approach proposed here would broaden the eligibility criteria for PCHH to include enrollees with a greater range of health conditions and include those at high social determinants of health (SDOH) risk based on a high score on a social risk screening tool.

2. Hospitals receive global budgets and serve as 'health hubs'

- Rather than fee-for-service payments for individual healthcare expenses for patients, the state would pay participating hospitals a global budget based on the number of Medicaid patients falling within that hospital's community to cover healthcare and care coordination for those patients.
- This payment structure would allow for financial stability and predictability and potentially could give hospitals greater flexibility to pay for services (including 'in lieu of' services such as transportation) that would improve the health of their Medicaid patients.
- Hospitals could be given broad authority to use the funds to coordinate referrals to outside social services organizations, and Medicaid could provide additional incentive payments to hospitals that achieve good patient outcomes.

3. Move additional Medicaid enrollees into managed care organizations

- The state of Missouri currently only contracts managed care plans to serve custodial parents, pregnant women, and children. This approach would add currently excluded populations and services, such as behavioral health, pharmacy, and the ABD (aged, blind and disabled) population to Missouri's Medicaid managed care contracts.

4. Prioritize a more coordinated and integrated approach to delivering social and behavioral health services by streamlining eligibility/funding/ communication across programs

- In particular, recognize that many of the social determinants of health have the potential to be addressed in whole or in part through services already available through another program within the state. Improved coordination could create efficiencies for the state and streamline residents' experience with various offices and programs.

Executive Summary

In the final workshop, these ideas from the prior workshop were considered as starting points for developing a set of core ideas that can guide a transition toward paying for value of care as opposed to volume. In contrast with the current system, these ideas place a greater emphasis on coordinated care and the ability to pay for patient services that do not fall directly in the realm of healthcare, but which nonetheless have a profound impact on health outcomes for the Medicaid patient population. The stakeholder suggestions, summarized in detail and presented in this paper, are not meant to be exhaustive and could be modified or implemented in tandem with other payment innovations. Case studies from other states will serve, throughout the paper, to illustrate possible implementation strategies that could be successfully adapted for Missouri's Medicaid program.

NOTE :

Unless otherwise indicated, all ideas presented in this paper were proposed by stakeholders who attended the Transforming Healthcare in Missouri event. Most stakeholder suggestions were discussed during the event breakout groups; some information was also gathered during follow-up interviews with attendees to clarify an idea or comment brought up during the event.

In a few instances, information comes from interviews with other experts who did not attend the event; wherever that is the case, it is indicated by a footnote.

The views and opinions expressed in this policy paper are those of the authors and event participants and do not reflect the official policy or position of Washington University.

A glossary of terms and acronyms used throughout this document can be found on **page 52.**

SETTING THE CONTEXT

July 2020

Missouri Medicaid Transformation: A Dialogue on Implementation (the fourth event in the Transforming Healthcare in Missouri series)

Throughout our Transforming Healthcare in Missouri convenings over the last 3 years, a common theme emerged: **how we pay for care profoundly affects how people experience health and healthcare in Missouri**. In July of 2020, the Center for Health Economics and Policy (CHEP) and the Clark-Fox Policy Institute (CFPI) at Washington University hosted the fourth event in the series, with the aim of generating innovative ideas to transform payment in Missouri's Medicaid system to better address the social determinants of health.

1. Missouri Medicaid Transformation: A Dialogue on Implementation

The event convened (virtually, via Zoom) a diverse group of individuals and organizations — providers, managed care, urban and rural hospitals, FQHCs, long-term care facilities, community health workers, researchers, and policymakers — whose mission and work intersect with MO HealthNet. This paper summarizes the ideas generated at that event.

Over the course of the three sessions, stakeholders discussed ideas for creating a Medicaid payment system that would be cost-efficient, incentivize improved care and better patient outcomes, and would account for the social determinants of health. A related, and recurring, theme was how to leverage what we have learned from the COVID-19 pandemic to generate solutions that will improve health outcomes and preparedness for future health challenges.

The recommendations of the 2018 Rapid Response Review of MO HealthNet conducted by McKinsey & Company served as a basis for the discussion, but conversations also encompassed broader systemic changes — such as linkages between healthcare and social service systems — that impact Missouri Medicaid enrollees and population health in the state.[2]

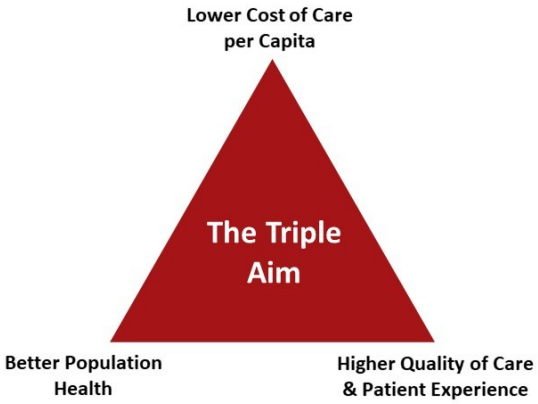
To provide background on the topic, the event included a keynote address by Abigail Barker, PhD, a health economist at CHEP, and a panel discussion composed of four experts in different areas that intersect with Medicaid payment reform. The panelists described innovations in care delivery and payment ranging from investments in care coordination and nonmedical resources like housing as a pathway to health, to unconventional settings for delivering behavioral health care, to a novel hospital payment methodology and the IT infrastructure that makes it possible. Panelist contributions are highlighted in subsequent sections of this paper.

Participants were selected with an eye toward balancing different sectors and interests — urban and rural; large hospital systems and small community clinics; payers and providers; groups working administratively as well as those providing direct patient care. CHEP and CFPI served as neutral facilitators to bring necessary voices to the conversation, enabling a balanced debate among people representing different interests, centering on which payment reforms appear to be the most promising and feasible. Participants were assigned to small discussion groups; in the first session these were composed of people from similar sectors, but on the final day of the event, groups were intentionally chosen to include diverse perspectives within each group to encourage the "cross-pollination" of ideas.

At the end of the third day of the event, representatives from the Department of Social Services provided feedback and described some Medicaid transformations already underway at the state (page 50).

2. Paying to Address the Social Determinants of Health

A commonly cited goal in improving the delivery of healthcare is to achieve the Triple Aim: lower costs, better population health, and higher quality of care. The Transforming Healthcare in Missouri meetings were designed to generate ideas for the delivery of care through Missouri Medicaid that would be guided these principles.



Stakeholders were in broad agreement that a key principle for achieving this would be a transition from paying for *volume* of care, to paying for *value*. In some cases, paying for value will involve addressing the social risk factors facing Medicaid enrollees, such as food and housing insecurity or a lack of transportation, that are known to worsen health outcomes. These risk factors, or "causes of the causes," are known as the *social determinants of health (SDOH).*[3]

Panelist: Doneisha Bohannon, MPH *is a senior strategist at Missouri Foundation for Health. In her role at MFH, she provides strategic planning for a grant portfolio to develop projects that promote health equity. She works with local, state and national partners to find opportunities for building more equitable systems for Missourians' health.*

Experiments in strategically investing in the social determinants of health:

- HIV Medical Home: integrated health and social services in a single location
- A team of professionals works together to meet patients' needs.

> *"[The HIV medical home model] is based on the knowledge that non-medical factors like poverty and unstable housing affect whether individuals living with HIV can receive care to manage their disease."*

- Addressing emergency hunger needs across MO; emergency SNAP enrollment with a focus on nutrition
- MO Appleseed Project – advocated for setting aside money in the state budget for menstrual products, because data suggested that people using makeshift tampons in prisons led to infections, and in turn, higher medical costs

Risk Adjusted Payment

Traditionally, risk-adjusted payment reflects higher health risks (comorbidities) that are often associated with living in poverty. In a typical risk-adjusted system, for instance, a provider caring for a population of patients with disproportionately high rates of chronic disease would receive additional payments to reflect the higher costs of care associated with this group. A more sophisticated version of risk adjustment could improve upon this by including *social* risk factors in the adjustment, creating opportunities for providers who are able to address such issues to earn more reimbursement and improve patients' outcomes while potentially saving the Medicaid program money. Value-based payment is particularly well-suited to directing more resources to many rural settings, where low volumes of patients would lead to lower reimbursement under a traditional fee-for-service model. Although there are policy and IT challenges to address before this type of payment can be systematically implemented in Missouri, private payers (including insurance companies, Medicaid managed care organizations, and private foundations) are experimenting on the best ways to incorporate SDOH into payment and care delivery.

3. The COVID-19 Pandemic and Recession

The COVID-19 pandemic and resulting recession exposed vulnerabilities in Missouri's healthcare system and public health infrastructure, but also pointed to significant opportunities for change. A primary goal of the Missouri Medicaid Transformation event was to leverage what we have learned from this crisis to generate solutions to make Medicaid payment more equitable, efficient, and effective, while improving health outcomes and preparedness for future health challenges.

The COVID-19 pandemic has had a devastating and disproportionate impact on marginalized groups, namely racial and ethnic minorities and people living in poverty. Missouri's Medicaid population overlaps considerably with the people who are at the highest risk of contracting the virus, and those who have an elevated risk of morbidity and mortality if they do contract it.[4] Preexisting vulnerabilities — whether they are medical, such as heart disease and diabetes, or social, such as living in high-density housing or working in a high-contact service job — have played a huge role in shaping who has borne the greatest burden of COVID-19.[5]

The pandemic has also strained the state's budget, as well as the budgets of local governments, hospitals, and community organizations. As of 2018, Medicaid made up 24% of Missouri's general revenue. In their 2018 Rapid Response Review of Missouri Medicaid, McKinsey & Co. projected that Medicaid expenditures would make up 26% of state revenue by 2023; however, that estimate rose to 30% in a scenario involving an economic downturn.[6] The full fiscal impact of COVID-19 on Missouri Medicaid remains to be seen, but growing costs in Medicaid, and in healthcare spending more generally, are a concern for Missourians across the political spectrum.

In the context of the current crisis, devising Medicaid payment reforms (and potentially other streams of payment allocated by the state) to allow for the delivery of better care at lower cost, emphasizing preventive care and management of the social determinants of health while fostering equity, takes on greater urgency than ever.

4. Medicaid Expansion

Missouri Medicaid Transformation: A Dialogue on Implementation took place in July of 2020, a month before Missouri voters approved an expansion of Medicaid. The recommendations in this report apply regardless; if anything, given a larger Medicaid enrollee population, the ability of MO HealthNet to provide care for enrollees in an equitable and efficient way becomes even more important.

Missouri can also look to other expansion states for examples of payment reform that centers the social determinants of health; some case studies are included in this report. The additional federal funding from the expansion, which will cover 90% of the cost of insuring new enrollees, may create greater options to leverage innovative payment concepts, like extending Missouri's successful primary care health home model, or implementing global budgets for rural hospitals.

5. Historical Trends*:* High Costs, Worsening Health, and Disparities

Healthcare Spending in Missouri

Missouri spends *more per capita* on Medicaid than 40 other states (MO spent $7,704 per Medicaid enrollee, compared to the national average of $5,736 in 2014, a trend which holds across eligibility categories, including within the disability category) — while the state spends *less per capita* on public health than 44 other states.[7] Missouri's overall health status is 39th among states in the US, down from 25th in 1990.[8]

The McKinsey & Co. Rapid Response Review of MO HealthNet estimated that over 15% of acute care expenditures within Missouri Medicaid may be associated with potentially avoidable exacerbations and complications, and an additional 5 to 10% of spending is associated with inefficiencies.[9]

Risk Factors and Burden of Disease in Missouri[10]

20.4% of Missourians have either Fair or Poor general health status

Among states, Missouri ranks:[11]

- **39th** in overall health status (down from 25th in 1990)
- **44th** in public health funding, at $57 per person per year
- *But* **15th** in primary care physicians, with 172 per 100,000 people. Primary care is a strength for Missouri, notably in its pioneering Primary Care Health Home model.[12]

The following core themes describing Missouri's current environment surfaced during the Missouri Medicaid Transformation event:

- **Health disparities**, especially by race
- **A high burden of disease**, especially chronic and preventable disease
- **Cost** of the Medicaid program relative to the state's budget, and trends suggesting that it will make up an even greater proportion, with overall healthcare costs outpacing rates of inflation nationwide
- **COVID-19** creating a budget crisis (at the hospital level, local level, state level, etc.) and a strain on healthcare delivery systems
- **Fragmentation** of care, and disconnects between the healthcare system and other social service systems
- **Addressing SDOH will depend on**: a) how robust is the social services system in a given area, and b) the level of coordination/quality of the linkages between healthcare and social services
- **IT infrastructure limitations** (page 12)
- **Different healthcare needs in urban vs. rural areas** — solutions that work in urban areas may not be the same ones that work in rural areas
- **Rural hospital closures —** fifteen hospitals in the state have closed since 2014, most of them in rural areas[13,14]

Health Measure[15]	MO's National Ranking
Diabetes	**29th**
Premature Death	**39th**
Frequent Mental Distress	**39th**
Obesity	**40th**
Preventable Hospitaliza-tions	**40th**
Smoking	**41st**

Health Disparities

- MO ranks **25th** among US states in terms of disparity in health status.[16]
- "Based on 2008-2016 birth and death data, life expectancy at birth for white Missouri residents is 77.9 years, compared to 73.8 years for African American residents." [17]
- "In Missouri, Black women are four times more likely to die within one year of pregnancy than white women."[18]
- "In Missouri, women on Medicaid are five times more likely to die within one year of pregnancy than those with private insurance."[19]
- Hispanic Missouri residents have rates of heart disease mortality that are comparable to white non-Hispanic residents, but substantially higher proportional mortality rates for stroke and diabetes.[20]

6. Information Technology Infrastructure

The current state of Healthcare IT in Missouri

Technology needs figured prominently in a number of the stakeholder recommendations. Medicaid's ability to reimburse for resources and services that improve population health, as well as to coordinate care, relies heavily on having robust, interoperable data sharing platforms. Paying on the basis of value, defined according to any relevant metric, requires an IT system that can move seamlessly between claims-level processing and patient-level, provider-level, and system-level records; this is not possible with the current IT system. Meanwhile, there are other IT solutions operating in Missouri that could form the basis for an improved system.

Missouri's MMIS

McKinsey & Co.'s Rapid Response Review of MO HealthNet identified IT upgrades as a key recommendation.[21] Currently:

> "While the level of spending on technology is not misaligned with the needs of a Medicaid system of Missouri's size, the functioning of the technology does not meet current or future needs."
>
> —McKinsey & Co. Rapid Response Review of MO HealthNet

- Missouri's MMIS is a mainframe-based computer system dating back to 1979.
- It is not modular or agile; it is difficult to change one component without needing changes to many others.
- The difficulty in finding staff and vendors to service outdated technology will be a growing issue.

Federal matching for MMIS maintenance and operations increased to 75% in 2020; however, states are eligible for a 90% federal matching rate for MMIS design, development and implementation activities.[22] For many of the suggestions given in this paper, it will be important to have technologies that are agile enough to be able to collect and manage the data necessary to answer questions about health inequities and social risk factors.

The state has plans to replace the MMIS in incremental stages.

CyberAccess

CyberAccess is a web-based portal for providers who participate in MO HealthNet. It "allows physicians to prescribe electronically, view diagnosis data, receive alerts, select appropriate preferred medications, and electronically request drug and medical prior authorizations for their MO HealthNet patients."[23] Using claims data, it functions as an information exchange to improve coordination of care for MO HealthNet patients. A stakeholder familiar with CyberAccess noted that it is a useful tool, saving time that staff would have previously spent making phone calls to other providers to get a complete picture of care for a given patient.

Missouri's Health Information Exchanges

Stakeholders identified the efficient and coordinated flow of information — among providers, payers, MCOs, and community organizations — as an important theme across each of the four broad solution categories. Interoperability, or the ability to access, exchange, and integrate data within and between organizations and geographic regions, is a key feature of any health information exchange system.[24] HIEs can, in theory, also share data on the social determinants of health and connect clinical care to other social service systems. However, there is often a gap between the perceived benefit of connecting to an HIE and the benefit in practice, which may be diminished if EHRs are not configured to make HIE information easily accessible or employees are not trained on how to add the HIE to their workflow, among other implementation issues.[i] A related type of information-sharing system, the Community Information Exchange or CIE, can also fulfill the role of connecting healthcare and social service delivery (see the example of North Carolina, page 16).

The significant financial investment has discouraged some smaller hospitals from participating in HIEs as well. However, DSS recently launched the Provider Health Information Exchange Onboarding Program with $9.3 million from CMS, to "provide significant help to 40 MO HealthNet enrolled hospitals and 1,000 providers currently using electronic health records to become fully connected to a Health Information Net by September 2021" (see page 50).[25]

Unlike many states that have just a single health information exchange vendor, Missouri has four: Lewis and Clark Information Exchange, the Tiger Institute for Health Innovation, SHINE (Show-Me Health Information Network of Missouri), and Midwest Health Connection (formerly Missouri Health Connection), each covering a different region or specialty. Because no single HIE serves a hub or aggregator, the state is in the process of building connections to each of the four HIEs (a bidirectional query-based exchange), but these connections are not complete as of this paper's writing. Once complete, HIEs will be able to query the state's database to get claims information about a given patient, which they can then integrate into the EHR systems for the providers participating in the HIEs. By the same process, the state will have the ability to query clinical data from the HIEs for individual patients, combining with the patient claims data to create a single clinical record. Each of the four HIEs is also connected to the three others; however, the quality and interoperability of these connections is varied, as is the quality and completeness of clinical data that the HIEs share. Additionally, the state does not currently have a repository of all the patient data — a potential goal for the future, as this would centralize the data and make it more accessible. The query-based nature of the information exchange is not ideal for sharing information on a large number of patients for population level analysis. Future health information exchange projects are expected to facilitate the development of "watchlists" for case management of specific patient panels comprised of individuals assigned to a State of Missouri caseworker or case manager.

[i] Anne Trolard and Ben Cooper, Personal Communication, October 27, 2020.

MCOs and the HIEs

The recent CMS Interoperability Rule requires MCOs to implement payer-to-payer exchange of data through a FHIR-based API by January 2022 and make that patient data available to patients by July 2021. MCOs have their own requirements regarding data sharing (making data available to patients and to other payers), but generally are not connected to the HIEs. They could be, but forming a connection represents a significant financial investment, especially since there are four HIEs. MCOs do use clinical data they get from claims, but the quality is often poor or questionable for information that isn't directly associated with, or required for, billing.[ii] If social risk factors were reported to HIEs, it would be ideal for MCOs to connect to the HIEs to obtain this information. A requirement to connect to the HIEs could be written into a managed care contract, though this would likely involve an increase in the PMPM payment to accommodate the costs to the MCOs of implementing the new requirements. MCOs have an incentive to develop their own SDOH solutions, such as SDOH referral platforms, to outcompete the other MCOs for Medicaid contracts. However, this often results in siloes of SDOH information that are not connected to other services outside the MCO's own network, making their usefulness limited for both patients and the state. Additionally, this means that when patients churn into and out of MCOs, their care history typically does not follow them.[iii] One participant noted that a system centered on SDOH data gathered by an HIE can provide a foundation for value-based payment arrangements such as sophisticated risk adjustment (see case study below):

HealtHIE GA — using artificial intelligence to accurately risk-adjust payment and connecting this to an HIE

Case study:

GEORGIA

- AI takes clinical data directly from charts to stratify patients (this may either be in real-time or delayed).
- Provider payments are more accurately determined by the AI's clinical risk adjustment algorithms based on the patient's comorbid conditions, clinical and claims data, as well as social determinants of health as described by Z codes.
- This serves a dual function: as a way to ensure more accurate provider payments, but also a form of 'augmented intelligence' for the doctor to improve accuracy of diagnoses.
- The HIE provides a real-time data feed from the ED to providers' offices and this facilitates ADT notifications from the ED and hospital to providers
- Clinical data from the last two years can be evaluated to ensure patients are appropriately risk adjusted.
- This requires provider education for proper ICD-10 coding (Z codes).

[ii] *Ibid.*
[iii] *Ibid.*

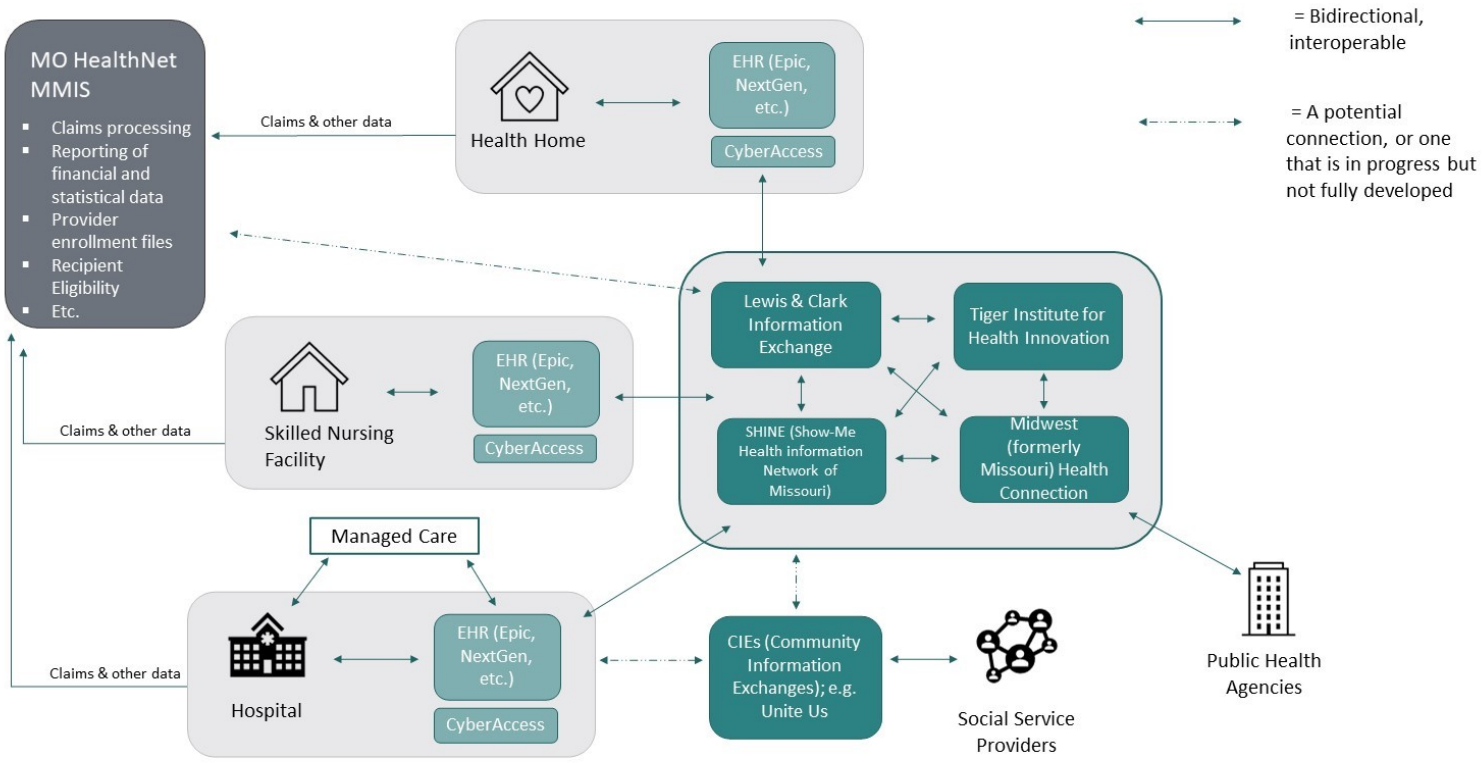


Figure 1. Data-sharing connections between Missouri's four HIEs, medical providers, and MO HealthNet. Dotted arrows represent connections that are currently underway or incompletely developed.[iv]

7. Measuring the Social Determinants of Health

Addressing the effects of social determinants on health outcomes in Missouri's Medicaid population requires data about both the social risks affecting individual patients and social determinants of health on a community or population level. Hospital systems, clinics and other providers, as well as MCOs and social service providers, need to be interconnected to see the complete picture of care for the individual patient, but also to reveal critical gaps in care and available services in the regional safety net.[v] Stakeholders were in broad agreement that having an accurate picture of the social risk factors facing patients and communities was an essential starting point for addressing them.

Measuring the social determinants of health can dictate accurate risk-adjusted payments to providers, and also guide the allocation of resources to help meet those social needs, for example, referrals to a food pantry or transportation assistance program. In a fee-for-service payment structure, capturing a picture of the individual patient's social risk factors is important for making risk-adjusted payments. In a capitated payment structure, aggregate data about the social risks facing a population or community may be more important.

[iv] Anne Trolard and Ben Cooper, Personal Communication, August 26, 2020.

Social risk screening tools, stakeholders said, should be as uniform as possible across encounters, providers, care settings, and geographic areas; however, some tailoring may be required to reflect the variation in patient needs in different settings or different parts of the state. For instance, transportation challenges in urban areas often look different than those in rural areas, and more than one screening tool may be necessary to capture this complexity (or, alternatively, a single more robust tool with branching logic to accommodate multiple patient populations and geographic variation could be used).[vi]

Provider Burden

A common theme in the stakeholder discussion was the cost, in terms of time and resources, of screening for the social determinants of health. Ways to address this include integrating screening tools seamlessly into the clinical workflow (for instance, by encoding them in to the EMR in a user-friendly way), using a healthcare team approach to assessing patients and entering data, and reimbursing providers for the time spent collecting data on social risks. Providers also reported feeling helpless when they asked patients about the social risk factors they faced but were unable to offer help or referrals to these patients; a closed-loop referral system could address this problem and positively reinforce providers for doing screenings and referrals.[vii]

North Carolina Medicaid : "in lieu of" services and paying providers to do screenings and referrals

Case study:

NORTH CAROLINA

In 2018, North Carolina received a Section 1115 waiver to transition most of its Medicaid enrollees into a new managed care delivery system. As part of this waiver, CMS also approved the Healthy Opportunities Pilot program, which implements standardized screening questions to assess patients' unmet nonmedical needs. In this system, providers can access NCCARE360, a statewide tool built in partnership with the CIE referral platform UniteUs, to identify community resources and track referrals. The waiver allocates $650 million to "pay for non-medical interventions that address housing instability, transportation insecurity, food insecurity and interpersonal violence & toxic stress for a limited number of high-need enrollees."[26] It includes several options for reimbursing providers for closing the loop on referrals, with payments shifting over time to be increasingly linked to patient health outcomes, with greater downside risk over the next five years.

[vi] *Ibid.*
[vii] *Ibid.*

Understand an individual patient's social risks in a clinical setting	• Z-codes — These ICD-10 diagnostic codes are used to describe nonmedical or circumstantial conditions affecting a patient's health (e.g. low literacy, unemployment, occupational hazards). They can be coded in an electronic medical record, but are not typically used in a screening capacity – they are typically coded when they directly intersect with the issue for which a patient is seeking care.[27]
Screen a group of patients in a clinic, hospital, or broader community	• Screening rubrics — for instance, the *Arizona Self-Sufficiency Matrix*,[28] a tool for assessing patients' level of social risk along a continuum (e.g. from homelessness, to stable but unsafe housing, to stable, safe & unsubsidized housing), with domains that include employment/income, substance abuse, food, transportation, and family/social relationships (see Appendix, p. 54). • PRAPARE[29] (Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences) is a validated screening tool for measuring SDOH. PRAPARE templates already exist in several commonly used EHRs, including Epic, eClinicalWorks, AthenaPractice, and NextGen. It contains core measures such as housing stability, employment, transportation and stress, as well as optional measures including incarceration history and domestic violence (see Appendix, p. 55).
Share SDOH data among healthcare organizations	• Gravity Project[30] — a project founded by SIREN in 2018, with funding from the Robert Wood Johnson Foundation, to improve the sharing of social risk factor data in electronic health information exchanges.
Share patient data on social risk among healthcare organizations and government social service agencies, nonprofits, etc. — these SDOH referral platforms are also called *Community Information Exchanges (CIEs)*	• Aunt Bertha / FindHelp.org[31] — A referral tool developed by Cerner that connects patients to community resources, and closes the loop by tracking whether patients receive those services. • Unite Us[32] — A platform developed by the United Way and connected to the 211 Database to screen for SDOH and coordinate electronic referrals to community providers. In MO, the Missouri Foundation for Health currently funds Unite Us in St. Louis and in the Freeman medical system in Joplin. • Jvion[33] — Uses clinical AI and geolocation to identify the patients attributed to a given provider (e.g. an FQHC) who are most in need of case management services. • Healthify[34] — A database of formalized partnerships between healthcare providers and community organizations with closed-loop referral capability. A hospital coalition in Kansas City currently uses Healthify as part of their Managed Services Network through the Mid-America Regional Council. • Pieces[35] — *Pieces Predict* uses AI drawing from clinical records and social risk data to predict health outcomes; it includes natural language processing software to gain insights from clinicians' notes in the EHR. *Pieces Connect* is a social services referral network to link patients to community organizations.
Understand patterns of social risk for a patient population or a community	• Demographic data at the local or state level • Community Health Needs Assessments (CHNAs) — The Affordable Care Act requires that, in order to qualify for non-profit status, hospitals must assess the needs of their community (defined as the core service area) and implement plans to address those needs.[36]

Table 1. SDOH Referral and Assessment Tools. See Appendix (page 54) for more detail.

SOLUTION CATEGORY:

1. EXPAND PRIMARY CARE HEALTH HOMES TO INCLUDE MORE MEDICAID ENROLLEES

Missouri's Primary Care Health Home model (similar to the Patient-Centered Medical Home or PCMH model, though specific to Medicaid per the ACA) is cited nationally as a strong example of paying for what works within healthcare. In 2012, Missouri requested a State Plan Amendment under a provision of the Affordable Care Act to create health homes; the state receives enhanced federal matching for this program. Eligible patients — currently, Missouri Medicaid enrollees with **two or more chronic medical or behavioral health conditions** (or diabetes, obesity, or pediatric asthma alone) — receive **comprehensive primary care services and care coordination.**

Existing Health Home Model in Missouri

Each health home team consists of a director, nurse care managers, a care coordinator, and a behavioral health consultant.[37] A key goal is to improve transitions of care between providers, such as between a hospital and a primary care physician. Frequent contact with patients, which may include coaching on areas such as diabetes self-monitoring, nutrition, and exercise, seeks to improve health indicators like A1C, LDL and blood pressure, and avoid unnecessary hospitalizations and emergency department visits.[38]

Since 2012, more than 60,000 Missourians have been in a health home.[39] With excellent results in terms of both cost savings and health outcomes, health homes have been popular among payers and patients alike; few patients elect to leave once they are enrolled.[40] Health homes saved $113 per person per month enrolled in 2012, and $165 per person per month enrolled in 2018. For an average enrollee who had hypertension at the time of entering in a PCHH, blood pressure dropped into the normal range, even within the first year of participation. Diabetic A1C levels also decreased by 1.73 points on average, and cholesterol levels decreased by 19%. Meanwhile, hospitalizations decreased by 25%, and emergency department visits by 35%.[41, 42]

A significant factor moderating these improvements seems to be access to services from a community health worker (CHW). In the health home pilot program in 2016, health home enrollees who had received services from a community health worker over a six-month period had a 38% decrease in ED visits, compared to an 8% decrease for health home enrollees without access to a community health worker. A similar trend was true for hospitalizations, with a 17% decrease among health home members who used CHW services in that six-month period, versus a 6% decrease among those who did not use CHW services.[43]

Expanding the Health Home-Eligible Medicaid Population

There were 36,626 people enrolled in a health home for at least one month between January 2018 and July 2019. Of these members, 29% were first-time enrollees.[44]

Stakeholder suggestions included using a health home model to address the social determinants of health at the level of the family, and broadening the eligible population to allow the healthcare system to intervene on upstream causes of morbidity and mortality (for instance, a focus on preventing or mitigating adverse childhood experiences).

Considerations from Stakeholders

Challenges for Expanding Health Homes to Include More Medicaid Enrollees

- Churn into and out of health homes makes it more difficult to track patient outcomes over time and see the effects of care coordination on patient health.
- Collecting information on social risks from patients requires time from providers, creating added burden that may not be entirely recognized.
- Making modifications to the EMR to allow for providers to enter SDOH data is often expensive.
- Community partner organizations (e.g. food, housing & transportation resources) to which health homes refer their patients are often under-resourced. Additionally, the availability of community resources varies across different parts of the state.

Panelist: Kendra Holmes, RPh, Pharm D., *serves as Senior Vice President and Chief Operating Officer of Affinia Healthcare, consisting of eleven locations which provide primary and preventive health services to underserved residents of St. Louis City and County.*

- Coordination of different services/benefits is essential — Affinia provides food pantry access, menstrual products, and diapers, for instance, to its participants.
- Nurse managers can triage patients — for example, a patient can call a triage nurse with symptoms, and be sent to primary care or urgent care if the symptoms do not necessitate an ED visit.
- PCHH patients have better outcomes compared to Affinia's general participants who are not PCHH-eligible.
- More resources would allow PCHH programs to expand to cover more individuals.

> *"The [FQHC] model transforms primary care because it delivers care the way the patient needs to receive it... where they need it, in a manner that they can understand."*

How should we measure the social determinants of health within this model, and how should we use this information?

- Use validated measurements of social risk that can easily be input into, and extracted from, the EMR.
    - The PRAPARE tool, for instance (see pages 17, 55), is already built into many EMRs and is frequently used by FQHCs.
    - Add trauma screening tools, such as one that measures the Adverse Childhood Experiences (ACEs), to EMRs.
    - One difficulty is that making modifications to an EMR to allow the collection of different types of data can be expensive.
- Create routine screening tools to be used consistently during medical encounters, and minimize stigma associated with these screenings – possibly through their consistent, routine use.
    - Social risk screenings are already included in the health home per member per month reimbursement. Create mechanisms to reimburse providers for the additional burden of assessing and tracking their patients' social risks; in other words, make screening and referrals a billable service.
- Z-codes are useful for documenting social risks that directly intersect with the medical issue the patient presents with, but different measures are necessary for population-based social risk screening.
- Avoiding provider burden
    - Put the onus on the organization to collect the data on a patient's social needs; share this responsibility among different staff. Doctors, nurse practitioners and physician's assistants should not have sole responsibility for collecting and inputting SDOH data.
    - Use a team approach — everyone at the organization, from the medical assistant to the checkout desk, is aware of the patient's needs, including nonmedical needs.

Within this model, how can payment support improved health outcomes while being mindful of the state budget?

- Think of shifting funding to focus on prevention opportunities earlier in the life course.

    - The qualifying diagnoses for health home participation are currently limited (multiple chronic conditions, pediatric asthma). A shift to thinking of more upstream factors (for instance, health homes taking a multigenerational family approach, or intervening with adverse childhood experiences among pediatric populations) would prevent downstream health consequences.

- Health Homes are paid on a per member, per month basis
    - There is some flexibility with payments from DSS — for instance, though care coordination payments.
        - Care coordination payments to health homes can be used for transportation, food, and other social needs of patients.
    - Larger health homes will be paid more in terms of a per member, per month rate.
    - Add screenings and referrals for non-PCHH patients as billable services.
- Pay for Community Health Workers
    - Increased reliance on CHWs is a way to scale up PCHHs without adding to existing provider burden or increasing clinician shortages,
        - Assign and fund a specific role for a CHW within the PCHH, with monthly targets for patient contacts and completed referrals. The CHW could go through a doctor's daily patient schedule to identify any patients who would potentially benefit from CHW services and then meet with those patients on the same day as their appointment.
    - One challenge in how to capture success: what are ways to show that community health workers are changing health outcomes?
    - A disconnect often exists between frontline providers and executives at health homes. Therefore, ensure that executives are aware of the processes for screening for the SDOH, and the rationale for such screening. A targeted SDOH-related reimbursement might help align perspectives within the organization.
    - Options to reimburse CHWs for addressing the SDOH include:
        - A simple increase in the PMPM payment to the health home concurrent with targets for increasing the use of CHWs and better patient outcomes.
        - Additional FFS payments to providers for making referrals or 'closing the loop' on a referral. This payment would also cover patients who are not health home members and would therefore contribute to the sustainability of the CHW model.

- Consider adding a specialty component to PCHHs, or creating more integrated links between primary and specialty care — this is especially important given high comorbidities between the chronic diseases that PCHHs manage, and the likelihood of complications requiring specialty care.
    - Consider integrating (or even co-locating) social service organizations with health homes,
    - Formalize the relationships that lead to 'whole person' patient care — for instance, formalize the relationship between a health home care coordinator and a community partner.
- Automate data capture to adjust payment according to provider level and longer encounter time.
    - Currently, EMRs often cannot capture the data needed to justify increased spending to collect and use social risk data. Modifying EMRs to allow for the option to input data on patient social risks is often expensive and will require buy-in from executive leadership within health homes.
- Using the PRAPARE tool in FQHCs
    - One challenge is that it is difficult to justify the expense of adding this social risk measurement tool to EMRs, and the time spent.

What will be the key outcomes for which the parties will be accountable, and how will these outcomes be assessed?

- Assess referrals and linkages to community resources — per CMS, health homes are required to document referrals and connections ('community relationship' being one of the six core levels of health homes).
- Improve connections to HIEs to store data, to lessen the burden on the EMR.
    - Positive outcomes of SDOH interventions often occur after a time delay, during which time a patient may, for example, move to a different MCO. If another entity collects data for that patient, are they linked to the patient's established longitudinal record?
- Does quality of life, beyond simple medical outcomes, improve as a result of better access to resources? How can this be captured, for instance, by using Quality-Adjusted Life Years or another similar measure?

SOLUTION CATEGORY:

2 HOSPITALS RECEIVE GLOBAL BUDGETS AND SERVE AS HEALTH HUBS

Stakeholders expressed a consensus that a system that can successfully **transfer more of the financial risk involved in caring for patients from payers to providers** will result in lower healthcare costs, provided that there is a focus on primary care and that there is a gradual path for taking on more financial risk.

This proposal presented here, which could involve the participation of a handful of rural hospitals or be implemented more broadly across the state, merges two concepts: hospitals would have a mandate to act as **health hubs** for a community, connecting patients with resources to address health-related social needs, and would receive **global budgets** for performing this work.

Hospitals would have broad and flexible authority to act as a health 'hub' by coordinating referrals to food and housing support and other services. Payment would not be tied directly to services but instead would be scaled to the population need and would be adjusted upward or downward based upon achievement of performance metrics.

In order for this program to be implemented, a number of specific questions would need to be answered, such as: *How are global payments calculated and adjusted over time? What services are included in the "global" budget? How is performance measured and applied to payment?*[viii] There was broad agreement among stakeholders that this model has the potential to improve population health, better align incentives for quality of care, and potentially offer sorely needed financial stability to certain rural hospitals. However, this is a model that also introduces several new challenges that would require careful planning, and in some cases sophisticated analysis and adjustments to keep incentives aligned with the goals of quality and efficiency of care.

This model would work best in rural settings, or areas where a single hospital is serving a given community. It is similar to CMS's Accountable Health Communities model (see page 28) in its emphasis on clinical-community linkages. It is similar, also, to the CHART model recently launched by CMS (see page 28), in terms of its capitated payment structure and broad and flexible mandate for hospitals to coordinate patient healthcare and other services.

While not a complete "all-payer" global budget like a few other states are working to implement, this version could be extended and expanded to such a model over time, as additional payers showed interest in participating. The idea outlined here is a specific version of a global budget concept that is meant to (1) emphasize the role of addressing SDOH, and (2) allow for a gradual shift toward the more general global budgeting approach, should the initial phase prove successful at containing costs and improving population health.

In traditional volume-based payment, hospitals' bottom line suffers when upstream measures prevent unnecessary visits and hospitalizations. For example, Primary Care Health Homes produce positive outcomes by reducing utilization — and the state realizes the benefit — but hospitals do not.[45] In cases where hospitals operate health homes, they receive the health home payment; however, when health homes are successful, they reduce ED, inpatient, and outpatient volume, thereby reducing hospital revenue.

The proposed model aligns hospitals' incentives by rewarding lower utilization. Hospitals that operate the program would get a health hub payment aimed at keeping people healthy. Importantly, they would receive this payment regardless of whether patients were admitted to the hospital or not. Since hospitals face marginal costs for hospitalization, if successful, this would encourage greater investment in the types of upstream, preventive care for chronic conditions that are shown to reduce expensive hospital admissions and ED visits.

[viii] A. Clinton MacKinney, Personal Communication, October 19, 2020.

Giving hospitals in rural areas and possibly underserved urban areas the option to act as a community hub ensures a continual funding stream and role within the healthcare delivery system that is not volume-dependent. This is one example of a potential change that would better align incentives with patient care under this system– several other examples of changes to care delivery in other states that use hospital global budgets are also outlined below.

Key Concepts in Global Budgets

Traditionally, Missouri hospitals get their revenue from payers — such as Medicaid, Medicare and private insurance, or an intermediary like a managed care organization — paying for each service on a fee-for-service basis, or paying for a bundle of care, such as a payment per hospitalization episode. In a global budget, the hospital negotiates a total annual budget with the payer (e.g. Medicaid), which may be based on previous years' revenue, or possibly based on the number of patients who are covered by that payer and attributed to the hospital's geographic area. The amount per patient is adjusted for inflation and healthcare industry trends, among other factors. If a hospital stays below its yearly budget, it keeps the savings as revenue. Crucially, global budgets can help protect hospitals from financial risk in a crisis such as a pandemic that results in a loss of volume, and therefore lost revenue (conversely, a crisis that greatly increased volume of care, and therefore costs, would cause hospitals to suffer financially under this model and would likely require additional state intervention). This is especially true for hospitals that are currently operating with low volumes of care and minimal profit margins, especially those in rural areas.

The Problem of Financial Reserves

Hospitals in this model need to have some degree of financial reserves to account for times when expenses are unexpectedly high. There are several possibilities for creating sufficient financial reserves for a global budget model to work, including but not limited to the following:

- If such a model were developed in partnership with the federal government, CMS could provide the financial reserves, with the understanding that the transition toward value-based care that global budgets engender will save money in the long term.

- In the hybrid model proposed here, hospitals could begin by fulfilling the 'health hub' role, receiving payments from the state to coordinate care and make referrals to reduce their patients' social risks. Hospitals could then be encouraged or required to withhold some of these payments, or the cost savings generated by an investment in the social determinants of health, to serve as a reserve. However, it is unclear whether this would generate enough funds for an adequate reserve, as well as the willingness of payers to fund hospital reserves.

- Hospitals could take out reinsurance policies. Within the early years of this proposed program, the program itself could also partially or fully cover reinsurance premiums, guaranteeing that hospitals' financial reserves would be sufficient.[ix]

[viii] A. Clinton MacKinney, Personal Communication, August 21, 2020.

- In Georgia, the managed care company Humana has agreed to partner and provide the financial reserves that CMMI requires for the rural direct contracting model (p. 30) and will act as a separate management service organization.

Case study:

PENNSYLVANIA

In the Pennsylvania Global Budget program, CMS pays participating rural hospitals on a global budget, with targets to increase access to care, reduce rural health disparities via better chronic disease management and preventive care, and decrease overdose deaths. Participating rural hospitals in Pennsylvania also negotiate an annual budget with each payer, which is paid in two-week installments throughout the year. The global budget is based on prior revenue and all inpatient and hospital-based outpatient care and services. Importantly, certain high-level tertiary services are excluded from the hospital's budget. In addition, participating hospitals develop Rural Hospital Transformation Plans, which include plans for care coordination and investments in quality of care based on the needs of their local community.[46]

Case study:

MARYLAND

Maryland's hospitals have operated using all-payer rate-setting since the late 1970s, meaning that public and private payers pay rates for each hospital that are set by an independent commission. In 2014, the state built upon this price-controlled system by instating global budgets for all hospitals.[47]

Outcomes: In the program's first year, Medicare saved $116 million in hospital costs. In the first four years, savings were $319 million relative to the overall cost trend in the US. There was a 48% reduction in potentially preventable complications for hospitalized patients.[48]

Examples of Changes in Care Delivery:

- Carroll Hospital Center in Westminster, Maryland — some of the changes in care as a result of a global budget included expanding the number of hours that social workers spend with patients in the emergency department, giving medications to patients at discharge rather than prescriptions that the patient must fill, and scheduling follow-up appointments for patients while they were still in the hospital.[49]
- Meritus Hospital Center in Hagerstown, Maryland — the hospital hired school nurses and established the School Health Program, with the aim of reducing costly and preventable admissions of children with asthma attacks. A large decline in asthma-related emergency department visits and hospital admissions among children in Washington County resulted.[50]

Hospitals as Health Hubs for a Community

Accountable Health Communities

In 2016, CMMI launched the Accountable Health Communities model, which provides funding to bridge the gap between clinical and community service providers. These communities aim to address unmet social needs driving high healthcare costs and poor outcomes, such as food insecurity, housing instability and lack of transportation, via community service navigation for high-risk Medicaid and Medicare beneficiaries.[51]

Accountable Health Communities screen beneficiaries for health-related social needs, with the goals of 1) increasing beneficiary awareness of community services, 2) providing assistance with accessing and navigating services, and 3) encouraging alignment with community partners to make sure that services are meeting community needs. AHCs have two tracks; organizations participating in the AHC Assistance Track provide "person-centered community service navigation services to assist high-risk beneficiaries with accessing needed services."[52] The organizations in the AHC Alignment Track also provide community service navigation services, but additionally, "encourage community-level partner alignment to ensure that needed services and supports are available and responsive to beneficiaries' needs." An AHC navigator follows up with beneficiaries for up to a year, or until their health-related social need is either resolved or documented as unresolvable. Preliminary findings from October 2020 indicate that an average of 18% of all Medicaid and Medicare enrollees who were screened as part of the program were eligible for community navigation services due to an unmet social need. Of all participants who reported at least one health-related social need on the screening, the most common were food (67%), housing (47%), transportation (41%), utility assistance (28%) and safety (5%).[53]

CHART Model

The model proposed here also shares features with the recently-announced CHART (Community Health Access and Rural Transformation) Model, in which CMS provides waivers designed to give more operational and regulatory flexibility for rural providers, making them more financially stable through predictable up-front payments and quality payments, and allowing providers to offer services to address social determinants of health like food and housing.[54] Payments within this model come, in part, from CMS on behalf of the attributed Medicare patients; Medicaid and private payers make additional payments that build on this base payment from CMS. In the Community Transformation Track of the CHART model, a Community Lead Organization develops and implements a Transformation Plan to redesign healthcare delivery, in collaboration with participants in the model (e.g. participating hospitals and the state's Medicaid agency). As in the model proposed in this paper, predictable capitated payment in the CHART model facilitates the ability to innovate and broadly coordinate services.

Community Health Needs Assessments Coverage

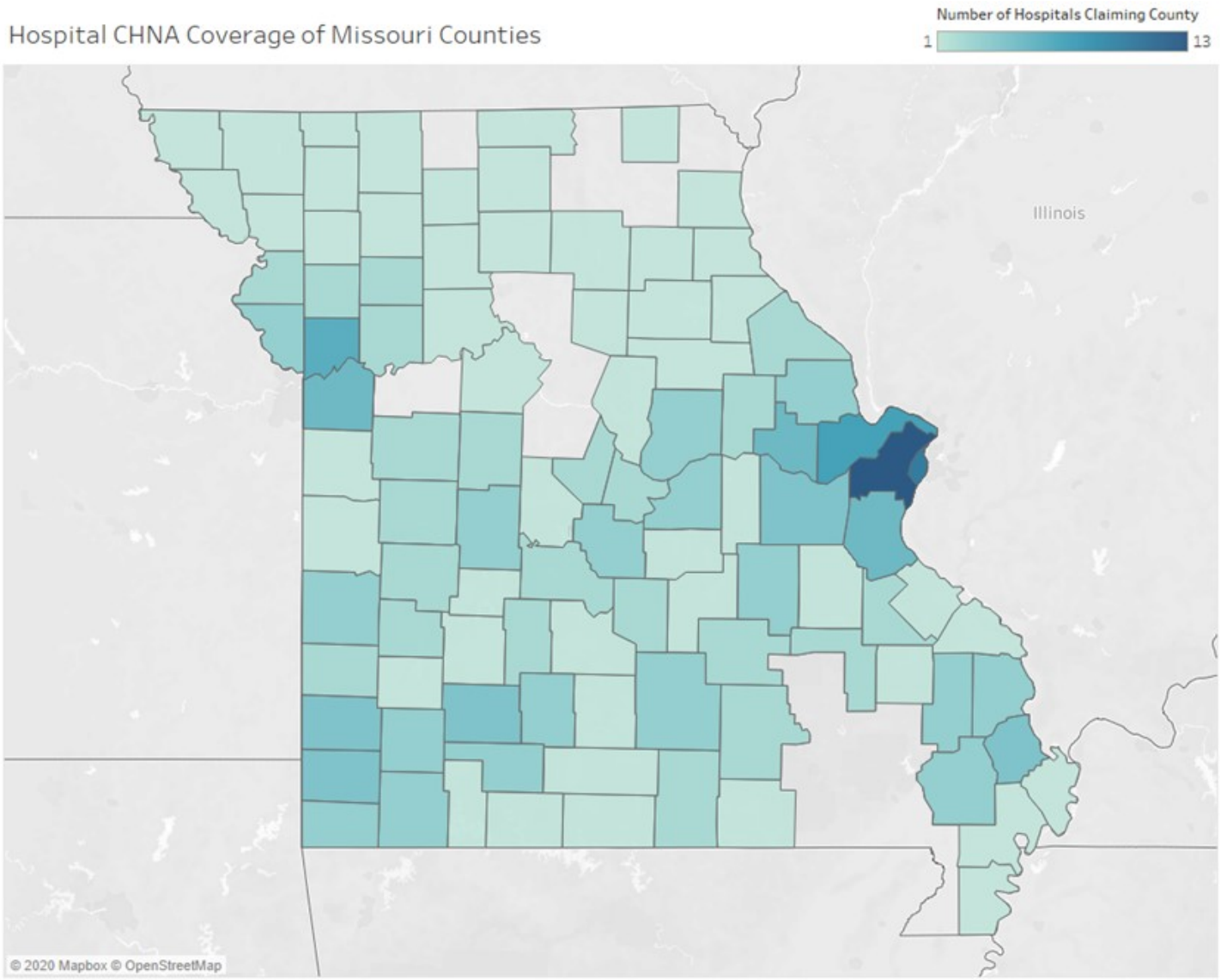


Figure 2. The Affordable Care Act requires that, in order to qualify for non-profit status, hospitals must assess the needs of their community (defined as the core service area) and implement plans to address those needs. There is considerable variation by county in the number of hospitals claiming that county as their core service area, with notable gaps in rural parts of the state, where there may be hospitals but with for-profit status. Implementing the health hub and global budget model would require that these gaps be assessed and, where necessary, remediated to ensure that Medicaid patients living in areas that fall outside of any hospital's service area still receive care. (Abigail Barker, PhD., 2020).

Panelist: Kevin Henderson, M.D., *is a physician and software developer/architect who works with HealtHIE Georgia, the rural health information exchange entity for the state. This group of rural critical access hospitals, acute care hospitals, Federally Qualified Rural Health Centers, and Rural Health Clinics in Georgia have formed a consortium consisting of about 1,000 providers across 20 hospitals, 30 FQHCs, and 4 Behavioral health entities. The group was recently approved by CMS to become a Direct Contracting Entity.*

Rural hospitals have recurrent financial challenges and are more at risk of closing compared to urban facilities because of lower patient volumes, lower reimbursement by commercial payers, high concentrations of uninsured patients, and increased poverty in rural communities. Directly contracting with Medicare, Medicaid (in the form of block grants), and employers provides a way for rural hospitals to have a more predictable source of operating income, and can provide a mechanism to facilitate transformation of care in to a population health model, without increasing the risk of rural hospital closure.

> *"If providers were to become payers, the provider's financial incentive would be more aligned with the patient's clinical outcomes."*

- Rural providers should have the opportunity to directly contract with Medicaid.
    - Direct contracting with Medicaid can be done on a per county basis with patients attributed to rural providers based upon their county of residence.
- Advantages of Medicaid block grants over traditional global budgets:
    - Hospital global budgets depend on utilization and if hospital utilization goes down, the global operating budget decreases.
    - Block grants have the advantage of including the entire county population and not a subset of super-utilizers or chronically ill patients.
    - Medicaid block grants are actuarially more sound than global budgets because a broader population of patients are included in the population.
    - Block grants can decrease the need for Medicaid MCOs and lead to more money directed towards patient care.
    - States can set up regional management agencies to facilitate management and payments related to block grants and eliminate need for redundant IT and claims management services.
- An important question is how to create financial reserves for hospitals within innovative payment models given CMS's requirements about financial reserves — To what extent can CMS or state Medicaid agencies serve as financial guarantors for rural providers?

> *"CMS/CMMI and State Medicaid agencies should work to construct alternative payment models more appropriate for rural communities rather than try to export rural models to the urban communities."*

Considerations from Stakeholders

Challenges for Global Budgeting

- Hospitals may have a disincentive to accept patients (especially high-risk patients) and may be more likely to refer them to other hospitals rather than treating them.[x]
- Hospitals may have incentives to deliver lower-quality care in order to save money.
- How can yearly rates be set fairly and accurately, to take into account changes in the market, patient demographics, managed care plans, etc., as well as crises like COVID-19? Can enough baseline data on social risk be collected to create accurate global budgets?[xi] If global budgets were to be set based on prior spending/utilization in a pre-Medicaid expansion landscape, how would this be adjusted for the changes in cost and utilization post-expansion?
- Global hospital budgets based on prior spending are reflective of a smaller number of high healthcare users, as opposed to reflecting the whole community served by that hospital.
- Hospitals that come in under-budget for a given year will make a profit. However, there is concern that a payer will then adjust the next year's budget down; for hospitals, this poses a possible barrier to participating in this model.[xii]
- Hospitals need financial reserves.
- Hospitals may be unwilling to take on the downside financial risk involved in participating in a global budget model.
- Due to very high fixed costs of operating a hospital, small reductions in hospitalizations or ED visits may have a minimal impact on overall cost savings. How can hospitals be encouraged to use funds in their global budget for things that do not directly result increased profitability? How can hospitals that are already profitable be encouraged to enter into a global budget model?[xiii]
- How much flexibility do we give to providers/payers in reimbursing for the SDOH? And how can we ensure the desired outcomes; for example, what if Medicaid were to pay for new carpet in a family's home to reduce a child's asthma-related hospital admissions, but then the family moves?
- What happens with tertiary care (highly specialized or complex medical care)? How can the budget be adjusted?
- How to account for churn into and out of Medicaid.

[x] A. Clinton MacKinney, Personal Communication, August 21, 2020.
[xi] *Ibid.*
[xii] *Ibid.*
[xiii] *Ibid.*

How should we measure the social determinants of health within this model, and how should we use this information?

- Z codes — would quickly be coded if tied to payment.
- PRAPARE tool — or equivalent from Accountable Health Communities — more feasible if reimbursed — could be a condition of getting the global payment.
- How to link payment to social risk - lack of baseline data is an issue; trying to social risk-adjust a global budget to a hospital, there is no good baseline data on social risk so initial budget would just need to be based on priors.

How specifically would this solution increase coordination on the system level, the individual level, or both? Who will do this work?

- Will work best in places where there is already a more integrated delivery system
    - Will hospitals be able to efficiently integrate and conduct business with local social services? If hospitals realize that their community doesn't offer enough of the services their patients need, how might the state address these issues when deciding where to pilot such a program? If a region needs more quality housing, would the state help the community by working with local property owners or real estate developers to provide incentives to generate more housing?[xiv]
- Strength in this approach is in giving the care manager (e.g. hospital consortium) the flexibility to use the resources available to pay for services that might have a tremendous impact on the assigned group which might not be traditional health care services (nutrition, housing, transportation). Being able to pay for these ancillary services could lead to positive health outcomes.
    - Creates an opportunity to redirect resources in new ways to support health outcomes and utilize community services
    - Shift in paying for health care services to paying for health.
    - Social determinants of health reimbursement - how much flexibility do we give providers, payers… can create all types of challenges (transient patients, if we pay for new carpet and then the family leaves due to lack of housing stability)
- Case study: asthmatic children; state discovered if they paid for environmental remediation in a child's home, it was beneficial to their health outcomes (emergency room visits vs. changing out their carpet and avoiding the ER use)

[xiv] Anne Trolard and Ben Cooper, Personal Communication, October 27, 2020.

- Model could facilitate a more integrated connection of services that the patient needs for good health across the service domains, strengthening the role of the care manager or coordinator.
    - Accountable Health Communities - the application process facilitated connections and stakeholders that had not come together previously; could be a force multiplier; convening role builds awareness and capacity
- Hospitals are a hub - not responsible for delivery of all services but connecting and building the necessary connections

Within this model, how can payment support improved health outcomes while being mindful of the state budget?

- Changes incentives more towards keeping people out of the hospital, which is less costly in the long run
- State has more assurance about budget up front
    - Stability in funding gives institutions some measure of certainty over a period of time
- Within context of what is to be measured or produced, there is flexibility afforded to the agency, in terms of service provided and administrative duties
- Global budgeting equated with transference of risk — from state to hospitals
- Utilize an accepted risk corridor – accounts for fluctuations from previous years, establishes a range, can include clause to readjust rates
- How do we translate this to our current concepts of healthcare - we need to take a longer perspective on the returns on the investments we make; benefits of addressing social determinants and the immediate provision of healthcare might not manifest for 5-10 years in the form of better education, reduced trauma — leads to long-term sustainable outcomes
- Long-term goal: shared risk, develop the capacity for risk over time
- Take a collective action perspective/approach.
- The model may attract private insurers if their contributions are proportional to the spending and needs of the commercially insured population.
- Shifts the focus to the long-term horizon vs. short-term, which prioritizes immediate results

- Physician payments — Maryland recently expanded its global budgeting system to include physician payments.

What will be the key outcomes for which the parties will be accountable, and how will these outcomes be assessed?

- Driven by the breadth of responsibility assigned through global budgeting – is it for a set of hospital services or something beyond that (does it reach into primary care)? Depends on if it will be a focus on hospital services or include a broader scope that expands to holistic services?
- Measure something about community health like preventable hospitalizations, maybe some key care processes – but need low burden of collection to make it feasible, like electronic measures
- Data and metrics are crucial for an 'umbrella model' like this to work, and for making adjustments to improve performance over time. Otherwise, the model could work in one rural setting but can't be replicated elsewhere.[xv]
- What metrics beyond traditional spend and utilization would be collected?[xvi]
    - Process metrics around patient care and satisfaction or around how care is handled or administered?
    - Social service outcomes such as how many patients went from homeless to stable housing, or from unemployed to employed?
- How 'global' are the metrics? It will be important to ensure hospitals can't "game the model" by focusing almost exclusively on their top 5% highest utilizers to bring down their overall spend yet to the detriment of the rest of their patient population, a strategy that MCOs have historically used to lower costs.[xvii]

What IT needs or upgrades will this model require?

- *IT at the hospitals* — namely use of an EMR that is integrated to an HIE
- *IT at the state level* — how to attribute budget to patients when follow-up services are administered elsewhere — this may not be necessary but should be tracked by the state to be sure rural hospitals don't just send sick patients out to get them off the budget rolls.

[xv] Anne Trolard and Ben Cooper, Personal Communication, October 27, 2020.
[xvi] *Ibid.*
[xvii] *Ibid.*

- Would each community hub be entrusted to develop their own data hub on different software platforms that would need to connect EHRs, etc.? It may be possible to have a state-level CIE that is robust enough to allow community level sub-networks each with their own assessments and local social service providers yet all using a common interconnected platform with defined data standards that would allow the state to know more clearly how well a community hub (individually and within the larger state ecosystem) was actually doing in addressing SDOH issues for their patients based on the model.[xviii]
    - Investing in data systems that make information available to broader system of providers, like Aunt Bertha, UniteUs, etc. (see page 17)

[xviii] *Ibid.*

SOLUTION CATEGORY:

3 MOVE ADDITIONAL MEDICAID ENROLLEES INTO MANAGED CARE

In Medicaid, states typically contract with managed care organizations (MCOs) in order to smooth or reduce the cost of care while maintaining or improving quality.[55] Missouri's Medicaid program contracts with three different MCOs and pays a set per member per month (PMPM) capitation payment to the MCO for each Medicaid enrollee they serve. MCO contracts specify targets for cost and quality of care. These contracts may also vary in the amount of flexibility they afford to the MCOs to coordinate care and reimburse for a broader range of resources to address patients' health-related social needs.

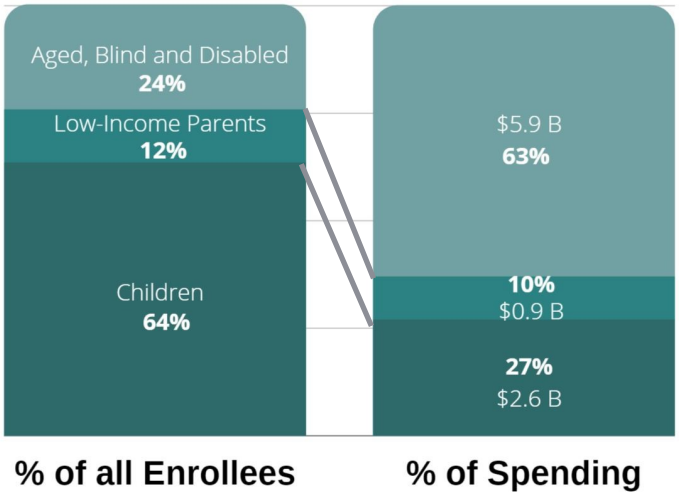
Current State of Medicaid Managed Care in Missouri

Currently, only low-income children and parents, as well as pregnant women, are in Missouri's managed care population. Although 75% of Medicaid participants are covered under managed care, spending on this population totals only $2.2 billion a year, or 23% of total annual spending.[56] Based upon the composition of Missouri's managed care population, Medicaid expansion will presumably mean a greater number of people—mostly low-income nondisabled adults—being served by managed care. Thirteen states have carved in behavioral health services to MCOs,[57] and most states carve in pharmacy, though several had opted for, or were considering, a carveout in fiscal years 2020 and 2021, and fifteen carved out one or more drugs or drug classes.[58]

The ABD Carve-Out

The ABD (aged, blind and disabled) population is carved out of Medicaid managed care, as are pharmacy and behavioral health services. Most states include their ABD populations in managed care.[59] Advocates of the ABD population in Missouri, however, generally oppose the possibility of a carve-in of that group due to concerns that a transition to managed care would mean a reduction in service availability and care provision.[60] In Kansas, when the Medicaid population of people with disabilities transitioned to managed care, a study found that participants reported overall satisfaction with care, but cited problem areas that included provider networks, limited covered benefits, and care coordination issues.[61] If the ABD population were to be carved in to managed care, one participant emphasized the importance of the following 'guardrails' to guarantee high quality of care:

- Network adequacy standards – quantitatively defined network standards
- Time and distance requirements
    - Note that in rural areas, enforcing these requirements may necessarily be more costly, and/or may need to rely on increasing telehealth infrastructure.
- Enough specialists
- Minimizing wait times for appointments
- Quality metrics reported by demographics, such as urban vs. rural and by race
- Options for individuals to opt out



Medicaid Enrollment and Spending by Eligibility Category
SFY2018: total enrollees = 976,779; total spending = $9.4 billion

Figure 3 shows the percentages of Missouri Medicaid in different categories, and the percentage of total spending on these populations. The majority of MO HealthNet spending is on the ABD population – a population that is carved out of managed care.[62]

Considerations from Stakeholders

Challenges for Moving More Medicaid Enrollees to Managed Care

- In the current budget climate the state may not have the staffing or IT infrastructure to fully hold MCOs accountable for quality of care and patient outcomes.
- At the state level, MCOs may be limited in terms of what ancillary services they are allowed to pay for in order to avoid giving a competitive advantage to any one of the state's three MCOs.
- The current care management system is fragmented, with many different organizations doing this work.
- In rural areas, transportation infrastructure is typically not robust, which limits MCOs' ability to offer non-emergency medical transportation services and creates more requirements to coordinate transportation.
- Carving pharmacy into managed care would likely mean multiple formularies and prior authorizations, which historically created provider burden and was unpopular with providers when pharmacy was under the managed care umbrella in MO prior to 2009.
- There is considerable disagreement over whether the ABD (aged, blind and disabled) population should be included in managed care. Members of the ABD population have expressed opposition to being carved in to managed care.
- How to account for churn into and out of Medicaid.

Addressing Social Determinants of Health in Managed Care

In tandem with the suggestion to carve in additional Medicaid populations to managed care, stakeholders offered ideas for modifications, such as changes to MCO contracts, that would better incentivize MCOs to address their enrollees' social risks. The McKinsey & Co. Rapid Response Review highlighted the opportunity for greater specificity and enforcement of MCO contracts, using additional levers to incentive MCO performance (like rewarding high-performing MCOs with more participants), and creating partnerships between MCOs and the states that are based on performance beyond simply monitoring contractual compliance. Medicaid patients in managed care who have multiple/chronic conditions also have the option to participate in health homes, as long as care coordination services are not being duplicated between the MCO and the health home. MO HealthNet allows its MCOs to provide "in lieu of" services, which are generally services of a lower intensity or ancillary services (like transportation) that support access to needed care. Such services must be shown to be "medically appropriate and cost-effective" in order to be included utilization for the MCO's rate setting.[63]

How should we measure the social determinants of health within this model, and how should we use this information?

- Measure medical outcomes like non-emergent ED visits, preventable hospitalizations, readmissions, medication adherence, etc., in the context of whether unaddressed SDOH were a factor.
- When a patient is a no-show at an appointment or is readmitted to the hospital, assessment tools need to be able to capture the "why?"
    - Who is responsible for assessing this? It will likely need to start at the provider level – clinic providers, community health workers, social workers, case managers
    - Track processes like how patients are being connected to services – for instance, if no-shows at a clinic decline, it could be due to successfully addressing patients' barriers to access, or it could be because the clinic limited access to patients who were frequent no-shows.
- MCOs often have leeway in their contracts to offer 'in lieu of' services, such as housing and utility assistance.
- MCO contracts could be modified to allow more of these types of payments.
    - It will be important to justify spending on in lieu of services – look to outcomes such as medication adherence, hospital utilization and readmission rates, or use performance measures within managed care like the Healthcare Effectiveness Data and Information Set (HEDIS) which is used within plans across the country.

    - Measuring in real time may interfere with programming.

- Track the provision of services, monitoring how people are connected to services, and the effect such connections have on health outcomes.

How specifically would this solution increase coordination on the system level, the individual level, or both? Who will do this work?

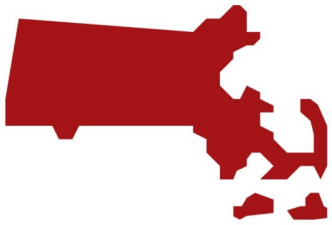
- Use community health workers and case managers to reduce system fragmentation.
- Coordinate with FQHCs.
- Provider education about which services are covered by Medicaid (e.g. MCOs cover emergency and non-emergency medical transportation as a free benefit, but many providers are unaware of this fact).
    - Task the three Medicaid MCOs to achieve goals like greater provider awareness of which 'in lieu of' services Medicaid can cover.
- The coordination of non-emergency medical transportation is key, especially in rural areas with limited transportation options and a wide service area.
- Carving in behavioral health to managed care would likely result in better coordinated care. However, it could entail a disruption to the behavioral health care system since behavioral health care for low-income Missourians is mostly provided through community mental health centers, a separate system from Medicaid. The system currently separates behavioral healthcare delivery from medical care; this is especially true for severe mental illness.
    - Many community mental health centers receive capitated payments through the Department of Mental Health (a regional payment system). Expansion will likely change this landscape as the behavioral health care of the newly Medicaid-eligible population will be covered by Medicaid, rather than the status quo payment structure to pay for care of the uninsured.
    - It is more difficult to develop quality metrics by which to evaluate MCO performance for behavioral health treatment than it is for medical care.

Within this model, how can payment support improved health outcomes while being mindful of the state budget?

- *Two-part plan for MCOs to pay providers*:
    - MCO makes upfront payments to providers for care management (the amount is based on the members for whom that provider is responsible), which could cover administrative staff or technology.
    - Good outcomes over time are rewarded in the form of additional payments to providers based upon a shared savings approach.
        - Key outcomes include medication adherence and decreasing no-shows.
    - Engage providers where they are — some are more able to provide services than others.
- Carve in pharmacy and behavioral health to managed care, as they are currently excluded and reimbursed on a fee-for-service basis.
    - *Benefits:*
        - Missouri MCOs believe that carving in these services would improve their ability to manage participants' care, and associated costs of care, in a more comprehensive manner.
        - Could save money at the state level due to less administration of pharmacy claims, rebates, etc. and potential multi-state purchasing power of MCOs. Could redirect the money to state staffing capacity and IT challenges.
    - *Downsides*
        - Previously when pharmacy was carved into managed care, the formulary and prior authorization procedures were burdensome to patients and providers, and patient churn between MCOs exacerbated these problems. Providers had to track multiple formularies and prior authorization criteria.
        - It would be possible to require all three MCOs to use the same formulary, though in practice, it's likely that these would not all be implemented in the same manner. Regardless, this would not resolve the prior authorization issue.
- Carve in the ABD (aged, blind and disabled) population to managed care, a population that is also currently under fee-for-service — however, members and advocates of Missouri's ABD population are generally resistant to a carve-in.

Case study:

MASSACHUSETTS



Massachusetts: *Risk-adjusting MCO payments based on patient social risks*

Massachusetts incorporates two measures—housing indicators and neighborhood stress scores—into its MCO risk adjustment formulas, resulting in a higher risk score and higher payments for individuals with unstable housing or living in neighborhoods with high financial stress. This adjustment was found to yield more accurate MCO payments.[64]

Case study:

IOWA

Iowa: *Paying providers to incorporate social risks into treatment planning*

Iowa uses a Health Risk Assessment (HRA) tool (used by ACOs) – providers can earn $25 for each HRA they incorporate into a health plan for a Medicaid recipient, and ACOs receive incentive payments based on the percent of assigned patients who complete Healthy Behaviors, which can include completing the HRA. The HRA includes questions health risks/protective factors like burden of pain, domestic violence, social supports, confidence in managing health problems, emotional problems, and smoking.[65]

What will be the key outcomes for which the parties will be accountable, and how will these outcomes be assessed?

- Add contract requirements for MCOs to incentivize addressing the SDOH and better outcomes. These would not have to be punitive and could be phased in with a period of upside risk only.
    - The state can better hold MCOs accountable to contract terms, with the possibility of losing a contract if costs are not controlled and/or patient outcomes are poor.

        - The state's ability to hold MCOs accountable may depend on staffing and IT in the current budget climate.
        - The state could adopt quality measures that are harmonized with the federal government's standards for Medicare Advantage plans, which would reduce provider and plan burden to collect data and also create a built-in set of comparisons and benchmarks.
    - Providers can also hold MCOs accountable to the contract — 'provider satisfaction' factors into the MCO's grade, and providers also have the option to file complaints with the state, a legislator, or both.
- Use of Z Codes
    - Once social risks/needs are identified, money is required to address them, as well as a mechanism by which money would flow to social service organizations. Providers can't directly address these social risks but can refer to another organization and then follow up.
        - Referrals will require follow-up/follow-through.
- Requirements for MCOs, including the flexibility given to MCOs to engage more broadly in activities that address social risks, should apply equally to all of the MCOs. The state should allow MCOs to provide benefits without being hindered because of concerns that such activities might create "competitive advantage."

What IT needs or upgrades will this model require?

- IT challenges exist to holding MCOs accountable in the current budget climate. Requires resources that the state doesn't necessarily have or cannot generate in real time
    - Performance measures
    - Performance measure follow-up

SOLUTION CATEGORY:

4 PRIORITIZE A MORE COORDINATED AND INTEGRATED APPROACH TO DELIVERING SOCIAL AND BEHAVIORAL HEALTH SERVICES BY STREAMLINING ELIGIBILITY/FUNDING/ COMMUNICATION ACROSS PROGRAMS

In Missouri, clinical healthcare and social services often exist in separate, minimally-overlapping spheres — a problem that several of the other proposed solution categories in this paper aim to address. In addition, the state's social service delivery programs are often fragmented at a system level. For examples of social risk screening tools and referral platforms (e.g. Unite Us, Aunt Bertha) see page 17.

The application processes for social service programs are fragmented, and the state is in the process of developing a more streamlined application system to check eligibility and apply to multiple programs, reducing the required paperwork (see page 50).

Louisiana: *Streamlining of SNAP and Medicaid Eligibility*

Case study:

LOUISIANA

In Medicaid expansion states, most participants in SNAP (the Supplemental Nutrition Assistance Program, or food stamps) are also eligible for Medicaid. Louisiana was the first state to use an option offered by CMS to determine enrollment for Medicaid and CHIP using SNAP income eligibility criteria—reducing paperwork for both state workers and program participants.[66] Through this information-sharing process, Louisiana was able to avoid duplicative paperwork for many of the 235,000 new Medicaid enrollees when it expanded Medicaid in 2016. This change simplifies both the annual renewal process for Medicaid enrollees who also receive SNAP benefits, and also the enrollment of new SNAP participants in Medicaid.[67] Louisiana has also implemented the SDOH referral platform UniteUs statewide to coordinate referrals.[68]

How should we measure the social determinants of health within this model, and how should we use this information?

- A measurement tool for social need should have the following features:
    - A consolidated way to measure social need, as opposed to having separate measures for income, housing, and food needs
        - Example from AZ: Matrix of SDOH (see page 54)
    - Include levels of granularity to assess level of need
        - Ex. Rank someone's current housing situation (1=homeless to 5=fully housing secure); having social risk is not a binary state
    - Ask if people are currently connected to an organization or are receiving services for a need they indicated on a screening tool

- Identify individual people who are at risk, as well as population-level risk
    - Avoid the disconnect of measuring SDOH at the individual level but not addressing population level needs.
- Create a common platform for care coordination.
    - Address technological, regulatory, structural, or privacy barriers to creating a common (possibly statewide) platform for care coordination.
- Watch how other states are addressing these issues.
    - North Carolina, for example, received a $650 million waiver to implement NCCARE360, a community information exchange referral coordination platform.[69]

How specifically would this solution increase coordination on the system level, the individual level, or both? Who will do this work?

- At the individual level, staff can guide people into social service systems.
    - Individuals such as case managers and community navigators may be necessary to help people apply for programs and gain entry into social supports.
    - In MO, there used to be state employees to help individuals apply to these programs, but many of those positions have been cut and those functions are fulfilled by community organizations. Individuals primarily apply online.
    - More funding for social workers at key points of access — especially emergency rooms — to evaluate social needs and make referrals
- Missouri Foundation for Health is currently working with the state to streamline an online application across several social services.

Within this model, how can payment support improved health outcomes while being mindful of the state budget?

- Up-front barriers may lead to administrative work and costs, but greater investment in the SDOH will likely save the state money in the long-term.
- When there is upside risk, ensure that the state is paying for the components of care coordination and delivery that are actually making a difference in patient outcomes — what is working well, how do we know it's working, and how to we align incentives to encourage providers to do more of what works?

What will be the key outcomes for which the parties will be accountable, and how will these outcomes be assessed?

- Outcomes can be thought about more broadly, and may include immediate physical needs as well as measures of wellbeing.
    - Within managed care, should patient outcomes and measures of wellbeing count as quality measures?
- If providers are solely held accountable for outcomes, this does not account for the other factors at play that contribute to patient outcomes.
    - When risk is shifted to providers, ensure that they are not being penalized for caring for a higher-risk patient population.
- Providers may not be the best party to hold accountable. We are unsure which party (provider, payor, state) would be best and how to incentivize them.
    - Potentially we should think about moving accountability measures to the payor level and think about reimbursement processes.

What IT needs or upgrades will this model require?

- No particular IT challenges were identified.

Panelist: Margo Pigg, M.Ed., LPC, NCC, MBA., *is the Director of Clinical Operations for BJC Behavioral Health where she provides oversight for all clinical services, program development and agency strategic planning and integration for behavioral health services.*

- BJC Behavioral Health is a community mental health center in St. Louis.
- Medicaid match funds allow flexibility in mental health service delivery.
- Starting in April, 2018, Medicaid allowed credentialed providers to provide services and supports in schools without having to be under the umbrella of a school-based health center. BJC providers worked with teachers and students, doing quick interventions and helping keep students in class.
- Counselors in schools allowed early intervention for significant mental health issues and trauma, work with families, and make referrals to community-based resources —all of which can keep kids from ending up in the ED or inpatient.

Effective Marginal Tax Rate

An important consideration in evaluating the ability of government benefits to reduce poverty and improve health is the degree to which low-income families are disincentivized to work and earn higher wages by sharp reductions in government assistance. Looking at the various government programs together can help clarify where there are gaps in services, as well as misaligned incentives, such as a high "marginal tax rate" at certain income levels.

The effective marginal tax rate is the net loss of income as a percentage of an increase in wages — this loss may be direct, in the form of higher taxes, or indirect, in the form of reduced benefits and/or ineligibility for means-tested government programs such as SNAP (Food Stamps) and Temporary Assistance for Needy Families (TANF).[70] A marginal tax rate of 50%, for instance, would mean that for each additional dollar a person earns in wages, they take home only 50 cents. A negative marginal tax rate, in contrast, would describe a scenario in which an increase in wages results in an additional "boost" on their net earnings — certain programs, like the Earned Income Tax Credit, attempt to incentivize work in this manner.

When considering the landscape of available benefits, it is important to design eligibility criteria in a way that avoids steep slopes or cliffs. When people encounter a scenario in which their net income reflects diminishing returns for additional hours worked, they have a logical incentive to work fewer hours. Integrated cross-program enrollment records can help identify the scope of this problem; it is useful, for instance, for the state to have a detailed picture of how many people on Medicaid are also receiving SNAP benefits. Capturing the available services and benefits available to families through nonprofits — perhaps through the use of a CIE — may also prove useful in understanding the role of Medicaid and the healthcare system within the broader social safety net.

Effective Marginal Tax Rate at Different Poverty Levels - 2008[71]

	$0 Earnings to 50% FPL	50% — 100% FPL	100— 150% FPL	150% FPL— 200% FPL	$0— 100% FPL	$0— 200% FPL
Missouri	26.5	19.5	47.5	47.5	23.0	35.2
Simple Average for All States	7.8	26.4	56.3	76.7	17.1	41.8
High	44.7	61.3	118.9	128.4	38.7	63.9
Low	-27.9	-1.7	26.6	41.5	-13.3	14.0

Table 2. This table is taken from an analysis of example data from the Urban Institute's Net Income Change Calculator conducted by Maag, Steuerle, Chakravarti & Quakenbush in 2012[71]; calculations are based on a single parent household with two children. Included benefits are TANF, Food Stamps, and Medicaid, and federal and state income tax. Missouri's effective marginal tax rate in 2008 was nearly 50% for earnings between 100 and 200% FPL; in other words, families took home a little over half of every dollar earned in that income range.

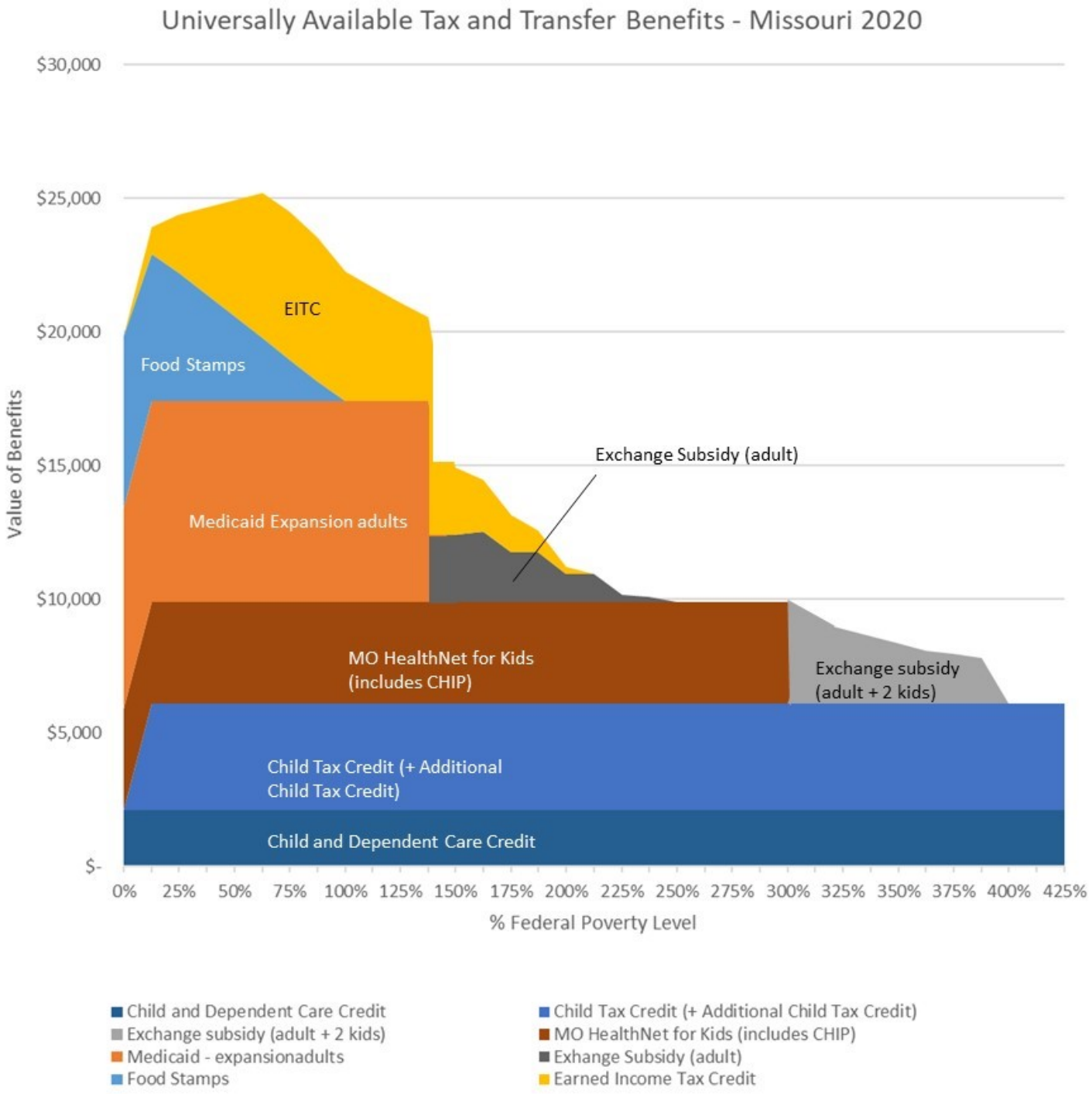


Figure 4 shows the tax and transfer benefits that are universally available to single-parent Missouri families with two children below the age of 13 at various income levels. 100% FPL for a family of three is $21,720, 200% is $43,440, 300% is $65,160, and 400% is $86,880. The marginal tax rate is high as families at around 138% FPL begin to earn more income, which may provide a disincentive to seek higher earnings in that income range.

The value of Medicaid benefits per enrollee was based on national estimates from Medicaid.gov of spending per enrollee in the child category ($3,787/year) and in the Medicaid expansion adult population ($7,527.year).[72] Note that means-tested programs often have asset limits that may disqualify certain families from eligibility, even if their income alone would qualify them; in this chart, asset limits for Medicaid and SNAP are not shown.

Looking Forward

We are interested in continued discussions with the state around these ideas and welcome additional feedback from any stakeholders. Additionally, the state of Missouri has already taken steps to implement several of the concepts discussed in this paper.

Transformations Currently Underway at the State Level

MO Care Coordination Insights Project for Missouri Health Information Networks

DSS is working on a project with the Missouri Hospital Association to integrate information from real-time ADT (admit, discharge, transfer) feeds from hospitals and other data retained by HIDI (the Hospital Industry Data Institute) to create advanced alerting to care managers. This system notifies providers when a patient on a defined "watchlist" interacts with any hospital connected to the system and sends alerts to Medicaid providers when Medicaid patients go to the emergency department or are admitted to the hospital.[73]

Provider Health Information Exchange (HIE) Onboarding Program

Not all providers in the state participate in an HIE, and participation may be fragmented. With $9.3 million in funding from CMS, the Provider Health Information Exchange (HIE) Onboarding Program, launched in early 2020, aims to connect at least 40 hospitals and 1,000 providers with HIEs.[74] Once 90+% of hospitals are connected to an HIE, Missouri could consider tapping into existing work already underway by The Gravity Project to "improve and harmonize documentation around social determinants of health (SDOH) data in EHR systems," with an emphasis on food security, housing stability and transportation access.[75] Launched in May 2019, it is a national effort to create a standardized way within EHRs to assess the SODH. In Missouri, a feed could be added to share this SDOH information, allowing HIEs to acquire it from their networks' EHR systems.

Missouri Benefits Enrollment Project

Missouri Foundation for Health is working with the state to streamline eligibility processes such that people can submit one basic application to apply for multiple social benefits programs. This program, which is a collaboration with Michigan-based human-centered design firm Civilla, is intended to lower barriers to entry, reducing the number of pages of application paperwork across programs and improving clarity and consistency so that anyone who is eligible for services can more easily apply. It will roll out over the next few years and will hopefully save the state money in administrative costs. However, stakeholders noted that there are software and administration barriers, and that upgrades and updates may be necessary to make this program successful.

AUTHORS

Lauren Kempton; Abigail Barker, PhD; Leah Kemper, MPH; Timothy McBride, PhD, MS; and Karen Joynt Maddox, MD, MPH

ACKNOWLEDGEMENTS

Thanks to the stakeholders who attended the *Transforming Healthcare in Missouri: Medicaid Transformation* event and offered their experience and insight.

Special thanks to the following people who gave their time to be interviewed: Ben Cooper, MPH; Kevin Henderson, MD; Jennifer Hunter; Amy Kelsey, MPH; Clint MacKinney, MD, MS; Heidi Miller, MD; Anne Trolard, MPH; and Sidney Watson, JD.

GLOSSARY OF TERMS & ACRONYMS

ABD (Aged, Blind and Disabled) – The population of aged, blind and disabled people who are covered by Medicaid. ABD spending in Missouri Medicaid is entirely fee-for-service; in other words, it is carved out of the managed care program that covers low-income children and parents and pregnant women. The ABD population accounts for 24.2% of MO Medicaid enrollees, but 62.9% of total program expenditures.[76]

APM (Alternative Payment Model) – any payment model that offers incentive payments to providers for higher quality and more cost-effective care.

Bundled Payment – this concept is meant to contain costs by paying a fixed, negotiated rate for a bundle of services that are used together, such as pregnancy care or knee surgery.

CHW (Community Health Worker) – from the CDC, "A community health worker (CHW) is a frontline public health worker who is a trusted member or has a particularly good understanding of the community served. A CHW serves as a liaison between health and social services and the community to facilitate access to services and to improve the quality and cultural competence of service delivery."[77]

CIE (Community Information Exchange) – similar to a health information exchange, a CIE is an integrated network of health and human services providers sharing a technology platform and resource database. The goals are share data and referrals among providers. CIEs are often linked to an area's 211 network.[78]

CMS (Center for Medicaid and Medicare Services) – the federal agency within the US Department of Health and Human Services that administers Medicare and administers Medicaid and CHIP (the Children's Health Insurance Program) jointly with states. A division of CMS, **CMMI,** the Center for Medicare & Medicaid Innovation, develops and tests new models of healthcare payment and service delivery to improve care and lower costs

EHR/EMR (Electronic Health/Medical Record) –The electronic medical record or chart for patients within a single facility. Information from the EMR can be shared with an HIE to allow continuity of care across different facilities and clinic and hospital systems.

FFS (Fee-for-Service) – a payment model in which each service is paid for separately, rather than bundled payments. FFS incentivizes providers to deliver a higher volume of care or bill for more expensive services.

Health Home/PCHH/PCMH – Health Homes or Patient-Centered Medical Homes (PCMH/PCHH) refer to designated primary care practices (often a federally-qualified healthcare center) in which a primary care physician coordinates a team that is responsible for integrated, whole-person patient care. Medicaid health comes coordinate care for patients with chronic conditions, integrating primary, acute, behavioral health, and long-term services and supports. This coordination can include referral to community and social support services.[79]

HIE/HIN (Health Information Exchange, Health Information Network) — electronic health information exchange (HIE) is the ability to access and share patients' medical information electronically with other providers

Interoperability – the ability of software and computer systems to create, exchange, and use health information across organizations.

In Lieu Of Services – services of a lower intensity or ancillary services (like transportation) that support access to the needed care or that enhance population health to avoid more costly care later. Within managed care, these services are required to be "medically appropriate and cost-effective".[80]

MCOs (Managed Care Organizations) – in Medicaid, managed care organizations contract with the state in order to reduce or smooth the cost of care while improving quality.[81] Missouri's Medicaid program contracts with three different managed care organizations (MCOs) and pays a set per member per month (capitation) payment to the MCO for each Medicaid enrollee they serve.

PMPM (Per Member Per month) – a monthly dollar amount paid to a provider for each person for whom the provider is responsible for providing services. PMPM is a type of **capitation payment,** in which the payment amount is determined by the total number of patients assigned to a certain provider within a given timeframe. As opposed to fee-for-service, capitated payments create an incentive for providers to deliver high-value care and avoid unnecessary services.

Risk-Adjusted Payment – this method adjusts a provider's reimbursement for services provided based upon known risk factors (such as demographics, health history, etc.) to reflect the additional time and attention such patients are likely to require.

SDOH (Social Determinants of Health) – Defined by the CDC as "conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of life-risks and outcomes."[82] Examples include stable and safe housing, access to food, employment, transportation, and educational opportunities. Green & Zook (2019) differentiate between the SDOH and "social needs", using SDOH to refer to "a community's underlying social and economic conditions", as opposed to the more immediate or current "social needs".[83]

Shared Savings – when Medicaid saves money due to an innovative care model, the savings are estimated and shared between the provider/MCO and Medicaid

Social needs – related to social risk factors, social needs refer to immediate social needs; alternatively, "the capacity to benefit from services."[84]

Social risk factors –social risk factors are "the adverse social conditions associated with poor health, such as food insecurity and housing instability."[85]

Upside Risk/Downside Risk- ways of holding providers accountable for patient outcomes within alternative payment models. One-sided risk typically means that the provider is only taking on upside risk and has the opportunity to receive additional payments for meeting established metrics; two-sided risk refers a payment structure with both upside and downside risk, in which the provider may receive bonuses or incur financial penalties depending on outcomes.

VBP (Value-based Payment) – any payment structure that rewards providers for meeting quality and efficiency performance measures relevant to the service or procedure; quality may be measured in many ways and at several levels (system, hospital, clinic, individual provider)

Appendix: Examples of SDOH Screening Tools

Self-Sufficiency Matrix Participant Name _____ DOB __/__/____ Assessment Date __/__/____ Initial Interim Exit

(If using ServicePoint) Program Name _____ HMIS ID _____

Domain	1	2	3	4	5	Score	Participant goal? (✓)
Housing	Homeless or threatened with eviction.	In transitional, temporary or substandard housing; and/or current rent/mortgage payment is unaffordable (over 30% of income).	In stable housing that is safe but only marginally adequate.	Household is in safe, adequate subsidized housing.	Household is safe, adequate, unsubsidized housing.		
Employment	No job.	Temporary, part-time or seasonal; inadequate pay, no benefits.	Employed full time; inadequate pay; few or no benefits.	Employed full time with adequate pay and benefits.	Maintains permanent employment with adequate income and benefits.		
Income	No income.	Inadequate income and/or spontaneous or inappropriate spending.	Can meet basic needs with subsidy; appropriate spending.	Can meet basic needs and manage debt without assistance.	Income is sufficient, well managed; has discretionary income and is able to save.		
Food	No food or means to prepare it. Relies to a significant degree on other sources of free or low-cost food.	Household is on food stamps.	Can meet basic food needs, but requires occasional assistance.	Can meet basic food needs without assistance.	Can choose to purchase any food household desires.		
Child Care	Needs childcare, but none is available/accessible and/or child is not eligible.	Childcare is unreliable or unaffordable, inadequate supervision is a problem for childcare that is available.	Affordable subsidized childcare is available, but limited.	Reliable, affordable childcare is available, no need for subsidies.	Able to select quality childcare of choice.		
Children's Education	One or more school-aged children not enrolled in school.	One or more school-aged children enrolled in school, but not attending classes.	Enrolled in school, but one or more children only occasionally attending classes.	Enrolled in school and attending classes most of the time.	All school-aged children enrolled and attending on a regular basis.		
Adult Education	Literacy problems and/or no high school diploma/GED are serious barriers to employment.	Enrolled in literacy and/or GED program and/or has sufficient command of English to where language is not a barrier to employment.	Has high school diploma/GED.	Needs additional education/training to improve employment situation and/or to resolve literacy problems to where they are able to function effectively in society.	Has completed education/training needed to become employable. No literacy problems.		
Health Care Coverage	No medical coverage with immediate need.	No medical coverage and great difficulty accessing medical care when needed. Some household members may be in poor health.	Some members (e.g. Children) have medical coverage.	All members can get medical care when needed, but may strain budget.	All members are covered by affordable, adequate health insurance.		
Life Skills	Unable to meet basic needs such as hygiene, food, activities of daily living.	Can meet a few but not all needs of daily living without assistance.	Can meet most but not all daily living needs without assistance.	Able to meet all basic needs of daily living without assistance.	Able to provide beyond basic needs of daily living for self and family.		
Family /Social Relations	Lack of necessary support form family or friends; abuse (DV, child) is present or there is child neglect.	Family/friends may be supportive, but lack ability or resources to help; family members do not relate well with one another; potential for abuse or neglect.	Some support from family/friends; family members acknowledge and seek to change negative behaviors; are learning to communicate and support.	Strong support from family or friends. Household members support each other's efforts.	Has healthy/expanding support network; household is stable and communication is consistently open.		
Mental Health	Danger to self or others; recurring suicidal ideation; experiencing severe difficulty in day-to-day life due to psychological problems.	Recurrent mental health symptoms that may affect behavior, but not a danger to self/others; persistent problems with functioning due to mental health symptoms.	Mild symptoms may be present but are transient; only moderate difficulty in functioning due to mental health problems.	Minimal symptoms that are expectable responses to life stressors; only slight impairment in functioning.	Symptoms are absent or rare; good or superior functioning in wide range of activities; no more than every day problems or concerns.		
Substance Abuse	Meets criteria for severe abuse/dependence; resulting problems so severe that institutional living or hospitalization may be necessary.	Meets criteria for dependence; preoccupation with use and/or obtaining drugs/alcohol; withdrawal or withdrawal avoidance behaviors evident; use results in avoidance or neglect of essential life activities.	Use within last 6 months; evidence of persistent or recurrent social, occupational, emotional or physical problems related to use (such as disruptive behavior or housing problems); problems have persisted for at least one month.	Client has used during last 6 months, but no evidence of persistent or recurrent social, occupational, emotional, or physical problems related to use; no evidence of recurrent dangerous use.	No drug use/alcohol abuse in last 6 months.		
Safety	Home or residence is not safe; immediate level of lethality is extremely high; possible CPS involvement.	Safety is threatened/temporary protection is available; level of lethality is high.	Current level of safety is minimally adequate; ongoing safety planning is essential.	Environment is safe, however, future of such is uncertain; safety planning is important.	Environment is apparently safe and stable.		
Disabilities	In crisis – acute or chronic symptoms affecting housing, employment, social interactions, etc.	Vulnerable – sometimes or periodically has acute or chronic symptoms affecting housing, employment, social interactions, etc.	Safe – rarely has acute or chronic symptoms affecting housing, employment, social interactions, etc.	Building Capacity – asymptomatic – condition controlled by services or medication	Thriving – no identified disability.		
Other: (Optional)	In Crisis	Vulnerable	Safe	Building Capacity	Empowered		

Sample items: Arizona Self-Sufficiency Matrix[28], a tool for assessing patients' level of social risk along the following axes: housing, employment/income, substance abuse, food, transportation, family/social relationships, children/eldercare, utilities/internet & phone access, community safety, interpersonal safety, healthcare coverage and mental health.

7. What is your housing situation today?

	I have housing
	I do not have housing (staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, or in a park)
	I choose not to answer this question

8. Are you worried about losing your housing?

	Yes		No		I choose not to answer this question

Money & Resources

10. What is the highest level of school that you have finished?

	Less than high school degree		High school diploma or GED
	More than high school		I choose not to answer this question

11. What is your current work situation?

	Unemployed		Part-time or temporary work		Full-time work
	Otherwise unemployed but not seeking work (ex: student, retired, disabled, unpaid primary care giver) Please write:				
	I choose not to answer this question				

14. In the past year, have you or any family members you live with been **unable** to get any of the following when it was **really needed**? Check all that apply.

Yes	No	Food	Yes	No	Clothing
Yes	No	Utilities	Yes	No	Child Care
Yes	No	Medicine or Any Health Care (Medical, Dental, Mental Health, Vision)			
Yes	No	Phone	Yes	No	Other (please write):
	I choose not to answer this question				

15. Has lack of transportation kept you from medical appointments, meetings, work, or from getting things needed for daily living? Check all that apply.

	Yes, it has kept me from medical appointments or from getting my medications
	Yes, it has kept me from non-medical meetings, appointments, work, or from getting things that I need
	No
	I choose not to answer this question

Social and Emotional Health

16. How often do you see or talk to people that that you care about and feel close to? (For example: talking to friends on the phone, visiting friends or family, going to church or club meetings)

	Less than once a week		1 or 2 times a week
	3 to 5 times a week		5 or more times a week
	I choose not to answer this question		

20. Do you feel physically and emotionally safe where you currently live?

	Yes		No		Unsure
	I choose not to answer this question				

21. In the past year, have you been afraid of your partner or ex-partner?

	Yes		No		Unsure
	I have not had a partner in the past year				
	I choose not to answer this question				

Sample items from the PRAPARE screening tool, commonly integrated into EHRs, which assesses various domains of social risk.[86]

REFERENCES

1. Missouri Foundation for Health. (2019). Medicaid Value-Based Purchasing. Retrieved from: https://mffh.org/wp-content/uploads/2019/10/VBP-Factsheet.pdf.
2. McKinsey & Co. (2018). Rapid Response Review of MO HealthNet..
3. Marmot, M., & Commission on Social Determinants of Health. (2007). Achieving health equity: from root causes to fair outcomes. The Lancet, 370(9593), 1153-1163.
4. Li, L.; Kemper, L., McBride, T., Barker, A. (2018). The Demographics of Missouri Medicaid: Implications for Work Requirements. Center for Health Economics and Policy. Retrieved from: https://publichealth.wustl.edu/wp-content/uploads/2018/03/MO-Medicaid-Demographics-and-Work-Requirement.pdf.
5. Kim, S. J., & Bostwick, W. (2020). Social Vulnerability and Racial Inequality in COVID-19 Deaths in Chicago. Health education & behavior, 47(4).
6. McKinsey & Co. (2018). Rapid Response Review of MO HealthNet.
7. Source: Kaiser Family Foundation: State Health Facts. Retrieved from: https://www.kff.org/medicaid/state-indicator/medicaid-spending-per-enrollee/?currentTimeframe=0&selectedDistributions=all-full-or-partial-benefit-enrollees&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D
8. America's Health Rankings, 2019. Missouri. : Retrieved from: https://www.americashealthrankings.org/explore/annual/measure/Drugdeaths/state/MO
9. Ibid.
10. MO DHSS. (2020). Behavioral Risk Factor Surveillance System (BRFSS). Retrieved from: https://health.mo.gov/data/brfss/index.php
11. America's Health Rankings. (2020). Missouri. Retrieved from: https://www.americashealthrankings.org/explore/annual/measure/Overall/state/MO.
12. 12. MO DSS. (2019). Primary Care Health Home Progress Report: January 2018-June 2019. Retrieved from: https://dss.mo.gov/mhd/cs/health-homes/pdf/pchh-progress-report-2018-2019.pdf
13. Missouri Hospital Association. (2019). "14 Hospital Closures in Missouri since 2014". Retrieved from: https://www.mhanet.com/mhaimages/advocacy/Missouri.Hospital_Closures_0919.pdf
14. Bogan, J. (2020). "Just a matter of time: Hospital-poor rural Missouri braces for the coronavirus". St. Louis Post-Dispatch. Retrieved from: https://www.stltoday.com/lifestyles/health-med-fit/coronavirus/just-a-matter-of-time-hospital-poor-rural-missouri-braces-for-the-coronavirus/article_e3291bed-b492-5db1-8bef-d39c98d52c00.html
15. America's Health Rankings. (2020). Missouri. Retrieved from: https://www.americashealthrankings.org/explore/annual/measure/Overall/state/MO.
16. America's Health Rankings. (2020). Missouri. Retrieved from: https://www.americashealthrankings.org/explore/annual/measure/Overall/state/MO.
17. MO DHSS. (2020). Data and Statistics: Life Expectancy. Retrieved from: https://mffh.org/wp-content/uploads/2016/04/13HispanicDisparities.pdfhttps://health.mo.gov/data/lifeexpectancy/.
18. MO DHSS. (2020). Missouri's Pregnancy-Associated Mortality Review board publishes first annual maternal mortality report. Retrieved from: https://health.mo.gov/news/newsitem/uuid/1b353e05-7477-4d45-9b48-26bb3cfc21bc.
19. Ibid.
20. Missouri Foundation for Health. (2013). Hispanic Health Disparities in Missouri. Retrieved from:

REFERENCES

21. McKinsey & Co. (2017). Rapid Response Review of MO HealthNet. Retrieved from: https://dss.mo.gov/mhd/mt/docs/mhd-rapid-response-review.pdf
22. Medicaid.gov. (2020). Federal Financing Participation for HIT and HIE. Retrieved from: https://www.medicaid.gov/medicaid/data-systems/health-information-exchange/federal-financial-participation-for-hit-and-hie/index.html
23. MO DSS. (N.D.) CyberAccesssm, Electronic Health Record Program for MO HealthNet. MO HealthNet Division. Retrieved from: https://dss.mo.gov/mhd/cs/medprecert/pages/cyberaccess.htm.
24. Healthcare Information and Management Systems Society. (2020). Interoperability in Healthcare. Retrieved from: https://www.himss.org/resources/interoperability-healthcare.
25. MO DSS. (2020). Media Release: MO HealthNet receives $9.3 million to help hospitals and providers electronically connect patient information. Retrieved from: https://dss.mo.gov/press/02-21-2020-health-info-exchange.htm.
26. Hinton, E.; Artiga, S., Musumeci, M., & Rudowitz, R. (2019). A First Look at North Carolina's Section 1115 Medicaid Waiver's Healthy Opportunities Pilots. Kaiser Family Foundation. Retrieved from: https://www.kff.org/report-section/a-first-look-at-north-carolinas-section-1115-medicaid-waivers-healthy-opportunities-pilots-issue-brief/
27. CMS. (2017). Z Codes Utilization among Medicare Fee-for-Service (FFS) Beneficiaries in 2017. Retrieved from: https://www.cms.gov/files/document/cms-omh-january2020-zcode-data-highlightpdf.pdf.
28. Monarch Housing. (2005). The National HMIS Data Standards and the Arizona Self-Sufficiency Matrix: Collecting Uniform Information on Homeless Persons. Retrieved from: https://monarchhousing.org/wp-content/uploads/2008/08/ProjectEvaluationTraining.pdf; http://www.mnhousing.gov/get/MHFA_010996
29. National Association of Community Health Centers. (N.D.) About the PRAPARE Assessment Tool. Retrieved from: https://www.nachc.org/research-and-data/prapare/about-the-prapare-assessment-tool/.
30. HL7. (2020). Gravity Project: Retrieved from: https://www.hl7.org/gravity/
31. Aunt Bertha Company. (N.D.) Aunt Bertha: About. Retrieved from: https://company.auntbertha.com/about/.
32. UniteUs.com. (N.D.) Unite Us: Platform. Retrieved from: https://uniteus.com/platform//.
33. Jvion. (N.D.) Retrieved from: https://jvion.com/.
34. Healthify. (N.D.) Retrieved from: https://www.healthify.us/about-us.
35. Pieces Tech. (N.D.). Retrieved from: https://piecestech.com/.
36. HPSA Acumen. (N.D.). Community Health Needs Assessment. Retrieved from: https://hpsa.us/services/chna/community-health-needs-assessment-chna/.
37. MO DSS. (2019). MO HealthNet—Primary Care Health Homes. Retrieved from: https://dss.mo.gov/mhd/cs/health-homes/pdf/PCHHQuickFacts.pdf.
38. Ibid.
39. Ibid.
40. Ibid.
41. Ibid.
42. MO DSS. (2019). PCHH Progress Report. Retrieved from: https://dss.mo.gov/mhd/cs/health-homes/pdf/pchh-progress-report-2018-2019.pdf.

REFERENCES

43. Brown, K. & Heaps-Woodruff, J. (2018). MO HealthNet Primary Care Health Home Initiative: Community Health Worker (CHW) Pilot Project – Southwest Missouri. Retrieved from: https://musomcme.files.wordpress.com/2018/04/brown-mo-healthnet-chw-pilot-04192018-final.pdf.
44. MO DSS. (2019). Primary Care Health Home Progress Report: January 2018-June 2019. Retrieved from: https://dss.mo.gov/mhd/cs/health-homes/pdf/pchh-progress-report-2018-2019.pdf
45. MO DSS. (2019). PCHH Progress Report. Retrieved from: https://dss.mo.gov/mhd/cs/health-homes/pdf/pchh-progress-report-2018-2019.pdf.
46. CMS.gov. (2020). Pennsylvania Rural Health Model. Retrieved from: https://innovation.cms.gov/innovation-models/pa-rural-health-model.
47. Sharfstein, J. M., Stuart, E. A., & Antos, J. (2018). Global budgets in Maryland: assessing results to date. Jama, 319(24), 2475-2476.
48. Ibid.
49. Sharfstein, J. (2017). Hospitals, Not Hotels. TEDx Talks. Retrieved from: https://www.youtube.com/watch?time_continue=597&v=6_KzlxNU5Cw&feature=emb_title.
50. Ibid.
51. Center for Medicare & Medicaid Services. (2017). CMS' Accountable Health Communities Model selects 32 participants to serve as local 'hubs' linking clinical and community services. Retrieved from: https://www.cms.gov/newsroom/press-releases/cms-accountable-health-communities-model-selects-32-participants-serve-local-hubs-linking-clinical
52. Ibid.
53. CMS. (2020). Accountable Health Communities Model Fact Sheet: First 750,000 Completed Screenings. Retrieved from: https://innovation.cms.gov/media/document/ahc-fact-sheet-2020-prelim-findings
54. CMS. (2020). CHART Model. Retrieved from: https://innovation.cms.gov/innovation-models/chart-model
55. Medicaid.gov. (2020). Managed Care. Retrieved from: https://www.medicaid.gov/medicaid/managed-care/index.html.
56. McKinsey & Co. (2017). Rapid Response Review of MO HealthNet. Retrieved from: https://dss.mo.gov/mhd/mt/docs/mhd-rapid-response-review.pdf
57. Kaiser Family Foundation. (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. Retrieved from: https://www.kff.org/report-section/states-focus-on-quality-and-outcomes-amid-waiver-changes-managed-care-initiatives/.
58. Kaiser Family Foundation. (2020). How State Medicaid Programs are Managing Prescription Drug Costs: Results from a State Medicaid Pharmacy Survey for State Fiscal Years 2019 and 2020. Retrieved from: https://www.kff.org/medicaid/report/how-state-medicaid-programs-are-managing-prescription-drug-costs-results-from-a-state-medicaid-pharmacy-survey-for-state-fiscal-years-2019-and-2020/
59. McKinsey & Co. (2017). Rapid Response Review of MO HealthNet. Retrieved from: https://dss.mo.gov/mhd/mt/docs/mhd-rapid-response-review.pdf
60. Ferber, J & Frost, J. (2010). Expanding Medicaid Managed Care to People with Disabilities and Seniors Would be Risky and Unwise. Lega Services of Eastern Missouri. Retrieved from: https://www.mobudget.org/files/Medicaid_Managed_Care_Ferber_8_10.pdf
61. Hall, J. P., Kurth, N. K., Chapman, S. L., & Shireman, T. I. (2015). Medicaid managed care: Issues for beneficiaries with disabilities. Disability and health journal, 8(1), 130-135.

REFERENCES

62. McKinsey & Co. (2017). Rapid Response Review of MO HealthNet. Retrieved from: https://dss.mo.gov/mhd/mt/docs/mhd-rapid-response-review.pdf
63. Kaiser Family Foundation. (2016). "CMS's Final Rule on Medicaid Managed Care:A Summary of Major Provisions". Retrieved from: http://files.kff.org/attachment/CMSs-Final-Rule-on-Medicaid-Managed-Care.
64. Jones & Muller (2018). Social determinants of health and Medicaid payments. Deloitte Insights. Retrieved from: https://www2.deloitte.com/us/en/insights/industry/public-sector/medicaid-social-determinants-of-health.html
65. Iowa Department of Human Services. (2014). A Health Risk Assessment (HRA) Tool for Iowa Medicaid Members. Retrieved from: https://dhs.iowa.gov/sites/default/files/HRA%20Whitepaper_03122014_Final.pdf?052420200156.
66. CMS. (2015). Memo RE: Policy Options for Using SNAP to Determine Medicaid Eligibility and an Update on Targeted Enrollment Strategies. US Department of Health and Human Services. Retrieved from: https://www.medicaid.gov/federal-policy-guidance/downloads/sho-15-001.pdf.
67. Gonzalez, S. (2016). Louisiana Blazing Trail for Streamlined Medicaid Enrollment. Center on Budget and Policy Priorities. Retrieved from: https://www.cbpp.org/blog/louisiana-blazing-trail-for-streamlined-medicaid-enrollment.
68. UniteUs Louisiana. (N.D.). "About Us". Unite Louisiana. Retrieved from: https://louisiana.uniteus.com/about/
69. Hinton, E.; Artiga, S., Musumeci, M., & Rudowitz, R. (2019). A First Look at North Carolina's Section 1115 Medicaid Waiver's Healthy Opportunities Pilots. Kaiser Family Foundation. Retrieved from: https://www.kff.org/report-section/a-first-look-at-north-carolinas-section-1115-medicaid-waivers-healthy-opportunities-pilots-issue-brief/
70. Maag, E., Steuerle, C. E., Chakravarti, R., & Quakenbush, C. (2012). How marginal tax rates affect families at various levels of poverty. National Tax Journal, 65(4), 759.
71. Ibid.
72. Medicaid.gov. (2018). How Much Do States Spend Per Medicaid Enrollee?. Retrieved from: https://www.medicaid.gov/state-overviews/scorecard/how-much-states-spend-per-medicaid-enrollee/index.html.
73. MO DSS. (2020). Missouri Care Coordination Insights Project Overview for Missouri Health Information Networks.
74. MO DSS. (2020). Program Announcement: Health Information Exchange Onboarding Program. Retrieved from: https://dss.mo.gov/mhd/hie-onboarding/.
75. Raths, D. (2019). Gravity Project: Building Consensus Around Coding Social Determinants Data in EHRs. Healthcare Innovation. Retrieved from: https://www.hcinnovationgroup.com/population-health-management/social-determinants-of-health/news/21074500/gravity-project-building-consensus-around-coding-social-determinants-data-in-ehrs.
76. McKinsey & Co. (2017). Rapid Response Review of MO HealthNet. Retrieved from: https://dss.mo.gov/mhd/mt/docs/mhd-rapid-response-review.pdf
77. CDC. (2016). Community Health Worker Resources. Public Health Professionals Gateway. Retrieved from: https://www.cdc.gov/publichealthgateway/chw/index.html.
78. HealthierHere.org. (N.D.) Community Information Exchange. Retrieved from: https://www.healthierhere.org/wp-content/uploads/2019/10/CIE-Opportunity-Onepager-2.0-103019.pdf

REFERENCES

79. Medicaid.gov. (2020). Health Homes. Retrieved from: https://www.medicaid.gov/medicaid/long-term-services-supports/health-homes/index.html.
80. Kaiser Family Foundation. (2016). "CMS's Final Rule on Medicaid Managed Care: A Summary of Major Provisions". Retrieved from: http://files.kff.org/attachment/CMSs-Final-Rule-on-Medicaid-Managed-Care.
81. Medicaid.gov. (2020). Managed Care. Retrieved from: https://www.medicaid.gov/medicaid/managed-care/index.html.
82. CDC.gov. (2020). Social Determinants of Health: Know what Affects Health. Retrieved from:
83. Green, K & Zook, M. (2019). When Talking About Social Determinants, Precision Matters. Health Affairs. Retrieved from: https://www.healthaffairs.org/do/10.1377/hblog20191025.776011/full/.
84. Public Health Scotland. (2019). Understanding Needs. Improving health. Retrieved from: http://www.healthscotland.scot/reducing-health-inequalities/understanding-needs.
85. Green, K & Zook, M. (2019). When Talking About Social Determinants, Precision Matters. Health Affairs. Retrieved from: https://www.healthaffairs.org/do/10.1377/hblog20191025.776011/full/.
86. National Association of Community Health Centers. (2019). PRAPARE: Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences. Retrieved from: http://www.nachc.org/wp-content/uploads/2018/05/PRAPARE_One_Pager_Sept_2016.pdf