

Using a Tool to Measure Return on Investment in Addressing Health-Related Social Needs

Learning to Promote Cross-Sector Partnership Formation

Douglas McCarthy and Tanya Shah

Abstract

Issue: Health care organizations (HCOs) are seeking to integrate social services with medical care to promote optimal health outcomes for patients with complex needs. A lack of concrete estimates about the potential impact of social services for specific subpopulations can make it difficult for HCOs to contract with community-based organizations (CBOs) to deliver such services. The Return on Investment (ROI) Calculator and related tools were developed to help provide such information.

Goals: Describe the utility and value of the ROI Calculator and related tools in helping HCOs and CBOs develop a business case for cross-sector partnerships to address health-related social needs.

Methods: Synthesis of observations and interviews with technical-assistance participants and providers.

Key Findings and Conclusions: The tools helped CBOs and HCOs explore opportunities for cross-sector partnership. Technical assistance helped level the playing field and advance readiness for partnership. Determining partner-specific ROI was helpful but not always necessary for CBOs to secure contracts with HCOs. In addition to cost savings from reduced utilization of health care, HCOs may consider other benefits of meeting health-related social needs such as improved patient experience and quality of life, as well as health plan member retention. Cross-sector partnership formation requires organizational commitment, engaged leadership, administrative resources, and perseverance.

Introduction

A growing body of research suggests that meeting <u>health-related social needs</u> such as adequate food and stable housing reduces the need for hospitalizations and other costly care while also improving health outcomes for patients with complex needs.¹ Increased attention to the <u>social drivers of health</u> is prompting health care organizations (HCOs) such as health plans and health systems to seek effective ways to integrate medical and social services.² Many HCOs have begun routinely screening patients to identify unmet social needs and referring patients to nonprofit community-based organizations (CBOs) with expertise in providing social services.³

Some HCOs invest in the social services sector as part of community benefit activities. But this support may not be sufficient to enable CBOs to meet increased demand for services.⁴ While some CBOs have entered into contracts with HCOs, not all are equipped to do so.⁵ HCOs may be hesitant to enter into such agreements without a clear understanding of expected benefits. To address these factors, foundations and government agencies are supporting initiatives to help HCOs and CBOs partner in new ways.⁶

The Opportunity for an ROI Calculator

To support the formation of cross-sector partnerships that address health-related social needs, Victor Tabbush, Ph.D., developed the <u>Return on Investment (ROI) Calculator</u> with support from the SCAN Foundation and the Commonwealth Fund.⁷ The tool's intended purpose is to help HCOs and CBOs to:

- **1. Define financial ROI** in terms of the cost savings that can be expected from reduced health care utilization through the provision of specified social services to a defined population.
- 2. Quantify the financial risk stemming from uncertainty surrounding the cost and effectiveness of social services.
- **3. Develop a business case** based on expected ROI to inform planning and negotiations for a contract to deliver such services under a variety of payment options.⁸
- **4. Create financially equitable and sustainable partnerships** that allow HCOs to meet their objectives and CBOs to fulfill their mission, thereby benefiting the community.

By synthesizing learning from ROI Calculator project activities, this report offers insights into the benefits and challenges of offering tools and resources to promote the development of cross-sector partnerships for addressing health-related social needs.

Teaching Potential Partners to Use the ROI Calculator

More than 40 health care and community organizations expressed interest in the ROI Calculator following its release. Ten organizations involved in seven cross-sector partnership opportunities participated in three types of project activities led by Tabbush and subject-matter experts at Health Begins and the Nonprofit Finance Fund (Appendix B). These included:

- **1.** Serving as the subject of a **use-case study** to demonstrate the tool's value, including technical support or consultation on use of the tool.
- **2.** Receiving **coaching** to become a "super user" of the Calculator, including sessions with each partner and both partners to clarify objectives and apply the tool.
- **3.** Joining a virtual **learning collaborative**, with group training and discussion sessions to build shared knowledge for developing a business case.

"PMPM [cost per member per month] is a language that health plans speak, so when a CBO can express the benefit that way, it helps the communication."

- Tracy Johnson, former director of health reform initiatives, Denver Health

Benefits of the Tool, Resources, and Project Activities

Users and subject-matter experts noted many direct and indirect benefits of using the ROI Calculator and related tools (Exhibit 1). In particular, several reported that the <u>Review of Evidence for Health-Related Social</u>

<u>Needs Interventions</u> and <u>Average Cost and Utilization Data Tables</u> were useful not only in providing inputs for the ROI Calculator but also in planning for service design and in advocacy efforts.¹⁰

Exhibit 1. Perceived Benefits of Using the ROI Calculator

- Creates awareness of the potential for demonstrating ROI through social service interventions.
- Draws potential partners together to explore opportunities and reveals who needs to be part of a conversation, such as those with programmatic and financial expertise.
- Drives the data collection and analysis needed to make a business case for partnership.
- Lends structure to partnership development activities and helps ground discussions in financial terms, which can advance readiness for partnership.
- Helps distinguish whether meeting social needs is primarily a community benefit (when ROI for patients cannot be shown) or a population health management solution (when there is positive ROI).
- Reduces uncertainty in decision-making, such as when moving from a small-scale pilot project to offering services as the standard of care for patients who meet inclusion criteria.
- Can help potential partners cross the threshold to partnership.

Source: Authors' analysis.

A key goal of providing technical assistance was to help overcome the imbalance of institutional power between CBOs and HCOs. A pre-/post-survey of collaborative participants revealed that CBO leaders' self-assessed knowledge, skills, and abilities increased to the level reported by HCO participants.¹¹ This result suggests that technical assistance helped "level the playing field" for discussions about the value proposition of cross-sector partnership.

"A nonprofit's work is not always valued, so there is an expectation that it can be done on the cheap."

- Sarah Mills, CEO, Health Care Access Now

"CBOs are adept at developing and administering programs to address the social determinants of health, but we often speak a different language from HCOs—particularly if our contracting experience is limited to cost-reimbursement grants. We need to look at our services through a different lens and articulate their value in a different, more data-driven way if we want to monetize our expertise."

- Doni Green, director of Aging Programs, North Central Texas Council of Governments

Partnership Progress and Outcomes

Based on their experience with the tool and expertise in the field of upstream medicine, Rishi Manchanda, M.D., M.P.H., and Sadena Thevarajah, J.D., postulated three general opportunities or use cases for the ROI Calculator, related to the stage of cross-sector partnership maturity:

- 1. Early stage: Pitching and making the business case for partnership; developing a pilot.
- 2. Mid-stage: Planning and negotiating a partnership contract; expanding a pilot.
- **3. Mature-stage:** Evaluating the experience to sustain, refine, or grow the partnership.

Potential partners in the early stage of formation worked on gathering and using input data to demonstrate a business case for social services. For example, Health Care Access Now, which serves vulnerable people in Cincinnati, Ohio, learned how to estimate the financial impact of its community health worker program by assuming a ratio of billed charges to paid amounts based on industry norms.¹² These estimates were considered "good enough" to begin conversations about ROI that could be refined with better data.

While CBO leaders reported their organizations' increased efficacy and their intent to use the Calculator for partnership development, they had made limited progress in doing so at the conclusion of technical assistance. The COVID-19 public health emergency led to shifting priorities that increased the urgency to implement partnerships while limiting the ability to engage resources in calculating the ROI of such arrangements.

Three CBOs reached the mid-stage of partnership formation by executing signed agreements with HCOs. Homage, a CBO serving seniors and people with disabilities living in Snohomish County, Washington, implemented a payment arrangement with a Medicare Advantage plan. Through a consulting engagement with the firm Collaborative Consulting, Tabbush helped the CBO use the Calculator to define the ROI for a package of social services.¹³ Two technical-assistance participants executed contracts based on general expectations of benefit, without defining partner-specific ROI using the Calculator. Nevertheless, they reported that participation in ROI Calculator project activities was helpful to their planning.

Payment Arrangements and the Pathway to Value-Based Payment

The range of negotiated payment methods reported by participating CBOs appears to reflect the nature of the partners' business models and stage of partnership maturity. The ROI Calculator can model returns to partners under various payment arrangements including full-cost recovery, fee-for-service, case rate, capitation (permember, per-month payment), and gainsharing. Offering this continuum of options helps educate prospective partners about the financial impact of different choices and allows them to plan for evolution in arrangements as they gain experience and comfort with sharing and accepting risk under value-based payment.

Challenges to Calculator Use and Partnership Formation

Technical-assistance participants noted challenges to using the ROI Calculator and fully realizing its benefit. Collecting required input data for the Calculator was typically the biggest hurdle to getting started with the tool. An assessment by HealthBegins identified "pain points" related to the usability of the tool, as well as structural issues that impeded partnership formation (Exhibit 2). These insights can guide enhancements that improve the utility of the Calculator and related resources, while also improving the effectiveness of future technical-assistance programs.

Exhibit 2. Challenges in Using the ROI Calculator to Support Partnership Formation

- Potential partners can have difficulty thinking through an ROI or working through the Calculator if they have not aligned beforehand and lack a shared theory of change.
- The Calculator could be valuable in partnership development if people have the "right" partnership mindset beforehand. Making full use of its capabilities requires equally engaged partners.
- The organizational structure of HCOs is often opaque, and it can be unclear who should be approached regarding partnership work or ROI conversations.
- HCO leaders, especially those relying primarily on fee-for-service payment, may use <u>asymmetric thinking</u> when seeking ROI from CBOs, creating a higher bar for social services or social care integration as compared to medical interventions that may increase revenue without increasing value.

Source: HealthBegins.

The Calculator has the potential to be used by a range of organizations at different stages of readiness for partnership, says Beth Doreian, M.B.A., vice president for financial planning and analysis at Nonprofit Finance Fund (NFF). However, CBOs typically operate with lean staffing and thin margins, so protracted partnership development activities can subject them to financial distress, says Deirdre Flynn, director of advisory services for NFF. HCOs can minimize the burden on potential CBO partners by seeking their input on how to work expeditiously toward shared objectives for partnership. CBOs can minimize the burden of social service integration for HCOs by implementing their program so that it increases clinician productivity.

"We make sure we're not creating more work for clinicians but helping to free up their productivity. They can hand us the task of finding social supports at hospital discharge so they don't have to worry about it."

- David Crocker, director of community care, Southern Alabama Regional Council on Aging

Partnership Development Depends on Multiple Factors

Although HCOs reported that expected ROI can be an important consideration when deciding to pay for social services, they also mentioned nonfinancial considerations such as the potential for social services to improve patient experience or increase member retention. These kinds of benefits may be difficult to quantify. Health plans also may consider other factors such as their capitation budget, regulatory environment, and marketing priorities when deciding whether and how much to spend on social services (Exhibit 3).

Exhibit 3. Factors That May Inform Health Plan Decision-Making

Factor	Example
Capitation budget	Amount of rebate (shared savings) that Medicare Advantage plans can spend on supplemental benefits ¹⁴
Regulatory environment	Ability to count in-lieu-of or value-added services as medical expenses in a Medicaid managed care plan's medical-loss ratio 15
Marketing priorities	Other supplemental benefits (e.g., eye exams or hearing aids) that may be attractive to health plan members ¹⁶

Source: Authors' analysis.

Even when a positive ROI has been established as part of a business case for cross-sector partnership, it may take more time than expected to execute a contract and implement the arrangement. For example, the parties must build a mutual understanding as to how referrals will be made within their respective operating environments and must agree on policies and procedures for sharing and protecting the privacy of patient information. Some CBOs reported not receiving the expected volume of referrals from an HCO to justify expanded service capacity, or not fully recouping the overhead costs (including legal advice) associated with setting up the partnership. The Calculator can account for both fixed and variable service costs, which can help CBOs make a business case for covering overhead costs.

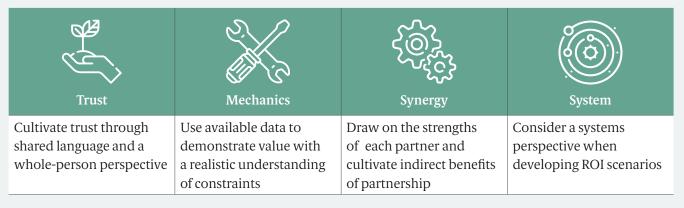
"Growth can be challenging for CBOs. If direct services don't pay for themselves, then a CBO has to expand fundraising and volunteerism to make up the difference. This cycle contributes to nonprofit fragility."

- Gene Brown, president and executive director, Community Housing Solutions of Guilford

Lessons for Cross-Sector Partnership Formation

The following lessons reflect a synthesis of insights gleaned from technical-assistance activities and interviews with participants and subject-matter experts (Exhibit 4).

Exhibit 4. Lessons for Partnership Formation



Cultivate trust through shared language and a whole-person perspective. Partners should discuss how they will define input costs (i.e., the cost of providing a service vs. the price paid for the service) for purposes of calculating cost savings. In addition to calculating the ROI of an intervention, it can be helpful to put a human face on the result, such as increased clinician productivity and improved patient quality of life. CBOs should consider how to differentiate the quality of their service offering, such as how made-from-scratch, medically tailored meals offer a taste and nutritional advantage over frozen meals purchased from a grocery store.

"It's the benefit to the client (not the contract) that needs to be the North Star for this work."

- Deirdre Flynn, director of advisory services, Nonprofit Finance Fund

"We hear from participants the feeling of being a productive member of society by experiencing freedom and independence in their own home."

- Kathy Colville, former Healthy Communities director, Cone Health

Use available data to demonstrate value with a realistic understanding of constraints. If a user doesn't have access to claims data to estimate amounts paid for services, for example, they can calculate an estimate by applying a "realization rate" to billed charges, based on experience or industry norms. Given that HCOs may have a limited budget for social services, a CBO can use the ROI Calculator to model different scenarios for optimizing and tailoring its service offering to achieve the best results within a budget's constraints.

Draw on the strengths of each partner and cultivate indirect benefits of partnership. In some partnerships, for example, the HCO retains responsibility for care coordination, while in others the CBO provides care coordination as part of a package of services. An enlightened HCO can foster an effective and comprehensive social services sector by advocating on behalf of the needs of CBOs in health system payment and delivery models. CBO leaders also noted a need for balance in fulfilling their mission in ways that transcend partnerships with only the health care sector.

"The health care sector shouldn't be the gatekeeper of the safety net.... Solely focusing on partnerships with health care organizations because they have money is an existential risk to the safety net."

- A.J. Diamontopoulos, accountable health communities project director, Denver Regional Council of Governments

Consider a systems perspective when developing ROI scenarios. Potential partners should discuss what kind of evidence and level of certainty will be needed to establish a credible business case for a particular partnership. In some cases, evidence from the literature may be sufficiently relevant and adequate to justify the proposed social service offering; in other cases, partner-specific ROI may be needed. The benefit of a short-term intervention may continue over longer periods for HCOs that have greater patient or member loyalty. Partners should seek a closed feedback loop to ensure that referrals for services are effectively completed.

Conclusion

The experience gained through the ROI Calculator project offers insights for consideration by grantmakers, government agencies, and conveners who seek to promote cross-sector partnerships to address health-related social needs. There is still much to be learned about what makes for an effective partnership. Following up on established partnerships to evaluate the ROI of health-related social services in practice can help inform payers of opportunities to evaluate and refine value-based benefit and payment policy and to test new care-delivery models. The societal benefit of addressing social determinants, including factors such as increased employment and health equity, also needs to be considered.

How We Conducted This Study

This report synthesizes insights shared by subject-matter experts leading technical-assistance activities, observations shared by participants during those activities, and information gleaned from surveys of and interviews with participants in technical-assistance and use-case studies. Information was organized in case-oriented displays for thematic analysis. Participants were afforded the opportunity to review and comment on the report.

Technical assistance and dissemination activities in support of the ROI Calculator project, led by HealthBegins and the Nonprofit Finance Fund (NFF), included the following:

- soliciting expert advice to define opportunities for the Calculator's use
- developing a logic model (Appendix A) and use cases for the Calculator's adoption
- promoting awareness and uptake of the tools by CBOs and HCOs
- supporting HCO/CBO dyads and learning from their experiences with the tools
- identifying opportunities to enhance the Calculator's utility and usability.

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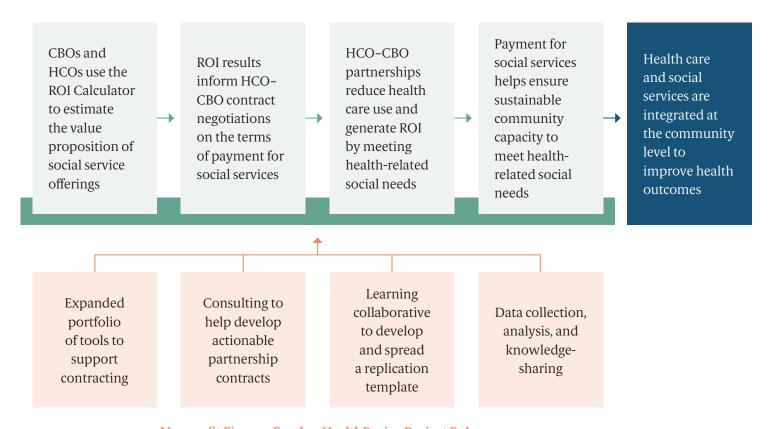
USAging Aging and Disability Business Institute: Marisa Scala-Foley, director, and Karol Tapias, former deputy director, for supporting the project including assisting in planning and recruiting participants for the learning collaborative and sharing the learning with the field.

Technical-Assistance and Case Study Participants: Gene Brown, president and executive director, Community Housing Solutions of Guilford; Kathy Colville, M.S.W., M.S.P.H., former healthy communities director, Cone Health; David Crocker, M.S.H.A., M.B.A., director of community care, Southern Alabama Regional Council on Aging; AJ Diamontopoulos, M.S., accountable health communities project director, Denver Regional Council of Governments; Doni Green, M.S., director of aging programs, North Central Texas Council of Governments; Tracy Johnson, Ph.D., former director of health reform initiatives, Denver Health; Jeremy Long, M.D., M.P.H., team leader, Intensive Outpatient Clinic, Denver Health; Patrick McCarter, former data scientist, Cone Health; Steve McGraw, M.S., CEO, Homage; Sarah Mills, M.P.A., CEO, Health Care Access Now; Lori Peterson, M.A., CEO and founder, Collaborative Consulting; Stephanie Phibbs, Ph.D., M.P.H., regional accountable entity coordinator, Denver Health; Philip Randall, M.B.A., strategic planner, Aetna; Arin Ricchiuti, director of finance, Homage; Rachael Robinson, M.P.A., vice president of program operations, Project Angel Heart; Christopher Scheib, executive director of enterprise analytics, Cone Health; Leslie Scotland-Stewart, M.B.A., former director of health care innovation, Project Angel Heart; Judith Warren, Ph.D., M.P.H., founder and former CEO, Health Care Access Now; Laura Vail, director of health equity, Cone Health.

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Appendix A.

Logic Model for the ROI Calculator to Facilitate Partnerships Between Health Care and Community-Based Organizations to Meet Health-Related Social Needs



Appendix B.

Organizations Participating in ROI Calculator Project Activities

Community Partner	Health Care Partner	Geography	Target Population	Payment Source	Social Services	Progress & Outcomes
Use-Case Study Site	es					
Homage Nonprofit serving older adults and people with disabilities	Medicare Advantage plan*	Snohomish County, Washington (suburban and rural)	Older adults with chronic illness and unmet social needs	Medicare Advantage	Care coordinationNutritionTransportationFalls prevention	Executed agreement
Health Care Access Now Nonprofit serving the medically underserved	To be determined	Cincinnati, Ohio, metro area (urban)	Vulnerable adults with chronic illness and unmet social needs	Medicaid managed care	Care coordination using community health workers (Pathways Hub)	Partnership development
"Super User" Coach	ning Sites					
Project Angel Heart Nonprofit serving people with life- threatening illness	Denver Health Medical Plan Health plan affiliated with a safety-net health system	Denver, Colorado, metro area (urban)	Hospitalized adults who are dually eligible	Medicare Advantage and Medicaid managed care	Nutrition (home-delivered medically tailored meals)	Executed agreements
Community Housing Solutions Nonprofit serving low- income homeowners	Cone Health Regional health system and affiliated ACO***	Greensboro, North Carolina (urban)	Older adults at risk of falls and housing insecurity	Medicare and Medicaid	Safe Housing (home repairs and modifications)Care coordination	Working toward an agreement
Learning Collabora	ntive Participants					
Denver Regional Council of Governments Area Agency on Aging**	Denver Health Safety-net health system and affiliated health plan	Denver, Colorado, metro area (urban)	Older adults needing intensive outpatient management	Medicare and Medicaid	To be determined	Exploring opportunities
Southern Alabama Regional Council on Aging Area Agency on Aging**	Medicare Advantage plan*Health system*Medical group*	Southern Alabama (rural)	Older adults with unmet social needs	Medicare and Medicaid	Care coordination	Executed agreements
North Central Texas Council of Governments Area Agency on Aging**	Aetna Health plan	Dallas-Fort Worth, Texas, metro area (urban)	Older adults experiencing financial distress	Medicare Advantage and privately insured	Financial counseling	Working toward an agreement

Source: Authors' analysis.

Note: Two additional organizations invited to participate in coaching are not shown.

^{*} These HCO partners did not participate in ROI Calculator project activities. Homage participated in a use case following an engagement with the firm Collaborative Consulting.

^{**} Area Agencies on Aging (AAAs) are nonprofit organizations designated by each state to receive federal funding to address the needs and concerns of older adults in a region or local area.

^{***} ACO = accountable care organization.

Appendix C.

Profiles of Cross-Sector Partnerships

EARLY STAGE PARTNERSHIPS

Cone Health, a regional health system in North Carolina, explored how to use its internal data to estimate the population of patients at risk of falls who would be likely to benefit from safe housing modifications performed by **Community Housing Solutions (CHS)**, which serves low-income homeowners in Greensboro. Based on the experience of a demonstration program, for which the health system partnered with CHS to provide care coordination services, the partners sought to identify a target patient population that would most benefit from the intervention.¹⁷ Cone Health hoped to share ROI projections with leaders of its affiliated accountable care organization to encourage them to pay for the program as part of population health management for patients with complex care needs.

Health Care Access Now, which serves vulnerable people in Cincinnati, Ohio, learned how to estimate the financial impact of its <u>Pathways Hub</u> community health worker program by assuming a ratio of billed charges to paid amounts based on industry norms. Although these estimates were subject to uncertainty, they were considered "good enough" to begin conversations about ROI that could be refined with better data. The CBO used outputs from the Calculator to shape proposals to existing HCO partners in a maternity care coordination program to consider an expanded service offering for adults with complex chronic illnesses.

The **North Central Texas Council of Governments Area Agency on Aging** and **Aetna** were in the early stages of exploring whether they could use the Calculator to define the ROI of a financial counseling program that would help health plan members with complex needs make use of social services and benefit programs in a comprehensive way to support their overall goals for health and well-being, and thereby reduce the use of health care.

The **Denver Regional Council of Governments,** which leads an <u>accountable health community</u>, engaged with Denver Health's Intensive Outpatient Clinic to explore the opportunity for meeting the social needs of patients at rising risk of poor health outcomes. Although the COVID-19 pandemic did not allow this work to progress, Denver Health hopes to use the tool in the future to assess the impact of its approach for meeting performance incentives under Colorado's Medicaid Hospital Transformation Program.

MID-STAGE PARTNERSHIPS

Homage, a CBO serving seniors and people with disabilities living in Snohomish County, north of Seattle, implemented a payment arrangement with a Medicare Advantage plan after using the Calculator to define the ROI for a package of social services. The agency was advised by <u>Collaborative Consulting</u>, whose principals (including Victor Tabbush) are conversant with the tool. Given a budget constraint, the health plan asked Homage to reduce the price of its services, which prompted a corresponding adjustment in their intensity. The revised value proposition was still within an acceptable range of financial outcomes for the health plan.

The **Southern Alabama Regional Council on Aging** parlayed its experience contracting with HCOs under the federal <u>Community-Based Care Transitions Program</u> into new contracts with HCOs (a health system, a Medicare Advantage plan, and a medical group participating in an accountable care organization) to offer care coordination services including social needs assessment and referral. The agency had been courting partners before participating in the collaborative. Its leader had hoped to use the Calculator to bolster the business case for these arrangements, but time and data constraints did not allow for its use to achieve this goal.

MATURE-STAGE PARTNERSHIP

Project Angel Heart, which prepares and delivers medically tailored meals to people with life-threatening illnesses in metropolitan Denver, reported that the COVID-19 pandemic created urgency for HCOs to enter into new contracts. The nonprofit had previously conducted research showing the benefit of its services in reducing health care utilization.¹⁸ It had intended to evaluate the impact of an existing partnership with the **Denver Health Medical Plan** to make the case for increased referrals of dually eligible Medicare-Medicaid members following hospital discharge, but the pandemic led to stepped-up referrals in the interim.

Notes

- 1. Mekdes Tsega et al., <u>Review of Evidence for Health-Related Social Needs Interventions</u> (Commonwealth Fund, 2019); M. Viswanathan et al., <u>Social Needs Interventions to Improve Health Outcomes: Review and Evidence Map</u> (Patient-Centered Outcomes Research Institute, Aug. 2021); Michelle Eder et al., "<u>Screening and Interventions for Social Risk Factors: Technical Brief to Support the U.S. Preventive Services Task Force,</u>" Journal of the American Medical Aassociation (Sept. 1, 2021) (Epub ahead of print).
- 2. Business Acumen Center, *The National Summit on Health Care and Social Service Integration: Foundational Efforts and Rationale for Integrating Health Care and Social Services* (Administration for Community Living, Sept. 2020).
- 3. Josh Lee and Casey Korba, <u>Social Determinants of Health: How Are Hospitals and Health Systems Investing in and Addressing Social Needs?</u> (Deloitte Center for Health Solutions, Dec. 2019); Caroline Fichtenberg et al., "<u>Health And Human Services Integration:</u> Generating Sustained Health And Equity Improvements," *Health Affairs* 39, no. 4 (April 2020): 567–73.
- 4. Nonprofit Finance Fund, State of the Nonprofit Sector Survey (NFF, May 2018).
- 5. Suzanne R. Kunkel et al., Strengthening Ties: Contracting Between Community-Based Organizations and Health Care Entities (Miami University, Scripps Gerontology Center, Dec. 2020). Many CBOs and HCOs gained experience with cross-sector partnerships through participation in the federal Community-Based Care Transitions Program, funded under the Affordable Care Act from 2012 to 2016; see Econometrica, Inc., Evaluation of the Community-Based Care Transitions Program (Centers for Medicare and Medicaid Services, Nov. 2017).
- 6. For examples, see: Centers for Medicare and Medicaid Services, Accountable Health Communities Model (CMS, n.d.); Aging and Disability Business Institute, Participants Chosen for the 2021 Financial Acumen Learning Collaborative (USAging, Feb. 2021); The SCAN Foundation, Linkage Lab Initiative (SCAN, n.d.); Len M. Nichols and Lauren A. Taylor, "Social Determinants as Public Goods: A New Approach to Financing Key Investments in Healthy Communities," Health Affairs 37, no. 8 (Aug. 2018):1223–30.
- 7. The SCAN Foundation sponsored the Calculator's original development in 2016. The Commonwealth Fund engaged Tabbush in 2017 to adapt and enhance the Calculator (originally an Excel worksheet) as a Web-based tool. The Fund also developed a set of related tools to support users in building the business case to address health-related social needs of patients.
- 8. A business case is defined as "justification of an organization's expenditure based on the positive economic consequences to that organization." See: Victor Tabbush, *Preparing Community-Based Organizations for Successful Healthcare Partnerships: How to Make the Business Case* (Aging and Disability Business Institute, 2016).
- 9. Victor Tabbush led ROI Calculator development and dissemination efforts, including preparation of use cases, sponsored by the Commonwealth Fund from 2017 to 2018. HealthBegins led technical support sponsored by the Fund in 2019. The Nonprofit Finance Fund led a second phase of technical support in collaboration with HealthBegins from 2019 to 2021.
- 10. For example, one participant used the evidence in a white paper to educate policymakers on the value of health-related social service interventions.
- 11. The survey design was based on the Kirkpatrick Model as described in: Donald L. Kirkpatrick and James D. Kirkpatrick, *Evaluating Training Programs: The Four Levels*, Third Edition (Berrett-Koehler Publishers, Inc., 2006). Contact the first author for more information about the survey instrument.
- 12. Douglas McCarthy and Victor Tabbush, *Health Care Access Now: Calculating the ROI of a Care Coordination Program to Address Social Determinants of Health* (Commonwealth Fund, March 2020).
- 13. Victor Tabbush and Douglas McCarthy, *Homage: Calculating the ROI of a Partnership to Meet the Health-Related Social Needs of Medicare Advantage Plan Members* (Commonwealth Fund, March 2020).
- 14. Medicare Payment Advisory Commission, Payment Basics: Medicare Advantage Program Payment System (MedPAC, Oct. 2015).
- 15. David Machledt, <u>Addressing the Social Determinants of Health Through Medicaid Managed Care</u> (Commonwealth Fund, 2017).
- 16. Laura Skopec, Christal Ramos, and Joshua Aarons, <u>Are Medicare Advantage Plans Using New Supplemental Benefit Flexibility to Address Enrollees' Health-Related Social Needs?</u> (Urban Institute, Sept. 2019).
- 17. The intervention is a replication of the CAPABLE (<u>Community Aging in Place—Advancing Better Living for Elders</u>) model developed by the Johns Hopkins School of Nursing; see: National Center for Healthy Housing, Aging Gracefully in Place (NCHH, n.d.).
- 18. Project Angel Heart, <u>Small Intervention, Big Impact: Health Care Cost Reductions Related to Medically Tailored Nutrition</u> (PAH, June 2018).

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Tanya Shah, M.B.A., M.P.H., is former vice president of the Delivery System Reform program at the Commonwealth Fund, with responsibility for the highneed, high-cost population portfolio. Most recently she served as the chief business officer at Prospero Health, a national home-based care model. Before joining the Commonwealth Fund in 2015, Shah was assistant commissioner, Bureau of Primary Care Access and Planning, with the New York City Department of Health and Mental Hygiene. She worked at the Boston Consulting Group from 2005 to 2012, where she advised biopharma companies and led the "International Consortium for Health Outcomes Measurement" for Harvard University's Institute for Strategy and Competitiveness. From 1998 to 2004, she was a senior consultant for Accenture in their Health Services group. Shah holds a B.A. in international development studies, an M.B.A., and an M.P.H. in health policy and management from the University of California at Berkeley.

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