Addressing Social Needs through Medicaid

Lessons from Planning and Early Implementation of North Carolina's Healthy Opportunities Pilots

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EXECUTIVE SUMMARY

States, payers, and health systems across the United States are developing cross-sectoral solutions to address health-related social needs. However, most evidence on the effectiveness of these interventions to date is from time-limited interventions focused on specific subpopulations or services and often in urban areas only. In 2019, as part of North Carolina's Section 1115 Medicaid Demonstration, the Centers for Medicare & Medicaid Services (CMS) authorized up to $650 million in Medicaid funding to implement the Healthy Opportunities Pilots ("Pilots"). The Pilots, launched in 2021, is a cross-sectoral program providing 29 evidence-based services to address social needs related to housing, food, transportation, interpersonal violence, and toxic stress through networks of community-based organizations (CBOs) to eligible Medicaid enrollees in three regions of the state. The Pilots will test the impact of these interventions at scale in Medicaid for the first time, including through major new payment and delivery designs. An ongoing evaluation sponsored by CMS will examine the effect of the Pilots on health outcomes, health care utilization, and health care costs.

To complement this evaluation, the authors conducted a multi-method qualitative study to generate timely and practical findings and recommendations from the planning, capacity-building, and early implementation of the program. Our findings can be useful not only to the Pilots' policymakers, implementors, and providers, but also to stakeholders interested or involved in similar or smaller-scale initiatives in other states.

We identified six implementation and policy themes with recommendations for cross-sectoral programs to address social needs:

1. **Create a structure that accommodates and balances building local capacity with scaling service delivery.** Building the capacity of CBOs and scaling service delivery are two high-level goals that can be complementary. But depending on the design and pricing of services, achieving one of these goals may come with tradeoffs that affect the other. Cross-sectoral programs must also balance tradeoffs between centralization and decentralization of program oversight and CBO network management. We therefore recommend that programs consider oversight structures that focus on building regional capacity with local CBOs to avoid overemphasizing large vendors — but pair that approach with a phased program design that includes upfront and ongoing infrastructure funding. We also recommend stakeholder engagement activities and rapid cycle evaluations to regularly assess and adapt program design features as needed to make sure administrative and service provision fees reflect true costs.

2. **Consider leveraging Medicaid demonstrations as part of a broader funding strategy to maximize flexibility and sustainability.** Medicaid demonstrations, particularly Section 1115 demonstration waivers, provide a significant opportunity to address health-related social

needs, but also have specific requirements, limitations, and policy implications. Using an 1115 waiver to expand or modify versions of services that could have been offered, even in a more limited form, within pre-existing authorities (for example, through state plans or Section 1915 waivers) can ease challenges associated with budget neutrality requirements, for example. Moreover, blending and braiding funding from Medicaid and non-Medicaid sources maximizes flexibility and sustainability. We recommend that states consider statewide coordination of a multi-pronged funding strategy to align initiatives to address social needs.

3. **Engage diverse community stakeholders during design and implementation to maximize existing community infrastructure.** Stakeholder engagement in program design, implementation, and oversight is critical to success, and leveraging existing community infrastructure (e.g., stakeholder networks) helps tailor programs to local and cultural contexts. We recommend that states involve key community stakeholders, including through recurring forums where all stakeholders engage with the state in one space, as well as through learning collaboratives and stakeholder-specific forums. Programs must also consider ways to design streamlined outreach and enrollment processes that facilitate community awareness and enrollee access from any point of contact with the health or social system.

4. **Build a business case for scaling and sustaining CBO capacity to overcome historic funding challenges.** For many CBOs, cross-sectoral programs to address social needs present new models of service delivery, funding, reimbursement, and partnerships. Programs should be designed with multiple participation options and funding and payment pathways to allow CBOs to participate regardless of their size, scope, geography, or organizational capacity. Programs should also be designed to flexibly respond to CBOs' emergent needs. Policymakers should monitor CBO service delivery stratified by funding source to prevent "crowding out" CBOs' existing clients.

5. **Develop sophisticated training and technical assistance approaches to build cross-sectoral knowledge across all program entities.** Health policy programs that include many different sectors require a more sophisticated training and technical assistance approach to meet the needs of the various stakeholders and service sectors. These opportunities should be offered in real time and on demand to address emergent issues while accommodating varying schedules.

6. **Ensure data and technology are flexible to support key cross-sectoral program functions and in compliance with multiple sectors' laws and regulations.** Cross-sectoral data platforms can be designed to support key program functions, including closed-loop referrals and billing, but it is important to continue to respond to opportunities to refine these new systems. Cross-sectoral laws, regulations, and interoperability standards also impact the sharing of program data across stakeholders. Establishing cross-sectoral interoperability standards could support the development of necessary technical infrastructure and effective use of referral systems.

INTRODUCTION

North Carolina Medicaid's Healthy Opportunities Pilots ("Pilots") program is a large, cross-sectoral initiative that launched in 2021 to test funding health care and community-based social service providers to work together to address social needs.[1] To date, most evidence on the effectiveness of social service interventions on health care costs and outcomes is from time-limited interventions focused on specific subpopulations or services occurring in more urban areas of the United States.[2] The Pilots is testing the impact of paying for community-based organizations (CBOs) to provide 29 evidence-based, non-medical services that address housing, food, transportation, interpersonal violence, and toxic stress needs at scale in Medicaid. The Pilots covers roughly one-third of North Carolina's counties and requires participants to address the qualifying social needs of Medicaid enrollees.

An ongoing evaluation sponsored by the Centers for Medicare & Medicaid Services (CMS) will examine the effect of the Pilots on health outcomes, health care utilization, and health care costs.[3] While that evaluation is in process, practical implementation lessons, innovations, and policy considerations are needed now by not only the Pilots' policymakers, implementors, and providers, but also stakeholders in other states looking to design and implement similar initiatives, including less expansive programs.

To address this research gap, we conducted a multi-method qualitative study examining the Pilots' design and capacity-building phases and the first four months of implementation. The study include a convening of stakeholders, including policymakers, community-based organizations, health plans, health systems, and researchers, and key informant interviews with a total of 63 stakeholders involved in planning and implementing the Pilots or representing critical stakeholder perspectives of similar initiatives. We identified six implementation and policy themes, with implications and recommendations for similar programs. These timely findings will be useful for state and federal policymakers and commercial payers designing and implementing health policy programs to address social needs, as well as for participating frontline clinical and social service providers. Stakeholders interested in implementing similar programs at a smaller scale may draw from the recommendations most relevant to their goals, approaches, and populations.

Most evidence on the effectiveness of social service interventions on health care costs and outcomes is from time-limited interventions focused on specific subpopulations or services occurring in more urban areas of the United States.

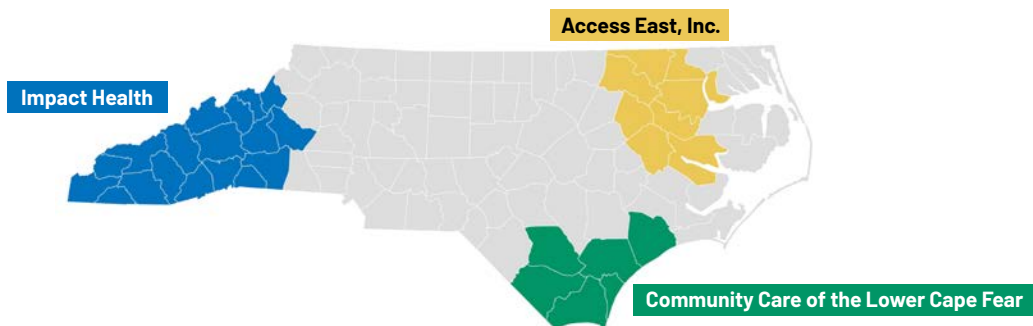# OVERVIEW OF NORTH CAROLINA'S HEALTHY OPPORTUNITIES PILOTS

The Healthy Opportunities Pilots is the first comprehensive program in the United States to test the impact of providing select evidence-based, non-medical services related to housing, food, transportation, and interpersonal safety and toxic stress to address social needs of eligible Medicaid enrollees.[1] Eligible populations include North Carolina Medicaid enrollees living in three primarily rural Pilots regions, with at least one qualifying physical or behavioral health condition and one qualifying social risk factor.[4]

Participants and Goals. At a high level, the program delivery model involves multiple levels of design and administration. Three regional **Network Lead** organizations — Access East, Inc., Community Care of the Lower Cape Fear (CCLCF), and Impact Health — were selected by the North Carolina Department of Health and Human Services (NC DHHS) from a competitive application process.[5] Each Network Lead is responsible for building and supporting networks of **human service organizations (HSOs)** — program terminology comparable to CBOs — to deliver social services in a region of the state, which together represent roughly a third of North Carolina's counties (Figure 1). HSOs are contracted to deliver one or more of 29 Pilots services. **Prepaid Health Plans (PHPs — North Carolina's Medicaid managed care plans)** are ultimately responsible for managing Pilots participants' cost of care, health, and social needs, and are tasked with managing funding allocated for the Pilots, identifying eligible Medicaid enrollees, and authorizing and paying for services with Pilots funds. **Care managers** — either within a PHP, a state-certified Advanced Medical Home (AMH), or local health department — work with PHPs to identify, screen, enroll, and track Medicaid enrollees in the Pilots over time.

The goals of the Pilots are to:

- Evaluate the effectiveness of select evidence-based, federally approved, non-medical interventions, as well as the role of regional Network Lead organizations, in improving health outcomes, reducing health care costs, and promoting health equity for high-risk North Carolina Medicaid Managed Care members.

- Leverage evaluation findings to embed cost-effective interventions that improve health outcomes into the Medicaid program statewide.

- Support the sustainability of delivering effective non-medical services, including by strengthening the capabilities of HSOs and partnerships with health care payers and providers.[6]

The Healthy Opportunities Pilots is the first comprehensive program in the United States to test the impact of providing select evidence-based, non-medical services related to housing, food, transportation, and interpersonal safety and toxic stress to address social needs of eligible Medicaid enrollees.

Figure 1. Map of North Carolina's Healthy Opportunities Pilots

Services Rollout and Evaluation. CMS authorized the Pilots through October 31, 2024, as part of the state's broader Section 1115 Medicaid demonstration waiver that shifts North Carolina Medicaid to managed care.[4] Up to $650 million in Medicaid funding is available to the Pilots, including up to $100 million for capacity-building for Network Leads and their contracted HSOs.[7] The start of the capacity-building phase was delayed due to the COVID-19 pandemic and state budgeting; funds were first distributed in June 2021, providing nine months of upfront capacity-building time and funds before service delivery began, and with ongoing use authorized through the end of the waiver period. The funds are not available to individual HSOs indefinitely, but they are available for Network Leads to maintain their network (e.g., supporting capacity-building for newly added HSOs, to support any unexpected surges in service referrals, or to assist with cash flow issues during reimbursement delays). The Pilots launched service delivery starting with food services in March 2022. Housing and transportation services launched in May 2022 and parts of the toxic stress services launched in June and July 2022, with the remaining sensitive interpersonal violence services added in April 2023 (See Figure 2).

The CMS-sponsored evaluation of the Pilots consists of two key phases: a rapid cycle assessment phase, which aims to generate interim findings on whether the Pilots is operating as intended and inform potential program modifications, and a summative evaluation phase, which will rigorously test the final iteration of the Pilots.[3, 8]

Figure 2. Timeline of North Carolina's Healthy Opportunities Pilots
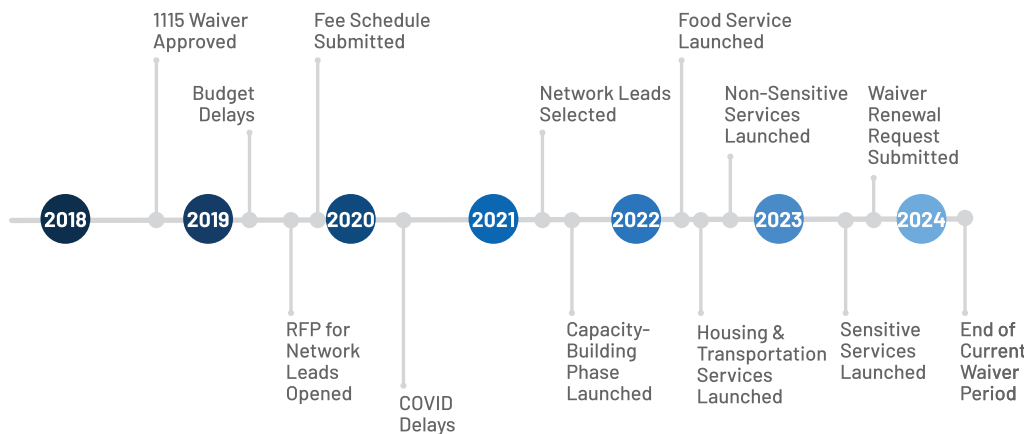
Distinguishing Features. There are several design features that distinguish the Pilots from other health policy programs to address social needs. First, it is unique in its ability to test and evaluate Medicaid coverage of evidence-based, non-medical, social support services spanning many sectors. Moreover, these services are available to a broader set of Medicaid populations than other Medicaid-supported initiatives in other states, both in terms of eligibility (e.g., beyond Medicaid enrollees living with disabilities) and geographic scale. Second, North Carolina is the first state to design a fee schedule pricing out and defining multi-sectoral, non-medical social support services — a significant undertaking based on reviewing evidence, stakeholder input, and independent actuarial analysis.[9–11] PHPs are required to use Pilots funds to pay for all covered social services for which their members are deemed eligible (within the $650 million cap). Third, while North Carolina is not the first

Medicaid program to authorize payment mechanisms for social support services, it uses a more direct and scaled-up approach than other states. The program requires PHPs to make their "best efforts" (three attempts) to screen all managed care members for physical, behavioral, and social needs, and connect eligible members to organizations that can address identified social needs. By contrast, several other Medicaid programs allow but don't require health plans to authorize payments to address social needs. And fourth, to facilitate service referral and invoicing, the Pilots utilize NCCARE360, a technology platform developed through a public-private partnership that is the country's first statewide cross-sectoral closed-loop referral system.[12]

Recent and Upcoming Milestones. North Carolina is already hitting and approaching key milestones. As of the end of July 2023, over 111,000 Pilots services had been delivered to over 12,000 Medicaid enrollees, some of whom have shared with NC DHHS the immediate positive impacts that the program has had on their daily lives.[13,14] The state has two major next steps. First, the waiver proposed gradually incorporating value-based payment (VBP) principles by linking more payments for Pilots services to health and socioeconomic outcomes each year.[4] In the first VBP Period (June 2021—June 2022), NC DHHS offered incentive payments to Network Leads and HSOs for meeting Pilots implementation milestones. In the second VBP Period (July 2022—June 2023), incentive payments for meeting process metrics were offered. In July 2023, NC DHHS began implementing a pay-for-performance model in which incentive payments are tied to Pilots service delivery milestones. In addition, Pilots services will become available to eligible members of Tailored Plans, which are integrated health plans in development for individuals with significant behavioral health needs and intellectual/developmental disabilities.[1,15] Because the current Section 1115 waiver was designed to cover a five-year capacity-building and implementation period but started nearly two years later than planned, NC DHHS requested in August 2023 a renewal of its 1115 waiver to continue the Pilots through a second five-year waiver period.[16]

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THEMES ON PILOTS DESIGN, CAPACITY-BUILDING, AND IMPLEMENTATION

Based on our analysis of Pilots design, capacity-building, and early implementation experiences, we identified six implementation and policy themes, with recommendations for other programs. Each is expanded upon below.

1. **Create a structure that accommodates and balances building local capacity and scaling service delivery.**

2. **Consider leveraging Medicaid demonstrations as part of a broader funding strategy to maximize flexibility and sustainability.**

3. **Engage diverse community stakeholders during design and implementation to maximize existing community infrastructure.**

4. **Build a business case for scaling and sustaining the capacity of community-based organizations to overcome historic funding challenges.**

5. **Develop sophisticated training and technical assistance approaches to build cross-sectoral knowledge across all program entities.**

6. **Ensure data and technology are flexible to support key cross-sectoral program functions and in compliance with multiple sectors' laws and regulations.**

THEME 1: Create a structure that accommodates and balances building local capacity and scaling service delivery

Theme 1.1: Building local capacity and scaling service delivery are two high-level goals that can be complementary or come into conflict depending on the design and pricing of services. One interviewee noted that tension between these two goals plays out across multiple aspects of the program. For example, the program could opt to work with a small number of large, well-established HSOs that can deliver services immediately on small profit margins, but this would not necessarily improve the capacity of local infrastructure (e.g., small HSOs run and staffed by local community members).

The Pilots try to balance these big-picture and community-level goals by providing upfront capacity-building funds to HSOs and building in flexibility to adjust the prices of Pilots services according to rapid cycle assessments and other timely guidance. Transitioning to a model with a prospective budget that provides HSOs with upfront payments to cover social services could be one option for reconciling these goals while creating a more scalable and financially predictable model. This would prevent cash flow issues for HSOs waiting for reimbursement, and reduce the administrative burden associated with reimbursement. The ability to shift from a reimbursements model to prospective payment may need to be considered on a service-by-service basis depending on the predictability of each services' utilization and the accuracy of the pricing model.

Another program design conflict between local capacity and scaling involves the degree of flexibility built into service design and reimbursement mechanisms. Flexibility allows for adaptation of services and payments to local contexts or newly discovered nuances and issues — but it may lead to variability in service quality, making the evaluation necessary for embedding the services into Medicaid challenging. For the Pilots, interviewees felt that the broad service definitions helped ensure service availability, but some thought the Network Leads could develop additional guidance and guardrails. For example, the contents of food box services are broadly defined, and both interviewees as well as focus group participants noted varying quality; some food boxes had a diversity of fresh meats, fruits, and vegetables, whereas others contained only canned goods and starches. These tradeoffs should be clearly shared with CBOs when they assess their abilities to participate.

Theme 1.2: Cross-sectoral programs must balance design and implementation tradeoffs between centralization and decentralization of CBO network management and oversight. The tradeoffs between building CBO capacity and sustaining CBO services through Medicaid also have implications for delegation of authorities to administer and oversee those services. While the Pilots were designed to be co-managed by Network Leads and PHPs, NC DHHS opted for a decentralized service delivery structure, with regional Network Leads charged with: 1) building networks and contracting with HSOs, 2) providing technical assistance (TA) to HSOs, and 3) evaluating network performance.[17] This regional, community-based approach aligns with two of the program's goals: 1) to ensure diverse and equitable participation among HSOs, and 2) to strengthen community capacity to address local health and social needs.[1] To help balance power dynamics among Pilots entities, NC DHHS created model contracts between Network Leads and HSOs and between Network Leads and PHPs.[18, 19]

Transitioning to a model with a prospective budget that provides HSOs with upfront payments to cover social services could be one option for reconciling these goals.

The decentralized approach allows for regional customization of services to match community needs, the ability to leverage long-standing community relationships to build networks and expand access, and investment in smaller HSOs and local economies. Each Pilots region took different approaches to building their local HSO network. One Network Lead had a tiered approach for engaging interested HSOs. After they received applications, the Network Lead could assess any gaps and conduct outreach to additional HSOs as needed. Some networks had HSOs with more financial and administrative infrastructure sign contracts first, while smaller HSOs were given more assistance with the application and onboarding processes and joined the network later.

> "We hear that the goal is to identify those services that are effective and that can then be adopted by the health care system at scale, and concurrently, we want to support the development of the civic and nonprofit infrastructure to deliver the services ... those are two different objectives ... and so that tension starts to play out ... from the NCCARE360 technology base to how enrollments are done, how screenings are done to how invoicing is done, to the relationship of the PHPs and HSOs."
> — INTERVIEWEE

Many interviewees thought that there were tradeoffs associated with Network Leads' authority over program design and administration. A regional approach, which requires customized regional infrastructure investment, could hinder expansion to new regions. A regional approach can also frustrate statewide health plans that are required to pay for services delivered through networks that they do not manage. Some interviewees felt that PHPs should directly contract with HSOs to provide Pilots services, while others saw value in having Network Leads as the coordinating entity, noting that many HSOs would be intimidated by contracting directly with PHPs. In April 2023, NC DHHS began a small pilot to test allowing one HSO to directly contract with PHPs.

Cross-sectoral programs that have decentralized structures allow for different regional oversight approaches to ensuring local community representation. While NC DHHS requires that each Network Lead establish a governing body to conduct oversight of Pilots programming and funding, Network Leads were given flexibility in the design of these governing bodies and used different approaches to accomplish similar goals (Table 1). Network Lead governing bodies must include representation from at least one health care organization or provider organization operating within the Pilots region, consumer advocates with expertise or experience with the Pilots service domains, and a stakeholder with expertise in evaluation and data management.[5] All three Network Leads included existing regional collaboratives in their oversight structures to build more responsive, community-driven infrastructure.

Table 1. Organizational Features and Oversight Structures of Network Leads

	Impact Health	Access East, Inc.	Community Care of the Lower Cape Fear
Organizational type and history	• New nonprofit organization created by Dogwood Health Trust (a private foundation established in 2018 as a conversion foundation following the sale of Mission Health System to HCA Healthcare)	• 20+ years of experience as a care management entity • Nonprofit subsidiary of ECU Health	• 20+ years of experience as a care management entity • Independent nonprofit organization • Uniquely fills two program roles by also serving as a Pilots care management entity. Firewalls were put in place between program roles.
Unique organizational partnerships to support the Pilots	• Dogwood Health Trust • Local Councils of Government (COGs) to understand regional needs, goals, and resources • Mountain Area Health Education Center (MAHEC) and Mission Health Partners to provide training to network entities	• An existing regional collaborative known as "Eastern NC Health Stewards," of which Access East was a member, identified the proposal for the Pilots. Eastern NC Health Stewards collectively identified Access East as well-positioned to be a Network Lead, and Access East partnered with members to develop the proposal.	• Community data nonprofit, Cape Fear Collective, for data-driven interventions
Oversight structure	• Created a new Board specific to the Pilots, with three committees: finance and audit, executive, and programs • Five Technical Councils (one for each social drivers of health [SDoH] domain and one for network administration and care management) • Five County Collaboratives (made up of existing regional COGs)	• Created a sub-Board for the Pilots • Appointed a Healthy Opportunities Networking Council to report back to the Board	• Created a sub-Board for the Pilots structured around both SDoH service domains and local geographic regions • County-level Care Councils to provide geographic expertise, technical training, and assistance • Regional Program Managers as subject matter experts for each SDoH service area
Examples of Board members	• Social services providers • Health care providers • County governments • Local health departments • Consumer advocates • Tribal representatives (from a federally recognized Tribe in the region)	• Partners from Eastern NC Health Stewards representing different sectors and identified needs • Community members • Health care providers (including behavioral health) • Local health departments • Health system and Federally Qualified Health Center leaders • HSO representative • Consumer advocacy representative	• People with advocacy and lived experiences related to SDoH and health equity • Representation in data science and leveraging data in community health • Health plan representatives • Board chair and treasurer to report up and align board and sub-board goals

Theme 1: Create a structure that accommodates and balances building local capacity and scaling service delivery

Considerations

- Include evidence-gathering and stakeholder engagement activities with payers and diverse CBOs as part of a capacity-building phase, and use lessons learned to improve social service definitions and prices.

- Consider designing phased fee schedules to allow an initial focus on capacity-building before transitioning to models with more prospective cost predictability and potential to be sustainable for generating a return on investment in managed care.

- Use rapid cycle evaluations to regularly reassess and adapt fee schedules as needed.

- Consider opportunities for bundling services that are helpful to have delivered concurrently or in succession.

- Consider phased program design and governance structures:

  - First phase: Regional design to promote regional diversity and capacity.

  - Second phase: Expansion to new areas or statewide model with regional network leads.

THEME 2: Consider leveraging Medicaid demonstrations as part of a broader funding strategy to maximize flexibility and sustainability

Theme 2.1: Section 1115 waivers provide a significant opportunity to address health-related social needs but have limitations. Medicaid represents a promising policy avenue for addressing health-related social needs in states by virtue of the size of Medicaid budgets. Medicaid accounted for 35% of total state and local spending in 2021 and 16% of national health expenditures in 2020.[20, 21] State Medicaid programs and managed care plans have several authorities and opportunities to address enrollees' health-related social needs, including state plan authority, Medicaid managed care flexibilities (e.g., in lieu of services, value-added services), and Section 1115 demonstration flexibilities.[22] The design of Medicaid-financed health-related social needs interventions is highly influenced by CMS's Section 1115 demonstration waivers (over half of Medicaid spending is through Section 1115 waivers) and varying state policy context for Medicaid program implementation.[23]

Longstanding CMS policy typically requires Section 1115 demonstrations to be budget neutral to the federal government; the cost of the demonstration cannot exceed what CMS would have otherwise paid to the state through federal financial participation without the demonstration program.[24] Historically, budget neutrality requirements have complicated mid-course corrections to program implementation (for example, to increase fee schedule amounts to reflect inflation or to retain CBO participation).[25] Some states have been able to exclude Section 1115 budget neutrality requirements if those services could have otherwise been offered, even in a more limited form, through an existing authority (such as a state plan Section 1915 waiver).[24] North Carolina's agreement with CMS treats Pilots services expenditures as "hypothetical," meaning the state does not need to generate savings elsewhere in the program to cover them.[24, 26] North Carolina's Section 1115 waiver, more broadly, includes a shift to a Medicaid managed care model, which is estimated to generate savings to help offset overall waiver costs.

CMS made a series of changes to budget neutrality policy in Fall 2022.[27] Under the new policy, CMS still requires states to project "without waiver" spending and uses this as a framework to assess budget neutrality, but there are new processes for states to adjust budget neutrality calculations and cover services as hypothetical expenditures. Notably, CMS is offering a new Section 1115 demonstration opportunity to support states in addressing the health-related social needs of Medicaid enrollees, through which states can offer certain housing and nutrition supports and health-related social needs case management as hypothetical expenditures subject to a cap.[28, 29] These changes will allow states more flexibility to test and implement innovative programs to address social needs through Medicaid.

A challenge with cost calculations for addressing social needs through any Medicaid authority is that major capacity-building funds are needed to stand up these novel programs. Under normal 1115 waiver budget neutrality policies, these funds will need to be offset with health care savings. Several interviewees stressed that there are major implementation and policy considerations related to budget neutrality. Infrastructure investments like creating new referral and data-sharing networks, providing training and TA to health care organizations and CBOs, and boosting workforce and workflow capacity are non-trivial and limit the ability to generate health care savings above and beyond overall program investments in the near-term.

A challenge with cost calculations for addressing social needs through any Medicaid authority is that major capacity-building funds are needed to stand up these novel programs.

While state Medicaid programs have many structural avenues for covering social supports — some of which are standing authorities, and others that can bring significant federal funding — there are specific requirements for what each policy avenue can cover.[22] Other states should know that there are tradeoffs between short-term capacity-building and long-term sustainability depending on the regulatory avenue chosen to address social needs through Medicaid. In a Section 1115 waiver, it is possible to both expand eligible populations and definitions of social support services in ways that are financially attractive to sustain CBOs within federal budget neutrality policy — and a state can receive new federal funding to facilitate that — but it will be time-limited. Amending a state plan agreement with CMS can help avoid budget neutrality requirements for federal dollars while not being subject to a waiver timeframe. But the agreements' content will be limited to what is possible through normal Medicaid authority (i.e., a limited array of social support services applicable to a smaller pool of eligible populations at rates that are designed around health system efficiency — which may prove unsustainable for many CBOs).

Theme 2.2: Blending and braiding funding maximizes flexibility and sustainability. The most sustainable way to address health-related social needs financially involves more than Section 1115 mechanisms and Medicaid dollars. As one example, during the COVID-19 pandemic, North Carolina created the Support Services Program — considered a small-scale preview of the Pilots due to similarities in delivery model and covered social services.[30] This program was launched using a combination of funds from state legislation and the Coronavirus Aid, Relief, and Economic Security (CARES) Act. The regulatory flexibility of CARES Act funding allowed the state to make changes to the fees set for grantees of this program much more rapidly than the relatively longer timeframes specified through the Pilots' rapid cycle assessments.[30] For the Pilots, North Carolina relied on generous philanthropic support beyond federal funding amounts to bolster infrastructure building funds and provide shared learning and TA forums.[31-33] A targeted campaign led by health policymakers to generate funding sources beyond Medicaid will help build a better business case for all parties from CBOs, to health plans, to state policymakers.

There are several promising models for blending and braiding funding to address social drivers of health (SDoH) and advance population health, including wellness funds or trusts as well as SDoH bonds. In these models, pooled funds are typically raised or allocated by various stakeholders, such as governments, health plans, philanthropies, and local businesses, to make aligned investments toward community health goals.[34-37] These models hold promise, but similar initiatives have faced challenges to implementation.[34, 38, 39] Lessons learned from efforts to implement these models may be helpful for states planning similar initiatives.

Alongside Section 1115 waivers and diversified funding approaches to support them, state leaders should consider establishing a cross-sectoral stakeholder forum to create a vision and strategy for coordinating and aligning policy and funding opportunities. This collaboration could include addressing social needs through Medicaid, commercial innovation, Medicare Advantage authorities, one-off initiatives, and providing transitional planning and supports for organizations not selected for pilot programs or for organizations to continue work after a pilot's cessation. Key levers that may be considered in a statewide strategy include aligning efforts to address social needs across multiple funders and payers, leveraging Medicaid Section 1115 waivers to build infrastructure to address social needs at scale, and building and sustaining organizational capacity through cross-sectoral partnerships.[40]

Section 1115 waivers can be designed to minimize budget neutrality requirements and to provide upfront capacity-building funds, but the most sustainable way to address health-related social needs involves a coordinated statewide approach beyond Section 1115 mechanisms and Medicaid dollars.

Theme 2: Consider leveraging Medicaid demonstrations as part of a broader funding strategy to maximize flexibility and sustainability

Considerations

- When pursuing a Section 1115 waiver, states should consider several important flexibilities, such as hypothetical expenditures for services.
- Section 1115 waivers should be considered as part of a multi-pronged funding strategy that includes local philanthropic organizations, etc.
- Consider blending and braiding funding mechanisms (e.g., wellness funds or trusts, SDoH bonds).
- Consider statewide approaches to coordinating initiatives to address social needs.

THEME 3: Engage diverse community stakeholders during design and implementation to maximize existing community infrastructure

Theme 3.1: Stakeholder engagement in program design and implementation is critical to success. It is important for states to engage key community partners throughout cross-sectoral program design and implementation to build trust and gain feedback. While planning for the Pilots, NC DHHS conducted proactive outreach and engagement with CBOs and health plans to get input on the design of the program and fee schedule. During the capacity-building and early implementation phases of the Pilots, interviewees identified opportunities to further engage key implementation partners who were less involved in program design and early rollout.

Several interviewees noted that they were aware of CBOs that could have been good candidates for participation as HSOs but had not heard of the Pilots. That said, the Pilots were launched during a challenging time. Many North Carolina Medicaid enrollees were transitioned to managed care and enrolled in PHPs in July 2021, which led to some confusion and competing attention for enrollees, health care providers, PHPs, Network Leads, and CBOs. Additionally, responding to the COVID-19 pandemic's impact was everyone's first priority. North Carolina's COVID-19 Support Services Program, which aimed to address social needs in a structure similar to the Pilots, began in August 2020, whereas the Pilots' launch was delayed.[30]

Along with CBOs and health plans, states should consider opportunities to engage Medicaid providers and enrollees to hear their feedback about the design and delivery of services. Feedback from our focus groups that included Medicaid enrollees who received Pilots services reported high satisfaction with Pilots services thus far, as well as some differences between the program's service definitions and enrollee preferences (see box).

During the capacity-building and early implementation phases of the Pilots, interviewees identified opportunities to further engage key implementation partners who were less involved in program design and early rollout.

Focus Group Participants' Feedback on Pilots Services

Focus groups were conducted in early May 2022, which limited participants' experience with Pilots services to those in the food domain, though to date this remains the most utilized service. Participants were asked about their needs and service preferences in the other service domains.

Overall, participants expressed high satisfaction and gratitude for the food services they had received. Participants said that they would like clearer communication about service options and more food choices. In terms of housing services, participants expressed interest in services that could help with air conditioning and heating repairs, modifications for safety and accessibility, and supports for both homeowners and renters. For transportation services, participants noted large gaps in the availability of public transportation options, especially in more rural areas of the state. Participants expressed interest in personal vehicle repairs (e.g., repairing air conditioning in cars) and had questions about whether enrollees had to own their primary vehicle (versus using a vehicle shared with family members or friends) to be eligible for such services.

In terms of personal and household stress services, participants were particularly interested in non-crisis stress services for certain groups including parents, people experiencing intimate partner violence, and adolescents and young adults. Specific services participants expressed interest in included anxiety and depression services, empowerment services, skills training, and financial stress services.[42] Some of the services desired by focus group participants are available through the Pilots, so clearer communication about the availability and range of services would be beneficial.

Theme 3.2: Leveraging existing infrastructure helps tailor programs to local and cultural contexts. Leveraging existing infrastructure, where possible, will allow for tailoring program design and service delivery approaches to local and cultural contexts. For example, Pilots participants in especially rural areas have fewer public and private transportation options, making it harder to offer transportation services. To mitigate this challenge in parts of Western North Carolina, Impact Health worked with the Land of Sky Regional Council to create new transportation subcontractor hubs for their Pilots region. These hubs built from existing infrastructure, including a local transportation system, Mountain Mobility, which works with a network of 30 human service agencies to coordinate a hub of transportation providers.[43] Moving forward, interviewees identified more opportunities to provide clearly defined roles in the Pilots to key local stakeholders, including health care providers, associations, and facilities, especially federally qualified health centers (FQHCs); schools; faith-based organizations; and local departments of social services.

Theme 3.3: Designing streamlined outreach and enrollment processes to facilitate enrollee access. Cross-sectoral programs to address social needs must design streamlined outreach and enrollment approaches to facilitate "no wrong door" access. For the Pilots, there are several ways in which Medicaid enrollees can get connected to the program: through identification by their PHP or care manager; through a referral from a health care provider or HSO; or self-referral.[17] NC DHHS also created a "no wrong door" referral option in NCCARE360, through which any organization using the platform (within or outside of the Pilots) can refer an individual to their health plan for an eligibility assessment. Most focus group participants heard about the Pilots from their care managers, but several participants got connected to the program via word of mouth from their health care provider, employer, or family members and friends.[41]

Greater public awareness of the Pilots could also help facilitate these connections, and several interviewees described ideas for additional entry points to the program. One HSO participating in the Pilots suggested that medical and socioeconomic data from Medicaid applications should be used to proactively identify enrollees for inclusion in the Pilots, and that this approach should be paired this with affirmative outreach to eligible enrollees.[43] Beginning in March 2023, NC DHHS worked with one HSO and one PHP to test a similar direct-to-consumer enrollment approach for one of the Pilots food services, which resulted in over 3,000 new enrollments to receive the service by May.[44] NC DHHS is working to expand this approach to more Pilots services, HSOs, and PHPs, and is also having PHPs improve their logic to proactively identify and reach out to eligible members through phone calls or as part of care management visits.

Interviewees also expressed interest in formally engaging community health workers (CHWs) or social workers to conduct community outreach, assist with enrollment, and raise broader awareness of the Pilots; the state developed a CHW program during COVID-19, which is infrastructure to leverage in the future for improved patient engagement in the Pilots.[30, 45] In April 2023, NC DHHS began a small pilot paying HSOs to conduct grassroots outreach and enrollment for the Pilots in their communities, and developed outreach materials (e.g., posters, brochures) for HSOs, PHPs, and providers to distribute.[44]

Theme 3: Engage diverse community stakeholders during design and implementation to maximize existing community infrastructure

Considerations

- States should engage the following key community partners in program design and implementation:
  - Community health workers
  - Safety net providers
  - Small and large CBOs
  - Beneficiaries

- States should require community or regional leads to include the above stakeholders in community governance.

- States should consider creating learning collaboratives that include program stakeholders as well as stakeholders from related efforts within and outside of the state.
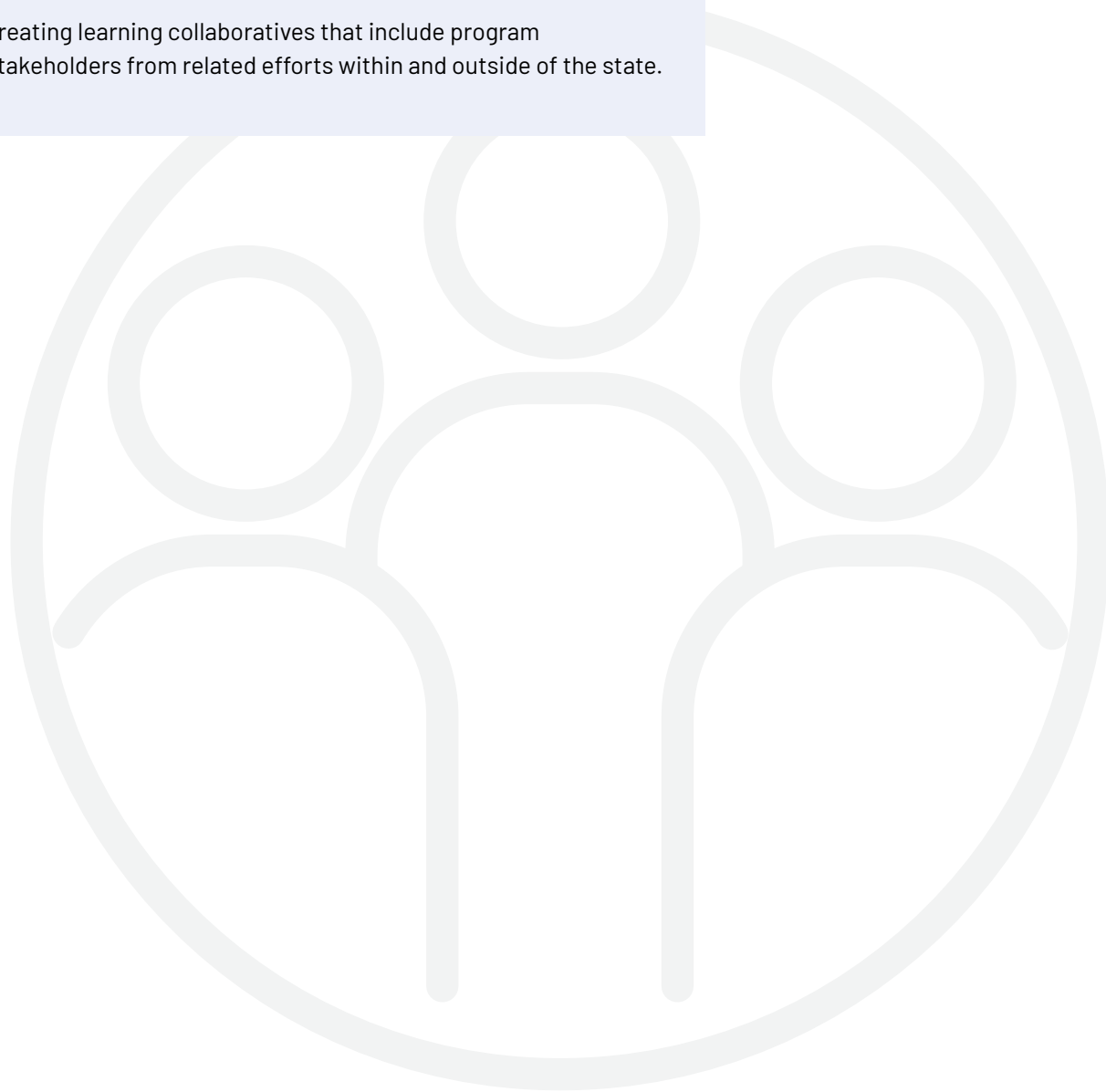
THEME 4: Build a business case for scaling and sustaining CBO capacity to overcome historic funding challenges

Theme 4.1: Cross-sectoral programs to address social needs present new models of service delivery, funding and reimbursement, and partnerships for many CBOs. CBOs represent a wealth of human and relationship capital based on their roles in communities, but many lack sustainable funding sources outside of grant and philanthropic support. These budgetary problems were further exacerbated by the COVID-19 pandemic.[46] Programs like the Pilots present a vital opportunity to invest in CBOs to build their capacity to address social needs during the program and beyond. Some HSOs participating in the Pilots have prior experience working with the health system and health plans — and feel that the program needs to facilitate more direct interactions between these sectors to properly prepare HSOs to interface with the health system in the future. However, for most HSOs in the Pilots, the program presents entirely new models of service delivery, funding and reimbursement, and partnerships.[47] For example, one interviewee shared that food pantries in their area have expertise that allows them to easily deliver food, but usually do not have experience with billing for services and paying staff salaries (as they work with volunteers).

> "It's important to look regionally and have stakeholders who are used to working on these issues. That's what we've lacked before…. You really need that infrastructure and support to move forward."
> — INTERVIEWEE

Some HSOs in the Pilots flagged cash flow challenges associated with program design. PHPs retroactively reimburse HSOs for the Pilots services they deliver within 120 days of service delivery. The 120-day reimbursement period was set by the state to allow sufficient time for HSOs to generate and submit invoices, Network Leads to review them, and PHPs to review them and send payments or disputes as necessary. By early 2023, an automated process was implemented to transform HSO invoices to the claims forms that health plans are used to handling, which made the review process less time-consuming for PHPs. However, several interviewees shared that the initial long reimbursement period discouraged some HSOs from participating. Several interviewees expressed interest in aligning the reimbursement period with the standard schedule for NC Medicaid claims (within 30 calendar days of a clean medical claim submission) after the process is better automated, or moving to prospective reimbursement for HSOs.[48] To help combat these capacity and financial sustainability challenges, one Network Lead developed a Business Solutions Center for their HSOs (see box).

Innovation Call Out: Business Solutions Center for HSOs

As part of the implementation phase of the Pilots, Community Care of Lower Cape Fear (CCLCF) found that varying levels of access to resources, infrastructure, and staff development left some HSOs better equipped for service delivery, capacity-building budgeting, data collection, and/or reporting than others. To provide an opportunity for HSOs to have free and optional access to shared services, coaching, and training and development to strengthen infrastructure and long-term sustainability of HSOs, not only in the Pilots but beyond, CCLCF secured funding from the Kate B. Reynolds Charitable Trust to create a Business Solutions Center. Blue Cross and Blue Shield of North Carolina Foundation provided additional funding to support these efforts.

HSOs will have access to a shared language line for use beyond the Pilots; coaching/consulting support in IT, human resources, and accounting and finance; access to sustainability reporting and consultation; training opportunities such as governance-leadership-management workshops; and more. These grants also provide a general pool of funding for HSOs that capacity-building funds can't currently cover, including a revolving credit for organizations with multiple cost-based reimbursement referrals and long-term rent payment to expand and enhance services.

Theme 4.2: Funding and time to build CBO capacity are critical for success. In the Pilots, dedicated time and money for capacity-building provided HSOs with an opportunity to make investments necessary for success. Interviewees shared that many HSOs used capacity-building funds to obtain office space, purchase supplies and equipment, hire staff, and build technological infrastructure. However, because of budget and COVID-19-related delays, the capacity-building phase launched later than planned, leaving HSOs with less time than anticipated to finalize their contracts and budgets and prepare for service delivery. This especially impacted smaller HSOs with less prior health sector experience; interviewees shared that many HSOs needed more time and support to handle billing, new jargon, and collaboration with health plans and medical providers.

Capacity-building funds are also critical to make sure that health policy programs to address social needs build new capacity for CBOs, rather than "crowding out" or "buying" existing capacity and services.[49] This means ensuring that new infrastructure is created that does not compete with a CBO's ability to provide services to existing clients outside of the health system (e.g., people without health insurance, or not eligible for the Pilots). Policymakers should collect data on and monitor contracted CBOs' service delivery on a periodic basis — stratified by funding source — to ensure that service delivery through new health system dollars is not coming at the expense of reduced delivery among other populations.

Theme 4.3: Programs should be flexibly designed to respond to CBOs' emergent needs. Some of the Pilots' capacity-building and implementation details have already been adjusted in response to unexpected issues. For example, many HSOs depend on the work of part-time staff and volunteers and did not have sufficient referral volume early in the Pilots to launch services or justify hiring full-time staff to meet projected demand. Given the shortened capacity-building phase, the state decided to implement a phased rollout of Pilots services, starting with food services.

Based on lessons learned from the Pilots, cross-sectoral programs should consider ways to create sustainable and less administratively burdensome participation options and funding streams for CBOs. First, programs should assess CBOs' capacity and readiness before the program to create archetypes and supportive pathways for participation. For example, larger CBOs with more capacity could be considered "full" participants, while smaller CBOs could subcontract with larger CBOs to provide services while receiving support with administrative functions. These CBO archetypes could also be used to create multiple payment pathways, such as a transparent fee schedule with options to move to a prospective or capitated system as capacity is built. These payment options should allow CBOs to build capacity while creating strong ties to fidelity and quality measurement. Because this creates additional programmatic and monitoring complexity, program funders should provide additional resources to meet the needs of CBOs and entities providing oversight.

Capacity-building funds are also critical to make sure that health policy programs to address social needs build new capacity for CBOs, rather than "crowding out" or "buying" existing capacity and services.

Theme 4: Build a business case for scaling and sustaining CBO capacity to overcome historic funding challenges

Considerations

- Programs need to be designed to provide upfront funding and time before service delivery.

- Establish ways to assess CBO capacity and readiness before the program to create archetypes and supportive pathways.

  - Use archetypes to create multiple options for CBOs to participate in the program.

  - Use archetypes to create multiple funding and payment pathways for CBOs.

- Programs should collect data on and monitor contracted CBOs' service delivery – stratified by funding source – on a periodic basis to ensure that service delivery through new health system dollars is not coming at the expense of reduced delivery among other populations.

THEME 5: Develop sophisticated training and technical assistance approaches to build cross-sectoral knowledge across all program entities

Theme 5.1: Cross-sectoral TA and training programs must be tailored to stakeholder type and sector of service. Given the complexity of cross-sectoral programs to address social needs, TA and training must be offered not just for each type of stakeholder (CBOs, health plans, regional lead organizations, etc.) but also for each sector of services (food, transportation, housing, etc.). For the Pilots, interviewees shared some early training needs included service-specific TA and legal and regulatory TA to help HSOs gain a better understanding of contract language and requirements (see box). Interviewees also expressed the importance of having continually available forms of TA and training, such as written documents or recordings, to help HSOs learn at their own pace.

Network Leads sought TA from the state on network management and oversight. Creating templates for program forms for Network Leads, for example, could help streamline efforts and reduce administrative burden. Similarly, some interviewees said that Network Leads and PHPs would like more information on the expectations for roles and responsibilities of their staff working on the Pilots.

Theme 5.2: TA and training programs for HSOs varied by region. Network Leads are required to provide TA and training to the HSOs in their networks, but they can tailor their trainings to meet specific needs. Each Network Lead partners with local organizations to support HSOs in delivering Pilots services and building capacity. Impact Health is contracting with two local health care networks, Mission Health Partners and MAHEC, to provide TA consulting focused on performance improvement, HSO development, and VBP methodology. CCLCF developed an implementation team with a local medical center, data-driven nonprofit, and university to review HSO training and development plans and develop additional training related to cultural competency (self-awareness, social awareness, and relationship management), implicit bias, and program evaluation. Access East is also partnering with a local university to develop a readiness assessment for HSOs and a local Area Health Education Center to provide TA and training on cultural competency and quality improvement. Additionally, as aforementioned, two local philanthropic organizations are funding statewide TA and shared learning forums across all three Pilots regions.[33] Other states should consider creating learning collaboratives or other mechanisms to facilitate shared learning across program stakeholders.

Theme 5.3: Care managers desired TA and training customized by sector of service. Interviewees stressed the importance of offering more standardized screening and enrollment training for care managers, as it is important for ensuring equitable access to program services. As the "gatekeepers" to Pilots services, care managers are asked to understand the details of each service domain. One interviewee observed that it can be difficult for care managers to identify what services someone needs. Without proper and consistent training across participating PHPs and AMHs, care managers could over- or under-screen for social needs. To address these concerns, NC DHHS launched a series of trainings customized to each Pilots service domain for care managers in coordination with NC AHEC beginning in Fall 2022. Trainings now available to care managers include assessing member eligibility, tracking enrollee progress, and identifying appropriate services within each service domain.[50]

Equity Call-Out: Reducing Legal Burden to Support Equitable HSO Participation.

One HSO interviewed identified legal and contractual burdens that made participation challenging. These included the creation of legal documents (e.g., subcontractor agreements, landlord agreements) and compliance with extra legal requirements (e.g., becoming a covered entity under HIPAA). Interviewees noted that after discussion with the state, the state adjusted several of the requirements, allowing more HSOs to participate in the Pilots.

Theme 5: Develop sophisticated training and technical assistance approaches to build cross-sectoral knowledge across all program entities

Considerations

- Consider domain-specific TA programs as well as general/administrative TA tailored to different audiences:
  - Service-specific TA
  - Screening and enrollment TA
  - Network oversight and management TA

- Offer TA and training opportunities in real-time (to address emergent issues) and on demand (to accommodate varying schedules and potential staff turnover).

- Consider creating learning collaboratives to facilitate shared learning.

THEME 6: Ensure data and technology are flexible to support key cross-sectoral program functions and in compliance with multiple sectors' laws and regulations

Theme 6.1: Platforms to support cross-sectoral, closed-loop referrals and billing can play a key role in facilitating program success, but there are opportunities for refinement.

Sophisticated bidirectional, closed-loop referral technology can play a key role in facilitating program success. The Pilots leverage NCCARE360, a new statewide technology built through a public-private partnership between the Foundation for Health Leadership and Innovation and NC DHHS, using software from Unite Us. The platform enables sharing of a variety of health, demographic, and social data. Care managers use NCCARE360 to assess members' eligibility and recommend Pilots services, which are then authorized by PHPs through NCCARE360. Once authorized, HSOs use the platform to accept referrals and submit information about the service in an invoice to the Network Lead. Network Leads use NCCARE360 to review invoices from their HSOs and submit them to PHPs. PHPs review invoices and leverage their existing payment systems to reimburse HSOs for the delivered services.

In addition to NCCARE360, NC DHHS uses several other existing technology platforms to support the Pilots. In North Carolina's Medicaid Management Information System, NCTracks, NC DHHS created a new Medicaid provider type for HSOs. NC DHHS also has an advanced Encounter Processing System that processes non-medical, SDoH-related encounters and merges them with medical encounters in one shared analytics database.

While systems like NCCARE360 are advancements for the field, there are naturally opportunities to improve the structure and function of new cross-sectoral data platforms to support streamlined referrals and invoicing. Interviewees shared the following improvements made to date and further suggestions:

- During the design phase of the Pilots, NC DHHS recognized that it was not feasible to expect HSOs to fill out complex claims forms, so they opted to have HSOs submit services for reimbursement through a more familiar invoice format. At the same time, NC DHHS recognized that PHPs would have to reconfigure systems designed for medical claims to read and accept social care invoices. When services launched, each PHP developed a stop-gap solution to help translate invoices to claims; see the box for how one PHP approached this task. After getting feedback from PHPs, this process was later automated.

- Several interviewees described how invoicing for, and tracking delivery and payment of, services were also difficult for HSOs. While many HSOs were accustomed to reporting high-level information on services provided, HSOs must submit Pilot invoices with enough detail for PHPs to track and pay for the services an individual received. NC DHHS started a pilot in April 2023 to allow one HSO to use standard claims processing software to bill the PHP, rather than generate invoices through NCCARE360. After invoicing, some interviewees shared that some Network Leads and HSOs were unable to see how many of each service (e.g., food boxes) a PHP authorized for a beneficiary and how many have been provided, raising concerns among HSOs for auditing. NC DHHS recognized this issue and now all PHPs are sending remittance information to HSOs, noting which payments are tied to which services. One HSO recommended developing a more cohesive, streamlined system to allow program entities to efficiently track referrals and service delivery in one place.[43] In early 2023, new functionality was added to allow both Network Leads and HSOs to view

authorized services. Future functionality is planned to also allow all Pilots entities to see a historical record of what has been approved and delivered over time, and how close an individual is to reaching caps for certain services. NC DHHS and Unite Us continue to gather feedback on these approaches to improve invoicing and training.

- Across all entities, interviewees stated that adding more ways to display data within NCCARE360 would be helpful; some interviewees described having to export data from NCCARE360 into other software to be able to effectively filter and sort it. Unite Us is working on adding enhanced filtering and sorting functionality to improve users' experience. Several interviewees also shared that HSOs, PHPs, and Network Leads would all like access to data dashboards that show an overview of their progress in real time and how it compares to others to ensure equitable service provision and facilitate quality improvement.

Innovative Solutions to Streamline Social Service Invoice Review and Approval

All PHPs developed their own innovative solutions to streamline and automate NCCARE360 invoice-to-claims processing for the first year of the Pilots before this process was automated. One PHP, WellCare of North Carolina, created an early "stop gap" solution beginning March 2022. WellCare developed a new invoice business process within PEGA (a business process and management technology platform) to manage invoices and file exchanges. This new process minimizes manual review and improves the timeliness of payment to HSOs. (WellCare is working with a group of small CBOs in another state to deploy this as a more permanent strategy to bridge the invoice-claim translation gap.)

At a high level, this new process takes daily text-based invoice feeds from NCCARE360 that need to be processed (i.e., as paid, approved, or rejected) and automates two critical functions. The first function is the validation of cases. It generates an active invoice queue with radio buttons and drop-down menus for WellCare staff to review. If rejected, it offers standardized documentation for the rationale, and if approved, sends to a queue for payment.

The second function is preparing required data outputs for updating NCCARE360 and the state, and processing payments to HSOs. It generates three output files. First, it creates an "invoice response file" and "encounter file" on a daily basis. These feeds are used to generate industry-standard claims data reports that are sent to NC DHHS monthly indicating, for each Pilots claim, if the claim was paid, approved, or rejected. Finally, twice a month, a "payment file" is generated by rolling up all approved but unpaid claims and merging in HSO data necessary for payment (such as tax ID). Once payments are issued, this data is updated on an invoice within the PEGA application.

Theme 6.2: Cross-sectoral laws, regulations, and interoperability standards impact the ability to share program data. There are important legal and regulatory implications associated with the structure of cross-sectoral referral systems, the data they contain, and how they are used. The storage and use of beneficiary data in NCCARE360 needs to comply with regulations from multiple sectors to ensure data privacy and confidentiality, including:

- HIPAA (Health Insurance Portability and Accountability Act)
- FERPA (Family Educational Rights and Privacy Act)
- VAWA (Violence Against Women Act), FVPSA (Family Violence Prevention and Services Act)
- VOCA (Victims of Crime Act of 1984)
- HMIS regulations (Homeless Management Information Systems)
- SAMSHA's (Substance Abuse and Mental Health Services Administration) 42 CFR Part 2 regulations

NC DHHS and Unite Us worked to structure NCCARE360 to adequately protect the privacy of enrollees receiving services while ensuring HSOs and other Pilots entities are compliant. Some interviewees suggested that access to information about enrollees receiving Pilots services should be restricted to the "right to know" principle and that informed consent should be required to access such data. (Informed consent for patient data was implemented for services related to interpersonal violence since our interviews.) Modifying NCCARE360 to comply with these regulations and setting up different levels of security was time-consuming and contributed to delaying the launch of sensitive interpersonal violence services by one year.

> "VAWA [and FVPSA] funded agencies have specific requirements about not being able to share information. Without that informed consent ... they may be at risk of losing the funding.... Trying to build a system that could keep the HSOs providing the services and receiving this funding compliant so that they're not at risk of losing federal funding has been the work." — INTERVIEWEE

National efforts to establish cross-sectoral interoperability standards could support the development of necessary technical infrastructure and effective use of referral systems. The Gravity Project is a public-private initiative launched in May 2019 to develop and test the implementation of data standards for the collection, use, and exchange of information related to SDoH.[51, 52] Advancing the use and interoperability of SDoH data is also a priority for the Office of the National Coordinator for Health Information Technology (ONC).[53] In March 2022, ONC launched a SDoH Information Exchange Learning Forum to convene stakeholders to share promising practices and challenges related to SDoH data exchange.[54]

Theme 6: Ensure data and technology are flexible to support key cross-sectoral program functions and in compliance with multiple sectors' laws and regulations

Considerations

Closed-loop referral technology should have core functionality to refer people to CBOs matching their social service needs and to ensure the service was delivered and need was met. Such technology should be able to:

- Handle referrals from health and social service points of contact.
- Have granularity to show specific individual-level service requests.
- Allow for secure communication among system users.
- Contain up-to-date information on CBOs' service offerings and referral loads.

- Closed-loop referral technology can also be used to handle other program needs (e.g., billing, reporting, quality measurement), ideally in an automated fashion.

CONCLUSION

North Carolina's Healthy Opportunities Pilots is the first health-related social needs program of its kind in terms of its scale; the scope of the requirements to screen and address unmet social needs; its development of a social service fee schedule; and its use of a statewide cross-sectoral closed-loop referral technology platform. The Pilots are of keen interest to other states, federal, and commercial payers looking to improve whole-person care and health equity. Even though outcomes evaluations depend on more time and data, there are important, practical lessons from the Pilots that can be used now to improve the design, implementation, and policy. This evidence can be leveraged by North Carolina as it nears the end of the Pilots first waiver period, and leaders make decisions about how to extend and potentially spread the Pilots approach statewide. Moreover, this research can be useful for other states interested in similar or smaller-scale programs to address social needs for their residents.

HOW WE CONDUCTED THIS STUDY

We studied the planning, capacity-building, and early implementation phases of the Pilots from mid-2020 through mid-2022 using a multimethod qualitative approach. Our research protocol was reviewed and approved by the Duke University Institutional Review Board.

We collected and analyzed four sources of qualitative data. First, we held two virtual expert stakeholder guiding committee meetings at the outset of the project (in December 2020 and February 2021). This "convening model" step serves not only to get early input to guide the design of our research before it is conducted to maximize its usefulness to policy, practitioner, and community audiences, but also as an opportunity to build trust with potential interviewees and dissemination partners in later stages of the work. Each convening was attended by approximately 25 experts representing policymakers, CBOs, PHPs, health systems, and researchers. Second, we analyzed the proposals that the three selected Network Leads submitted to NC DHHS to participate in the Pilots. Third, we conducted 40 semi-structured key informant interviews with a total of 63 stakeholders involved in planning and implementing the Pilots or representing critical stakeholder perspectives of similar initiatives (more detail is shown in Table 2). We identified potential interviewees by soliciting expert stakeholder recommendations and reviewing literature and online information about the Pilots and related programs. We aimed to interview a diverse sample of participants from different settings and geographic areas, and with different roles in programs to address social needs and SDoH. In total, 46 of the 63 stakeholder interviews were focused on the Pilots. The remaining 17 of the 63 stakeholder interviews were involved in overseeing or administering North Carolina's COVID-19 Support Services Program, which NC DHHS launched to emergently address pandemic-related social needs leveraging key Pilots design features;[29,55] this allowed us to identify early policy and implementation guidance prior to the launch of the Pilots. Fourth, we facilitated two focus groups with a total of eight individuals with experiences in North Carolina Medicaid, six of whom had received Pilots services. Focus group participants were identified in partnership with NC DHHS and Network Leads through program data and regional marketing.

We used consensual, team-based qualitative research methods to analyze content and synthesize themes from the stakeholder convenings, proposal documents, key informant interviews, and focus groups. Interviews followed a semi-structured guide based on the Framework for Comprehensive Community Wellness, a conceptual framework that outlines essential elements of cross-sectoral collaboration to address health needs.[56] Semi-structured interview guides were also tailored for relevance to key stakeholder types to understand experiences with the planning and early implementation of the Pilots and similar programs. Key informant interviews and focus groups were recorded. We used complex reasoning to analyze interview data and develop themes using both deductive and inductive reasoning.[57] Theme abstraction strategies included drafting thematic memos for each interview, convening, and focus group; debriefing on memos with a multidisciplinary team to reflect on key findings and reconcile differences in interpretation; and conducting thematic reduction and synthesis from memos to create a preliminary list of themes using principles such as repetition and intensity.[57–61]

Table 2. Summary of Traits of Stakeholders Interviewed

Organization Type	Program	
	COVID-19 Support Services Program (n=17)	Healthy Opportunities Pilots (n=46)
Grantee organization or Network Lead	4	12
Human Service Organization	7	15
Prepaid Health Plan	n/a: 0	6
Other	6	13

NOTES

1. Healthy Opportunities Pilots. NCDHHS. Accessed September 14, 2023.
   https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/healthy-opportunities-pilots

2. Tsega M, Lewis C, McCarthy D, Shah T, Coutts K. *Review of Evidence for Health-Related Social Needs Interventions.* The Commonwealth Fund; 2019:1-27.
   https://www.commonwealthfund.org/sites/default/files/2019-07/COMBINED_ROI_EVIDENCE_REVIEW_7.15.19.pdf

3. Enhanced Case Management and Other Services Pilots Evaluation Design. North Carolina Department of Health and Human Services; 2019.
   https://www.ncdhhs.gov/media/8590/download

4. North Carolina Medicaid Reform Demonstration. Centers for Medicare & Medicaid Services; 2022.
   https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nc/nc-medicaid-reform-chip-ca.pdf

5. Healthy Opportunities Lead Pilot Entity Request for Proposal. North Carolina Department of Health and Human Services; 2019.
   https://files.nc.gov/ncdhhs/Healthy-Opportunities_LPE-RFP-30-2019-052-DHB.pdf

6. Healthy Opportunities Pilots Frequently Asked Questions. North Carolina Department of Health and Human Services Division of Health Benefits (NC Medicaid); 2022. Accessed January 30, 2023. https://www.ncdhhs.gov/media/12642/download?attachment

7. North Carolina Department of Health and Human Services. North Carolina's Healthy Opportunities Pilots: A Review of Proposed Design for Interested Stakeholders. North Carolina Department of Health and Human Services; 2019.
   https://files.nc.gov/ncdhhs/documents/Healthy-Opportunities-Pilot_Policy-Paper_2_15_19.pdf

8. Healthy Opportunities Pilots Rapid Cycle Assessment 1 Summary. University of North Carolina Cecil G. Sheps Center for Health Services Research. Accessed May 24, 2023. https://www.ncdhhs.gov/rca1-two-page-information-sheet/download?attachment

9. Advisory Panel for the North Carolina Healthy Opportunities Pilot Service Fee Schedule. Manatt. Published January 21, 2020. Accessed July 27, 2023.
   https://www.manatt.com/commonwealthfund/healthy-opportunities-fee-schedule-advisory-panel

10. Updated Healthy Opportunities Pilots Fee Schedule [Guidance Version]. North Carolina Department of Health and Human Services; 2022.
    https://www.ncdhhs.gov/media/14071/open

11. Cohen M, Cuervo Tilson E, Dutton M, Guyer J, Abrams M, Zephyrin L. Putting a Price on Social Services: North Carolina's Pilot Effort. *To the Point* (blog), The Commonwealth Fund. Published January 27, 2020. Accessed October 3, 2022.
    https://www.commonwealthfund.org/blog/2020/putting-price-social-services-north-carolinas-pilot-effort

12. About NCCARE360. NCCARE360. Published 2023. Accessed July 27, 2023. https://nccare360.org/about

13. Healthy Opportunities Pilots at Work. North Carolina Department of Health and Human Services. Accessed August 30, 2023.
    https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/healthy-opportunities-pilots/healthy-opportunities-pilots-work

14. Abrams A. A Radical Way To Think About Health. *The Assembly.* Published online December 1, 2022. Accessed February 6, 2023.
    https://www.theassemblync.com/health/healthy-opportunities-pilot-medicaid

15. Behavioral Health I/DD Tailored Plan. North Carolina Department of Health and Human Services. Published 2022. Accessed October 3, 2022.
    https://medicaid.ncdhhs.gov/Behavioral-Health-IDD%20Tailored-Plans

16. North Carolina Medicaid Reform Section 1115 Demonstration Renewal Application: Draft for Public Comment. North Carolina Department of Health and Human Services; 2023. Accessed August 30, 2023.
    https://medicaid.ncdhhs.gov/meetings-notices/proposed-program-design/nc-section-1115-demonstration-waiver

17. North Carolina Department of Health and Human Services. Healthy Opportunities Pilots: Pilot Overview and Care Management Team Roles and Responsibilities. Presented at: May 25, 2022. Accessed March 30, 2023. https://www.ncdhhs.gov/media/16505/download?attachment

18. Healthy Opportunities Pilot: Network Lead-HSO Model Contract. North Carolina Department of Health and Human Services; 2021. Accessed May 1, 2023.
    https://www.ncdhhs.gov/network-lead-hso-model-contract/download?attachment

19. Healthy Opportunities Pilot: PHP-Network Lead Model Contract. North Carolina Department of Health and Human Services; 2021. Accessed May 1, 2023.
    https://www.ncdhhs.gov/php-network-lead-model-contract/download?attachment

20. Spending. Medicaid and CHIP Payment and Access Commission (MACPAC). Accessed October 3, 2022.
    https://www.macpac.gov/medicaid-101/spending

21. National Health Expenditures 2021 Highlights. Centers for Medicare & Medicaid Services. Accessed January 30, 2023.
    https://www.cms.gov/files/document/highlights.pdf

22. Costello AM. Opportunities in Medicaid and CHIP to Address Social Determinants of Health (SDOH). Published online January 7, 2021. Accessed July 27, 2023. https://www.medicaid.gov/federal-policy-guidance/downloads/sho21001.pdf

23. Section 1115 Demonstration Budget Neutrality. Medicaid and CHIP Payment and Access Commission (MACPAC); 2021. Accessed October 3, 2022. https://www.macpac.gov/wp-content/uploads/2021/12/Section-1115-Demonstration-Budget-Neutrality.pdf

24. Hill TB. Budget Neutrality Policies for Section 1115(a) Medicaid Demonstration Projects. Published online August 22, 2018. Accessed October 3, 2022.
    https://www.medicaid.gov/federal-policy-guidance/downloads/smd18009.pdf

25. Mann C, O'Hagen Karl A, Howard H. Rethinking The Budget Neutrality Requirement For Medicaid 1115 Demonstrations. *Health Affairs Forefront*. Published June 13, 2022. https://www.healthaffairs.org/do/10.1377/forefront.20220609.313905/full

26. Hinton E, Artiga S, Musumeci M, Rudowitz R. A First Look at North Carolina's Section 1115 Medicaid Waiver's Healthy Opportunities Pilots. Kaiser Family Foundation; 2019. Accessed October 3, 2022. https://files.kff.org/attachment/Issue-Brief-A-First-Look-at-North-Carolinas-Section-1115-Medicaid-Waivers-Healthy-Opportunities-Pilots

27. Mann C, O'Hagen Karl A, Howard H. CMS Updates Its Budget Neutrality Policy. *Health Affairs Forefront*. Published January 26, 2023. Accessed January 26, 2023. https://www.healthaffairs.org/content/forefront/cms-updates-its-budget-neutrality-policy?utm_medium=email&utm_source=hat&utm_campaign=HAT+1+26+2023&utm_content=forefront&vgo_ee=sLcnkk0Fz522B%2FT%2B20mrxLFSqOrSUMyFh6UV8pZ3TVg%3D

28. Boozang P, Karl A, Striar A. Recent Updates to Section 1115 Waiver Budget Neutrality Policy: Overview and Implications for States. State Health & Value Strategies; December 2, 2022. Accessed February 6, 2023. https://www.shvs.org/resource/recent-updates-to-section-1115-waiver-budget-neutrality-policy-overview-and-implications-for-states

29. Centers for Medicare & Medicaid Services. Addressing Health-Related Social Needs in Section 1115 Demonstrations. Presented at: December 6, 2022. Accessed February 6, 2023. https://www.medicaid.gov/medicaid/downloads/addrss-hlth-soc-needs-1115-demo-all-st-call-12062022.pdf

30. Bleser W, Huber KM, Crook HL, et al. *North Carolina's COVID-19 Support Services Program: Lessons for Health Policy Programs to Address Social Needs*. Milbank Memorial Fund and Duke-Margolis Center for Health Policy; 2022. https://www.milbank.org/publications/north-carolinas-covid-19-support-services-program-lessons-for-health-policy-programs-to-address-social-needs

31. *Equitable Health Outcomes Funding Opportunity: Promoting Equitable Health Outcomes by Addressing Social Drivers of Poor Health*. Kate B. Reynolds Charitable Trust; 2021. Accessed October 3, 2022. https://kbr.org/wp-content/uploads/2021/09/HI_EHO_Addressing-Social-Drivers-Poor-Health_2021-10-26.pdf

32. A Great Opportunity for Western North Carolina: The State's New Healthy Opportunities Pilot. Dogwood Health Trust. Accessed October 3, 2022. https://dogwoodhealthtrust.org/healthy-opportunities

33. Storie E. CSHA Awarded Funding from Kate B. Reynolds Charitable Trust and BCBSNC Foundation for Medicaid Transformation Work. Care Share Health Alliance. Published April 18, 2022. Accessed October 3, 2022. https://www.caresharehealth.org/2022/csha-awarded-funding-from-kate-b-reynolds-charitable-trust-and-bcbsnc-foundation-for-medicaid-transformation-work

34. Heinrich J, Levi J, Hughes D, Mittmann H. Wellness Funds: Flexible Funding to Advance the Health of Communities. The Funders Forum on Accountable Health; 2020. https://accountablehealth.gwu.edu/sites/accountablehealth.gwu.edu/files/Wellness%20Fund%20Brief%20-%20Final.pdf

35. Karaca-Mandic P, Nikpay S, Gibbons S, Haynes D, Koranne R, Thakor R. Proposing An Innovative Bond To Increase Investments In Social Drivers Of Health Interventions In Medicaid Managed Care. *Health Aff (Millwood)*. 2023;42(3):383-391. doi:10.1377/hlthaff.2022.00821

36. Aboelata MJ, Bennett R, Cantor J, Cohen L, Haar WL, Mikkelsen L. Sustainable Investments in Health: Prevention and Wellness Funds. Prevention Institute; 2015. Accessed March 28, 2023. https://preventioninstitute.org/publications/sustainable-investments-health-prevention-and-wellness-funds

37. Romero D, Echeverria SE, Duffy M, Roberts L, Pozen A. Development of a wellness trust to improve population health: Case-study of a United States urban center. *Prev Med Rep*. 2018;10:292-298. doi:10.1016/j.pmedr.2018.03.009

38. McNamara JE, Chen E. Proposed Social Drivers Of Health Bonds Offer Promising Improvements But Face Many Challenges To Implementation. *Health Aff (Millwood)*. 2023;42(3):395-397. doi:10.1377/hlthaff.2023.00014

39. Chomilo N. Can Capitalism Drive Health Equity? Considering The Benefits And Risks Of Social Drivers Of Health Bonds. *Health Aff (Millwood)*. 2023;42(3):392-394. doi:10.1377/hlthaff.2022.01689

40. Van Stekelenburg B, Huber KM, Tchuisseu YP, et al. Lessons for States Looking to Align Disparate Health Policy Efforts to Address Social Needs: Learning from North Carolina. Forthcoming.

41. Vasudeva K, Huber K, Bleser WK, Lyn MJ, Whitaker RG, Saunders RS. North Carolina Healthy Opportunities Pilots Focus Group Findings. Duke-Margolis Center for Health Policy; 2022. Accessed February 6, 2023. https://healthpolicy.duke.edu/publications/fact-sheet-north-carolina-healthy-opportunities-pilots-focus-group-findings

42. Mountain Mobility. Land of Sky Regional Council. Accessed October 3, 2022. http://www.landofsky.org/mm.html

43. Healthy Opportunities for All: A Practitioner's Recommendations for Success. Reinvestment Partners; October 2022. https://static1.squarespace.com/static/6065044ca32d3740f6ab9311/t/64381a403c64f622f5a7d7a6/1681398337345/Healthy+Opportunities+for+All_final.pdf

44. Building on Our Success: Continuous Improvement Efforts Healthy Opportunities Pilots Year 1. NC Department of Health and Human Services Division of Health Benefits (NC Medicaid); 2023. Accessed June 30, 2023. https://www.ncdhhs.gov/fact-sheethealthy-opportunities-pilot-may-2023-update/download?attachment

45. Kaalund K, Phillips E, Farrar B, et al. Opportunities to Enhance Health Equity by Integrating Community Health Workers into Payment and Care Delivery Reforms. Duke Clinical Research Institute, Duke-Margolis Center for Health Policy, UNC Center for Health Equity Research; 2023. Accessed May 24, 2023. https://healthpolicy.duke.edu/publications/opportunities-enhance-health-equity-integrating-community-health-workers-payment

46. Tsega M, Giantris K, Shah T. Essential Social Services Are Struggling to Survive the COVID-19 Crisis. To the Point (blog). The Commonwealth Fund. Published June 1, 2020. https://www.commonwealthfund.org/blog/2020/essential-social-services-are-struggling-survive-covid-19-crisis

47. Participant Capacity Building Needs Healthy Opportunities Pilots. Nonprofit Finance Fund; 2020. https://www.bcbsncfoundation.org/wp-content/uploads/2020/06/Healthy-Opportunities-Pilots_NFF-Capacity-Building-Considerations_Final.pdf

48. Fact Sheet: Prompt Payment. North Carolina Department of Health and Human Services; 2023. Accessed May 1, 2023. https://medicaid.ncdhhs.gov/provider-playbook-prompt-payment-fact-sheet/download?attachment

49. Taylor LA, Byhoff E. Money Moves the Mare: The Response of Community-Based Organizations to Health Care's Embrace of Social Determinants. *Milbank Q*. 2021;99(1):171-208. doi:10.1111/1468-0009.12491

50. Healthy Opportunities Pilot (HOP) Program. NC AHEC. Accessed May 1, 2023. https://www.ncahec.net/healthy-opportunities-pilot

51. The Gravity Project. The Gravity Project. Accessed May 24, 2023. https://thegravityproject.net

52. Behal S. Project Information. The Gravity Project. Published April 26, 2023. Accessed May 24, 2023. https://confluence.hl7.org/display/GRAV/Project+Information

53. Social Determinants of Health. Office of the National Coordinator for Health Information Technology. Published December 2, 2021. Accessed October 3, 2022. https://www.healthit.gov/topic/health-it-health-care-settings/social-determinants-health

54. ONC's Social Determinants of Health Information Exchange Learning Forum. Office of the National Coordinator for Health Information Technology. Published July 21, 2022. Accessed October 3, 2022. https://www.healthit.gov/news/events/oncs-social-determinants-health-information-exchange-learning-forum

55. North Carolina 1115 Waiver Amendment Application. North Carolina Department of Health and Human Services; 2022. Accessed October 3, 2022. https://www.medicaid.gov/medicaid/section-1115-demonstrations/downloads/nc-medicaid-reform-demonstration-amendment-pa.pdf

56. Health Care Transformation Task Force, Public Health Leadership Forum. Partnering to Catalyze Comprehensive Community Wellness: An Actionable Framework for Health Care and Public Health Collaboration. 2018. https://hcttf.org/wp-content/uploads/2018/06/Comprehensive-Community-Wellness-Report.pdf

57. Creswell JW. Qualitative Inquiry and Research Design: Choosing among Five Approaches. 3rd ed. SAGE Publications; 2013.

58. Hill CE, Knox S, Thompson BJ, Williams EN, Hess SA, Ladany N. Consensual qualitative research: An update. *J Couns Psychol*. 2005;52(2):196-205. doi:10.1037/0022-0167.52.2.196

59. Adams W. Conducting Semi-Structured Interviews. In: Newcomer KE, Hatry HP, Wholey JS, eds. *Handbook of Practical Program Evaluation: Newcomer/Handbook*. John Wiley & Sons, Inc.; 2015. doi:10.1002/9781119171386

60. Silverman D. *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*. 2. ed., repr. Sage; 2006.

61. Guba EG. Criteria for assessing the trustworthiness of naturalistic inquiries. *ECTJ*. 1981;29(2):75. doi:10.1007/BF02766777

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AUTHOR DISCLOSURES