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## POLICY INSIGHT

# Proposing An Innovative Bond To Increase Investments In Social Drivers Of Health Interventions In Medicaid Managed Care

**ABSTRACT** Interventions to address social drivers of health (SDH), such as food insecurity, transportation, and housing, can reduce future health care costs but require up-front investment. Although Medicaid managed care organizations have incentives to reduce costs, volatile enrollment patterns and coverage changes may prevent them from realizing the full benefits of their SDH investments. This phenomenon results in the “wrong-pocket problem,” in which managed care organizations underinvest in SDH interventions because they cannot capture the full benefit. We propose a financial innovation, an SDH bond, to increase investments in SDH interventions. Issued by multiple managed care organizations in a Medicaid coverage region, the bond would raise immediate funds for SDH interventions that are coordinated across the organizations and delivered to all enrollees of the region. As the benefits of SDH interventions accrue and cost savings are realized, the amount managed care organizations must pay back to bond holders adjusts according to enrollment, addressing the wrong-pocket problem.

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**S**ocial drivers of health (SDH), such as food insecurity, housing instability, and transportation barriers, shape the well-being and health of individuals and populations, affect health equity, and drive a large fraction of avoidable adverse health outcomes and health care costs.<sup>1</sup> State Medicaid programs are especially interested in SDH interventions because the Medicaid population is disproportionately affected by SDH complications. As of 2019 approximately forty states were working to address social needs with a wide range of activities through Section 1115 demonstration waivers and managed care contracts.<sup>2</sup> Both waivers and Medicaid managed care provide states with additional flexibility to pursue SDH interventions.

SDH interventions typically require substan-

tial funding up front, but the benefits typically occur over long periods in the form of health care cost savings. As Medicaid enrollees sometimes switch plans, Medicaid managed care organizations have a disincentive to fully invest in SDH interventions because the organizations are not guaranteed to realize the return on their investment. Volatility in Medicaid enrollment from month to month, eligibility changes, and changes in geographic service areas of managed care organizations exacerbate this problem. Underinvestment in SDH interventions can be framed as a “wrong-pocket” problem: The organization that makes an investment does not get to reap the full return as cost savings.

In this article we propose and describe a potential new solution: an SDH bond. Bonds are financial instruments sold by institutions (such

as a company or the government) to investors. In this case, the SDH bond we propose would be issued and administered jointly by multiple Medicaid managed care organizations. Individual investors would purchase the bond, expecting a return in the future. The funds raised would finance SDH interventions that create a demonstrable positive impact on social drivers of health for groups of people and thus would be expected to improve health outcomes and reduce health spending.

The SDH bond is inspired by long-standing environmental, social, and governance bonds, which have been used to fund projects for environmental or social objectives. Evidence on these bonds suggests that they are effective.<sup>3</sup> However, a similar bond concept has never been applied to Medicaid financing. The SDH bond would engage multiple managed care organizations to create long-term, sustainable funds that can be equitably distributed to SDH interventions for a defined population by organizations that partner with communities and providers serving that population. Furthermore, by harnessing the power of financial markets, the SDH bond would have the potential to bring in larger amounts of capital than would otherwise be possible to invest in SDH interventions.

### The Business Case For SDH Interventions In Medicaid Managed Care

Medicaid accounted for about 17 percent of National Health Expenditures in 2021.<sup>4</sup> As of October 2022, 84.3 million people in the US were covered by Medicaid.<sup>5</sup> In forty-one states, managed care organizations compete to serve the Medicaid population. In thirty-three of these states, managed care organizations served at least 75 percent of the Medicaid beneficiaries in those states in 2019.<sup>6</sup> In many states, through the competitive bidding process, managed care organizations compete for capitated premiums per beneficiary per month and differentiate their products in multiple dimensions including premiums, benefit design features (such as deductibles and copayments), provider network breadth, and additional customer services.

As states have recognized the importance of social drivers of health and searched for value in managed care, they have increasingly incorporated SDH improvement goals into the contracting process. During federal fiscal year 2019–20, among the forty-one states with Medicaid managed care organizations, thirty-two had requirements in place for managed care organization contracts to have at least one SDH strategy. Among those, twenty-eight states required refer-

ring enrollees to social services, twenty-five required screening people for social needs, twenty-two required managed care organizations to partner with community-based organizations or social services providers, and fourteen required the employment of community health workers.<sup>6</sup>

From the perspective of a managed care organization receiving capitated payments, and thus at risk for medical spending, SDH interventions have a robust business case. For example, addressing the food insecurity of an enrollee with diabetes will improve their access to healthy food and nutrition and will likely result in reduced diabetes complications and health care use.<sup>7</sup> The evidence that addressing social drivers of health can result in reduced medical costs, and that such initiatives are cost-effective with positive return on investment, is growing.<sup>8–10</sup> Although some cost savings from SDH interventions are realized in the short run, most cost savings are realized over the long run. For example, avoiding a heart attack or a major hospitalization by a patient with diabetes can be achieved with sustained long-term access to healthy food and stable living conditions.

### SDH Interventions And The Wrong-Pocket Problem

Although there is a clear business case for investing in SDH interventions in Medicaid managed care, Medicaid is characterized by volatile enrollment patterns and coverage changes. Before the passage of the Affordable Care Act, 47 percent of Medicaid enrollees lost coverage over the course of a two-year period,<sup>11</sup> and this rate remained 25 percent even after health reform.<sup>12</sup> Furthermore, managed care organizations may lose enrollees during the contracting process, as geographic service areas are determined under a competitive bidding process. The timing mismatch of SDH investments and their realized benefits in terms of cost savings, coupled with the volatility of Medicaid enrollment, result in the wrong-pocket problem. Specifically, SDH investments toward improving population health made by a given Medicaid managed care organization are largely not “internalized” by the organization; instead, the future benefits of the healthier populations (cost savings) accrue to other managed care organizations or outside the managed care system. As a result, managed care organizations’ incentives fall short of SDH investments desired from a societal perspective (socially optimal level).

To illustrate SDH intervention funding under the status quo, consider a simplified example with two managed care organizations, A and B, that wish to provide tailored meal services

to their enrollees in a given year, expecting cost savings in the following year. Tailored meal services are meals planned by a registered dietitian to meet the nutritional needs of severely ill patients and delivered to patients by the managed care organization. Each organization has 10,000 enrollees eligible for the service. If the meal service costs \$200 per person per month in the first year and is expected to result in a return on investment of 75 percent in the second year, the potential cost savings for the program would be \$4,200 per person, or \$42 million in total, and the net gain would be \$1,800 per person, or \$18 million in total (exhibit 1). Even though there is a return on investment, the initial investment in year 1 is risky because enrollees could switch managed care organizations. For the purposes of this example, consider that there is a 30 percent chance that organization A will lose its contract to organization B in certain geographic service areas and will ultimately lose 50 percent of its enrollees to organization B. Under this scenario, if each organization were to make the socially optimal level of investment in tailored meals, providing the meals to all eligible enrollees, the allocation of return on investment between them would not be propor-

tional to their initial investments, as illustrated in exhibit 1. Organizations A and B would enjoy cost savings of \$35.7 million and \$48.3 million, respectively, and a net gain of \$11.7 million and \$24.3 million, respectively. If organization A is expecting this outcome, it might decline to make the socially optimal level of investment and instead only invest in the privately optimal level (\$20.4 million), as it only expects to realize cost savings from 8,500 enrollees in the second year. Under this scenario, organization A would receive a higher net gain (\$15.3 million versus \$11.7 million), but 1,500 enrollees would not benefit from receiving tailored meals. In this case, the wrong-pocket problem has resulted in underinvestment in an SDH intervention that has a clear, positive return on investment.

How can an SDH bond address this problem? Bonds are issued by entities and sold to investors in exchange for future fixed payments. The proceeds of the bond serve to raise capital for investments. Thus, an issuing entity receives funds by selling the bond to capital market investors, and the entity pays the investors back over time. A typical bond pays the principal (promised amount) at the maturity of the bond and may also pay smaller interest payments (coupon pay-

## EXHIBIT 1

**Illustration of expected costs and savings under different social drivers of health (SDH) bond funding scenarios for a tailored meal service offered by 2 managed care organizations (MCOs)**

Funding scenarios	First year			Second year			
	No. of enrollees	Investment cost (\$ millions)	Bond flows (\$ millions)	No. of expected enrollees	Expected cost savings (\$ millions)	Bond flows (\$ millions)	Expected net gain (\$ millions)
<b>STATUS QUO WITH NO PLAN SWITCHING</b>							
MCO A	10,000	-24.0	— <sup>a</sup>	10,000	42.0	— <sup>a</sup>	18.0
MCO B	10,000	-24.0	— <sup>a</sup>	10,000	42.0	— <sup>a</sup>	18.0
Total	20,000	-48.0	— <sup>a</sup>	20,000	84.0	— <sup>a</sup>	36.0
<b>STATUS QUO WITH PLAN SWITCHING AND SOCIALLY OPTIMAL INVESTMENT BY EACH PLAN</b>							
MCO A	10,000	-24.0	— <sup>a</sup>	8,500	35.7	— <sup>a</sup>	11.7
MCO B	10,000	-24.0	— <sup>a</sup>	11,500	48.3	— <sup>a</sup>	24.3
Total	20,000	-48.0	— <sup>a</sup>	20,000	84.0	— <sup>a</sup>	36.0
<b>STATUS QUO WITH PLAN SWITCHING AND PRIVATELY OPTIMAL INVESTMENT BY EACH PLAN</b>							
MCO A	10,000	-20.4	— <sup>a</sup>	8,500	35.7	— <sup>a</sup>	15.3
MCO B	10,000	-24.0	— <sup>a</sup>	11,500	42.0	— <sup>a</sup>	18.0
Total	20,000	-44.4	— <sup>a</sup>	20,000	77.7	— <sup>a</sup>	33.3
<b>SDH BOND WITH PLAN SWITCHING</b>							
MCO A	10,000	-24.0	24.0	8,500	35.7	-20.4	15.3
MCO B	10,000	-24.0	24.0	11,500	48.3	-27.6	20.7
Total	20,000	-48.0	48.0	20,000	84.0	-48.0	33.3

**SOURCE** Authors' calculations based on hypothetical costs and return on investment of a tailored meal service program. **NOTES** Socially optimal investment in this case is the level of investment that would provide meals to all eligible enrollees. Privately optimal investment in this case is the level of investment that provides meals to each MCO's expected number of enrollees in year 2. Investment costs are calculated by multiplying the number of enrollees in the various scenarios by \$2,400, which is the annual cost of the meal service in the first year. Expected enrollees in the second year are calculated by taking the weighted average of the number of enrollees if MCO A does not lose its contract for half of its enrollees to MCO B (with probability 0.7) and the number of enrollees if MCO A loses its contract for half of its enrollees to MCO B (with probability 0.3). For example, for MCO A, this is calculated as  $(0.7 \times 10,000 + 0.3 \times 5,000) = 8,500$ . Expected cost savings in the second year are calculated by multiplying the number of expected enrollees in the second year by \$4,200, which is the potential cost savings per person in the second year. <sup>a</sup>Not applicable.

ments) at fixed intervals. Bonds are traded regularly in financial markets across the globe.

The SDH bond would work in a similar way as a typical bond. In this case, multiple Medicaid managed care organizations would issue a bond jointly under a legal entity called a special-purpose vehicle and become “bond issuers.” The special-purpose vehicle would commit that the proceeds would be used to fund SDH interventions for the overall enrollee populations of the managed care organizations issuing the bond. Individual investors would purchase the bond and become “bond holders,” and funds would be raised immediately.

In exchange for up-front funding of SDH projects, bond holders would benefit from the SDH bond in three ways. First, as with a typical bond, the investors would receive regular bond interest payments, which would occur at intervals dictated by the terms of the bond. Second, also similar to a typical bond, the investors would receive the face value of the invested amount at the end of the bond’s term. Third, and unlike a typical bond, altruistic investors would perceive benefits from pursuing investments that promote social drivers of health.

With sufficient capital provided right away, managed care organizations can coordinate investment in specific SDH interventions that meet the needs of the Medicaid population and holistically coordinate with community-based organizations. As the benefits of the interventions accumulate and population health improves, largely through avoided costs (including avoided readmissions, emergency department visits, and medication costs), the managed care organizations will accumulate funds to pay back the bonds over a set time to maturity. In practice, at least initially, the payments by each managed care organization can be set based on a proportion of the estimated cost savings, not realized cost savings. These terms would depend on the types of SDH interventions pursued and the expected benefits to the enrollee population. Importantly, the SDH bond’s special-purpose vehicle overcomes a key challenge in recouping the returns of SDH investments. The share of the outstanding bonds to be serviced by each managed care organization adjusts over time on the basis of each organization’s enrollment.

To illustrate how an intervention would be funded under an SDH bond, consider that managed care organizations A and B from the example above agree to jointly issue a bond for the full investment cost of the tailored meal service: \$48 million. The initial capital is raised and allocated evenly between the two organizations in the first year, and each organization agrees to pay the bond’s principal back to investors in

## The types of SDH interventions best suited to bond financing are typically capital-intensive investments, which yield a benefit over the long term.

amounts proportional to their enrollment and estimated cost savings in the second year, accounting for switching from organization A to organization B in the first year; in year two, organization A pays \$20.4 million, and organization B pays \$27.6 million. The SDH bond therefore allows full investment in the tailored meal program for all enrollees and provides the same expected net flows to both managed care organizations as would have been achieved if organization A only invested \$20.4 million in the first place (the privately optimal investment).

In addition to tackling the wrong-pocket problem, the SDH bond has several other attractive features. First, by offering financial instruments to investors, it harnesses the power of the broader capital market, allowing a greater influx of funds than would otherwise be possible to make critical investments into SDH solutions. As states must balance their budgets each year and have limited resources to provide funding for SDH interventions, the SDH bond’s strength is that it does not rely on state funding directly. Instead, the bond engages socially minded individuals and institutional investors directly and allows funds to be raised quickly. This is also preferable to asking managed care organizations to put in large sums of money up front.

Second, managed care organizations commit to making the bond payments to investors, and these financial guarantees ensure that the credit risk of the bond to investors is minimized. This allows the bond to trade at a relatively higher price, thus lowering servicing costs for the organizations.

Third, the pooling of funds and ability to invest across multiple SDH interventions allows the financial risk of these interventions to be reduced through the process of diversification.

# New and innovative financing mechanisms must operate within the existing legacy structures of Medicaid's financing.

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Fourth, because all SDH interventions are funded from “one pocket,” this mechanism allows for the continuity of access to SDH interventions for enrollees even if they switch plans or managed care organizations. This should minimize the disruption of services and interruptions in care.

Fifth, because the bond repayment is based on tracking beneficiaries who are eligible to use or who use the SDH interventions, incentives for managed care organizations to try to selectively avoid certain patients are reduced. Instead of tracking actual medical costs of enrollees, the repayment is made on the basis of estimated savings from eligible or actual use of SDH interventions.

Finally, the SDH bond structure is flexible and allows for potential public-private partnerships as well. For example, state Medicaid agencies might partner with managed care organizations to fund specific SDH interventions that do not have a large financial return but that affect health equity or racial justice. Any public funding of SDH bonds would further enhance the financial attractiveness of the bonds to investors, thus allowing more funds to be brought in.

## Challenges And Key Considerations

**DETERMINING THE STRUCTURE OF THE BOND** Given the innovative nature of the SDH bond, comprehensive modeling of the expected cash flow of a range of SDH interventions is necessary for determining the bond's design. In terms of bond features, the maturity of the bond would be a function of the length of time that it would take SDH interventions to generate cost savings, a parameter that would need to be estimated. The price, and therefore the amount of proceeds that could be generated from investors, as well as the coupon rate and other structural features would depend on the amount of financial risk taken on by the managed care organizations and

the savings that would be generated from SDH interventions (including the size and number of interventions).

Three other structural features must be considered as well. First is the number of managed care organizations participating in the bond and the minimum number of enrollees required to participate. Because determining how much each organization pays back to investors depends on data, the credibility of estimates based on a small number of enrollees would need to be assessed. Second, whether and how public dollars could be leveraged in public-private partnerships would need to be examined. For example, the SDH bond could be backed by state or federal dollars such that a portion of the guarantees that managed care organizations must pay to investors were defrayed by a public entity. Alternatively, states could pay back some of the bond based on achieved targets. And finally, the possibility for risk-sharing with investors must be considered. In the example given above, risk was fully borne by the managed care organizations, and the risk to the investor would be the same as the credit risk of the managed care organizations. A government guarantee could reduce the risk to investors. Risk-sharing could also be incorporated through the creation of different tranches. For example, if key outcomes of importance to investors are achieved, managed care organizations may be required to pay back smaller returns. In all cases, however, the terms would be agreed to up front.

Considering these features and the ultimate structure of the bond, researchers and policy makers investigating the feasibility of the SDH bond must develop modeling frameworks that cover a range of potential interventions as well as the many uncertainties of bond financing. Models must evaluate the expected cash flows across a range of different projects at an aggregate level to match the investments with the required bond financing. They must also consider the expected timing and nature of these cash flows, as well as uncertainty related to cash flows.

The types of SDH interventions best suited to bond financing are typically capital-intensive investments, which yield a benefit over the long term. Investments in housing, transportation infrastructure, or other service delivery infrastructure are examples of this type of project. SDH investments that required annual outlays rather than up-front investments would have a significant impact on the structure of the bond. It is also possible that managed care organizations would need to create multiple special-purpose vehicles and issue bonds over successive years if the optimal blend of projects was more heavily weighted toward short-term rather than

long-term investments. In all of these cases, the expected return of SDH interventions viewed as a group would determine how the bond was structured.

Another challenge is the possibility that managed care organizations will lose their contract with the state, creating a concern that they may default on their principal payments. Planners of the bond could consider features such as requiring organizations to commit to paying a prorated principal or a minimum payment in such a situation.

**IDENTIFYING APPROPRIATE DATA ON RETURN ON INVESTMENT** Our preliminary research has revealed a large gap in the academic literature on the effectiveness, cost savings, and health equity impact of SDH interventions,<sup>13</sup> although more evidence is being published. Few studies to date have systematically reported on the return on investment of SDH interventions. Furthermore, when cost estimates are available, they may have limited generalizability to diverse Medicaid populations across states and over different periods. Some papers in this literature include information on changes in health care use, which may be translated to cost savings with some strong assumptions. However, it must be noted that high-quality data are largely unavailable. In this case, modeling the impact of the bond under a wide variety of scenarios will be crucial to its implementation.

In the absence of peer-reviewed studies, inputs to these models may need to come from key stakeholders such as program administrators at managed care organizations or at community-based organizations, as well as from physicians, other allied health professionals, and even patients. Ensuring a wide variety of perspectives will strengthen the validity of modeling assumptions. This data collection effort also will allow the designers of the bond to gain trust with stakeholders. Community-based organizations, social services organizations, and public health programs are well positioned to address the needs of their communities with innovative programs and to bridge gaps across racial and other dimensions of health equity.

**COORDINATION WITH STATE MEDICAID AGENCIES** Another challenge we anticipate is coordinating with the efforts of state Medicaid agencies. New and innovative financing mechanisms must operate within the existing legacy structures of Medicaid's financing, which spans fee-for-service, Medicaid contracting, and supplemental payments to health care providers. A key issue will be whether SDH bonds will be incorporated into the regular managed care organization procurement cycle. For example, during the contracting process, would states look

## The process of identifying interventions with a positive financial return requires significant time and community buy-in.

favorably on managed care organizations that participate in an SDH bond? Would policy makers allow for higher contract amounts to reflect organizations' commitment to SDH activities? Finally, other state policies must be considered when designing the bond, including the medical loss ratio, premium rate-setting policies, and new incentives or penalties put in place by state Medicaid agencies based on reductions in health disparities or addressing social needs.<sup>14</sup>

In addition to improving spending or utilization targets outlined by the bond holders, we expect that the interventions pursued by the SDH bond will also generate social benefits such as improving health, well-being, and quality of life or autonomy. These additional spillovers can benefit both state Medicaid agencies and managed care organizations. Examples of benefits to state and local governments include reduced levels of homelessness and less strain on mental health and criminal justice resources. Health plans can benefit from improved local reputation and improved community relations.

Finally, it should be noted that the SDH bond cannot address the loss of Medicaid enrollees to cuts in Medicaid eligibility. However, this challenge poses a threat to all Medicaid-focused interventions.

**MONITORING USE OF FUNDS AND MEASURING RETURNS** Because SDH interventions generally do not have procedure codes, one challenge will be tracking which beneficiaries receive the interventions and linking participation to returns. Data on which beneficiaries receive interventions will depend on the quality of reporting from community-based organizations and the ability to transmit timely and accurate data to managed care organizations. In addition, managed care organizations may only be able to track whether an enrollee received an intervention and not the extent to which they participated.

Finally, exporting timely and accurate data from billing systems to assess the cost of care will be difficult, especially for those who receive SDH interventions through consumer care that is free or not observed by the managed care organization. Maintaining data is important not only for assessing whether there are cost savings but also for assigning responsibility for paying back the bond across the managed care organizations that participate in it.

**SELECTING INTERVENTIONS** Another feature of the bond that must be considered is which SDH interventions to invest in and which community-based organizations should provide them. One method could be to issue a request for proposals from community-based organizations in each state. Each such organization would present a project, an associated budget, and an estimated return on investment. A review panel of neutral stakeholders could review the proposals, scoring them on different state-specific priorities. Once the top-scoring proposals have been selected, those overseeing the bond could create a platform that allows investors to have a say in which SDH interventions to pursue but also maximizes objectives. Another possibility would be to engage the individual investors (bond holders) to participate in the process of allocating funds toward various proposed SDH interventions.

In addition, nonprofit health care systems participate in community health needs assessments every three years as part of demonstrating their community benefit. Those charged with selecting SDH interventions for the bond could synchronize the process with these annual assessments—for example, in partnership with state programs such as the Statewide Health Improvement Partnership (SHIP) in Minnesota.<sup>15</sup> This model is efficient because it leverages existing infrastructure and could educate bond stakeholders about existing programs that are currently meeting regional and statewide needs while aligning with community needs.

An additional challenge related to selecting interventions for the bond is that community-based organizations may lack the financial sophistication to estimate the full cost of the interventions that they will be contracted to provide under the bond. If so, it may be necessary to rely on trusted community partners, such as the United Way, to help community-based organizations respond to requests for proposals.

Finally, the proposed SDH bond will require an administrative framework so that once the funds are raised, they can be allocated and distributed across participating community-based organizations. This important feature of the proposed bond will need to be addressed in future work.

## Discussion

Investors have increasingly turned to environmental, social, and governance strategies for some or all of their investments, and the scope of projects for which bonds could be used has expanded. Social bonds are a type of environmental, social, and governance strategy and operate in much the same way, financing projects that address specific social issues such as affordable housing, basic infrastructure, access to health care, food security, and employment opportunities. The market for social bonds is large and growing, valued at \$18 billion worldwide in 2019 but increasing to \$155 billion in 2020. The US ranked fourth in 2021 among all countries with \$21.8 billion of social bonds issued.<sup>16</sup>

It must be noted that other solutions have been proposed to address underinvestment in social drivers of health for the Medicaid population. For example, the Collaborative Approach to Public Good Investments model proposes to use financially neutral “trusted brokers” to convene health plans and other health system stakeholders to share prospectively in the cost of one or more coordinated SDH interventions.<sup>17–19</sup> Our proposed SDH bond would leverage private financing to potentially raise significantly more funding and also would use a sophisticated mechanism to allocate costs based on market share instead of equally splitting the costs of interventions.

Another commonly suggested approach is to leverage value-based payment models, such as accountable care organizations (ACOs).<sup>20</sup> However, after nearly a decade of experience with ACOs, ACO stakeholders have persistently identified the lack of adequate funding for SDH interventions as a barrier to implementation.<sup>21</sup>

In addition to Collaborative Approach to Public Good Investments and ACOs, the Pay for Success initiative was implemented to introduce a financing mechanism for social impact projects and has had mixed success.<sup>22</sup> Pay for Success offers federal funding for feasibility studies to communities that wish to pursue social impact projects. Private entities can invest in projects and receive payments from state or federal governments if key milestones are met. Although Pay for Success shares some characteristics with the proposed SDH bond, most Pay for Success projects do not use a traditional bond structure. Furthermore, the SDH bonds would be paid back by managed care organizations, not the government.

The Pay for Success experience offers at least two important lessons for the SDH bond. First, the process of identifying interventions with a positive financial return requires significant time and community buy-in. One study of Pay

for Success feasibility projects conducted in Colorado communities identified legal and administrative complexity, lack of political buy-in, limited capacity of community-based organizations, and outcome tracking to be important barriers to implementation.<sup>23</sup> Notably, feasibility studies have been conducted in more than sixty-five communities nationwide, yet few projects have been successfully funded. Second, programs that have been funded have achieved some good results, suggesting that models employing private funding for social programs can be successful. For example, a supportive housing and mental health program in Denver, Colorado, lowered corrections costs by half through avoiding incarceration.<sup>24</sup>

The SDH bond model we propose here is currently hypothetical and untested. Planners of the SDH bond must consider how to test this model

in the real world, learning from the experience with these other programs.

## Conclusion

The SDH bond is an innovative financial instrument that can help address the wrong-pocket problem and encourage managed care organizations to invest in SDH interventions. Taking this idea from theory to reality will require stakeholder engagement, careful review of the literature, and complex modeling to optimize the structure of the bond. However, the bond's potential to improve health for Medicaid populations is substantial and scalable across different states, and it has the potential to be used by other payers such as Medicare or in other contexts such as financing community benefit spending for hospitals. ■

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