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Community Action and Analysis Plan:

Guidance and Resources for Community Care Hubs to Address Health-Related Social Needs Based on Lessons from North Carolina

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TABLE OF CONTENTS

Executive Summary

Addressing unmet health-related social needs (HRSNs) is critical to improving health outcomes and requires well-coordinated systems of health and social care. Community Care Hubs (CCHs) – community-centered backbone organizations that coordinate care between the health and social sectors – play a critical role in developing these coordinated systems of care. CCHs are designed to organize, support, and provide centralized infrastructure for community-based organizations (CBOs) and other service providers that are participating in cross-sectoral partnerships.

CCHs serve a critical role in their communities, but the scope and capacity of CCHs can vary. Given this, there is a need for additional guidance and support to start, scale, and sustain the work of CCHs. **The purpose of this Community Action and Analysis Plan is to highlight practical steps that future and current CCHs can take to start, scale, and sustain efforts to address HRSNs.** From our research, we identified six major competency areas for CCHs. Below is a high-level summary of the main steps that CCHs can take across the six competencies outlined in this document. This is meant to serve as both a self-assessment tool and a guide through the document's main points. Within each section, we describe examples of data, resources, and partnerships that can support these efforts, including both foundational skills and advanced steps. Readers can choose to review and focus on topics that are of particular interest and are directed to external sources to read more when such external resources exist.

SECTION 1 | Building Organizational Capacity

This section covers steps, tools, and examples for assessing and building organizational capacity for your CCH, the network you maintain, and the CBOs you work with.

Initial steps:

- Leverage existing capacity assessment tools and resources
- Consider additional opportunities to assess capacity

Advanced steps:

- Develop and implement capacity-building strategies informed by capacity assessments
- Account for variations in CBO capacity in network design

Leveraging data:

- Identify a data partner who exhibits key skills
- Assess current data capacity
- Assemble a data strategy team and draft a data strategy
- Create ongoing opportunities for training and learning about data capacity

SECTION 2 | Assessing Local Needs and Resources to Address Them

This section covers steps, tools, and examples for how to use existing data and collect your own data on local needs and resources to identify gaps and set priorities.

Initial steps:

- Leverage existing data
- Collect community-specific data
- Identify and engage key partners who understand the local ecosystem
- Choose key metrics

Advanced steps:

- Identify gaps and set priorities for addressing needs
- Analyze data from multiple sources to fill in information gaps

Leveraging data:

- Map needs to resources

SECTION 3 | Supporting Financial Sustainability

This section covers steps, tools, and examples for how to work towards financial sustainability, both for your organization and for the CBOs you work with, and how to leverage data and partnerships to transition to more sustainable funding models over time.

Initial steps:

- Assess your own financial and business capacity
- Evaluate prospective CBOs' financial models and financial management skills
- Dedicate upfront time and training to help CBOs understand the program's financial structure
- Partner with organizations with specialized expertise in financing

Advanced steps:

- Explore funding and resource options for upfront and ongoing capacity-building
- Consider opportunities to help the network move to sustainable funding models over time
- Consider opportunities to blend and braid funding from different sources

Leveraging data:

- Consider data-driven approaches to financial planning to predict and adapt to changes•

SECTION 4 | Ensuring Equitable Access and Participation

This section covers steps, tools, and examples for how CCHs can ensure equitable access to services for members and equitable CBO participation in the CCH network.

Ensuring equitable access to services

Initial steps:

- Understand the population being served
- Address barriers to enhance service accessibility
- Create opportunities for community governance
- Apply cultural humility in service delivery

Advanced steps:

- Use data and analytics to assess and increase network adequacy
- Monitor the quality of services across subpopulations
- Engage CBOs that have deep community connections and that are serving and/or led by historically marginalized populations

Ensuring equitable opportunities for CBO participation

Initial steps:

- Consider the composition of CBO networks
- Help CBOs distribute services equitably by providing supports

Advanced steps:

- Support the inclusion and growth of smaller CBOs
- Consider supporting partnerships between smaller and larger CBOs, such as a tiered approach to referrals or delegation of service delivery

Leveraging data:

- Use and collect data that is disaggregated by relevant subpopulations
- Ensure data collection methods are inclusive and culturally sensitive
- Protect privacy and confidentiality to encourage participation
- Conduct geographical gap analysis to monitor service distribution and identify any gaps

SECTION 5 | Coordinating Across Different Initiatives

This section covers steps, tools, and examples for CCHs to coordinate relationships, data, and services across different initiatives, sectors, and geographies.

Initial steps:

- Hire the appropriate staff to facilitate cross-sector collaboration
- Facilitate cross-sectoral training sessions
- Centralize updates and information sharing with partners
- Emphasize trust and collaboration with CBOs and communities
- Build trust among CBOs

Advanced steps:

- Build and sustain long-term relationships and ongoing partnerships
- Diversify funding
- Coordinate services across geographies as programs expand
- Improve data exchange across silos and sectors

Leveraging data:

- Establish uniform data collection protocols
- Ensure data quality and consistency across networks
- Use network analysis to map relationships

SECTION 6 | Developing a Monitoring and Evaluation Plan

This section covers steps, tools, and examples for how to develop a plan for monitoring, evaluation, and continuous improvement of your organization and network.

Initial steps:

- Establish the appropriate data structures early on
- Consider how to measure and streamline reporting for program compliance and integrity
- Collect and monitor data for evaluating CBO and network performance

Advanced steps:

- Select and assess appropriate measures, including process, performance, and outcomes measures
- Set realistic and achievable targets
- Select measures to assess health outcomes
- Conduct ongoing data collection to track progress
- Leverage technology platforms, such as dashboards
- Develop an evaluation process that allows for adjustments as needed

Introduction

Addressing unmet health-related social needs (HRSNs) is critical to improving health outcomes and requires well-coordinated systems of health and social care. Community Care Hubs (CCHs) – community-centered backbone organizations that coordinate care between the health and social sectors – play a critical role in developing these coordinated systems of care. CCHs are designed to organize, support, and provide centralized infrastructure for community-based organizations (CBOs) and other service providers that are participating in cross-sectoral partnerships. CCHs' infrastructure is critical for advancing successful and equitable partnerships between CBOs and the health care system, which have vastly different operational and financial models. CCHs have an important role to play in supporting CBOs and building on their existing expertise, relationships, and trust within communities, especially for equity and overall program success.

Recent federal policy priorities, including the White House Playbook to Address Social Determinants of Health and U.S. Department of Health and Human Services Call to Action, encourage the further development and expansion of CCHs to foster coordinated systems of care. While CCHs operate across the United States, North Carolina is one state making significant investments in CCHs and mobilizing them to coordinate CBOs to address HRSNs through its Healthy Opportunities Pilots ("Pilots") program. North Carolina's Pilots program is one of the nation's most expansive efforts to address HRSNs through Medicaid. Through the Pilots, North Carolina is leveraging CCHs to serve as a bridge between health plans and CBOs. The program refers to these CCHs as "Network Leads." Network Leads serve as anchor organizations that are responsible for developing, training, managing, and ensuring the quality of a network of CBOs that provide Pilots services to address HRSNs.

CCHs serve a critical role in their communities, but the scope and capacity of CCHs can vary. Given this, there is a need for additional guidance and support to start, scale, and sustain the work of CCHs. Examples of challenges to starting and sustaining this work can include, but are not limited to, funding instability, limited technical capacity, and data inaccessibility. **The purpose of this Community Action and Analysis Plan is to highlight practical steps that future and current CCHs can take to start, scale, and sustain efforts to address HRSNs.** This report is designed for CCHs, state leaders, CBOs, and other groups across the nation supporting the implementation of efforts to address HRSNs. Given North Carolina's substantial investments in CCH infrastructure at scale through Medicaid, this report primarily draws on new and nuanced real-world examples from North Carolina as a case study for CCHs elsewhere. Our recommendations are based on stakeholder interviews and a literature review, which we reference throughout the document. For more information on our research approach that informed this report, *see **Appendix A.***

From our research, we identified six major competency areas for CCHs, listed below. The Community Action and Analysis Plan is organized by these competencies, and within each section, we describe examples of resources and partnerships that can support these efforts, including both foundational skills and steps to build toward advanced functions of a mature CCH. Each section also includes details on how CCHs can leverage data to strengthen their efforts, given that a strategic approach to data and data-driven decision-making crosscut all competencies to enhance the overall impact and sustainability of CCHs and their HRSN initiatives.

- Building organizational capacity
- Assessing local needs and resources
- Supporting financial sustainability
- Ensuring equitable access and participation
- Coordinating across different initiatives
- Developing a monitoring and evaluation plan

How to Use this Document

We recognize CCHs have varying levels of experience and areas of expertise. This guide is not meant to be exhaustive, as each of the six competency areas could warrant lengthy reports by themselves. Further, because CCHs are a developing infrastructure, key skills and real-world examples of CCHs are an emerging field of study. We organized this report to serve as a resource guide where most skills are introduced and summarized at a high level, and some nuanced skills are described in more detail with examples. Readers can choose to review and focus on topics that are of particular interest and are directed to external sources to read more when such external resources exist.

BOX 1 | Glossary of Key Terms and Acronyms Used in This Report

- **Health-related social needs (HRSNs):** Non-medical needs that impact an individual's health and quality of life, such as food insecurity; issues with housing stability, cost, and quality; lack of transportation; or experiences with interpersonal violence and stress.
- **Social Determinants of Health (SDoH):** Conditions, environments, and systems in which people live that affect health outcomes and health inequities, such as food deserts, insufficient public transportation infrastructure, or lack of affordable housing.
- **Community care hubs (CCHs):** Community-centered backbone organizations that coordinate care between the health and social sectors. They are designed to organize, support, and provide centralized infrastructure for community-based organizations and other service providers that are participating in cross-sectoral partnerships. In North Carolina's Pilots program, these are also known as Network Leads.
- **Community-based organizations (CBOs):** Service delivery organizations that are typically nonprofit and aim to support community wellbeing by addressing health and social needs. CBOs can include diverse organizational types, including (but not limited to) grassroots organizations, faith-based organizations, and social service agencies. In North Carolina's Pilots program, these are also known as Human Service Organizations (HSOs).
- **Managed Care Organizations (MCOs):** Insurance companies contracted by Medicaid to provide managed care services to Medicaid recipients. In North Carolina, these are also known as Prepaid Health Plans (PHPs).
- **Healthy Opportunities Pilots ("Pilots"):** North Carolina Medicaid program that is working to address HRSNs at scale by facilitating partnerships among CCHs, CBOs, and MCOs.
- **NCCARE360:** A statewide technology platform in North Carolina that makes linkages across sectors, so that people with HRSNs can be connected to organizations providing services. It also facilitates invoicing of services for the Pilots program. It is required for the Pilots program.

SECTION 1
Building Organizational Capacity

Organizational capacity-building is critical to the success of CCHs' efforts. Capacity can include knowledge and expertise, staffing/human capital, resources, physical infrastructure, funding, and other factors that contribute to success.

In efforts to address HRSNs, CCHs need to consider the capacity of their own organizations, of the networks they maintain, and of the individual CBOs they work with. CCHs have an important role to play in supporting their CBOs in assessing their capacity and any gaps. For example, in North Carolina's Pilots program, Network Leads serve as local anchors to build the capacity of CBOs to participate in Medicaid and are responsible for providing technical assistance to their CBOs.

Participating in cross-sectoral efforts to address HRSNs can require CCHs to build new types of capacity, whether their organization is new or very established. While CCHs and similar organizations can take on a variety of roles, major domains in which they can assess and build their own organizational capacity include:

- Leadership and governance
- Network development, engagement, and support,[1] including efforts to recruit, support,and retain CBOs
- Finance and business development, including Medicaid financing *(See **Section 3** for additional information)*
- Network administration and operations,[2] including the management of CCH staffing and centralized infrastructure, contracting, compliance, and monitoring and evaluation *(See **Section 6** for additional information)*
- Technical capacity, including data and information technology literacy & access[3]

To assess the capacity of CBOs, CCHs should consider several of these same domains, including leadership, finance, and technical capacity. In addition, many CCH interviewees emphasized focusing on assessing CBOs' human capital (including full- and part-time staff and volunteers) and physical infrastructure (such as office and storage space and vehicles for service delivery). These aspects of capacity tend to be overlooked or undervalued.

CCHs should take the following initial steps to assess and build capacity across these domains:

- **Leverage existing capacity assessment tools and resources:** CCHs can use and adapt existing tools from the field to help estimate the capacity of their organizations, networks, and CBOs *(see **Box 2** for examples).*
- **Consider additional opportunities to assess capacity:** CCHs can also supplement these tools by establishing their own mechanisms to assess capacity, including surveys or check-ins.
  - For example, one Network Lead in North Carolina's Pilots program surveyed their CBOs to understand the number of people that could be served per service per month. They then compared this to the number of people expected to utilize Pilots services per month (using Medicaid enrollment data). Areas where need exceeded or was at risk of exceeding capacity were flagged for follow-up discussions to determine how to fill gaps with other high-volume CBOs, capacity-building, and/or additional investment.
  - Another CCH interviewee described how they combine information from capacity assessments and interviews with CBOs to create a "capacity profile" for each CBO.
  - Another CCH interviewee described how they hold periodic check-ins with their CBOs to assess how their capacity and needs fluctuate over time, and are working to set up systems to assess changes on a monthly basis.

[1] Refer to Section 3.1 of the Partnership to Align Social Care's ("Partnership") Functions of a Mature Community Care Hub for additional details on network development and engagement.

[2] Refer to Standard 4 of the Pathways Community HUB Institute (PCHI) Certification Standards for additional details on network operations, policies, and procedures.

[3] Refer to the Administration for Community Living's (ACL) Community Care Hub IT Playbook for more information and resources on IT infrastructure and technology for CCHs.

BOX 2 | Overview of Key Organizational Capacity Assessment Tools and Resources

For CCHs:

- **Partnership to Align Social Care –** Functions of a Mature Community Care Hub: This resource creates a model framework outlining the responsibilities of a CCH across six domains: leadership and governance; strategic business development; network recruitment, engagement, and support; contract administration and compliance; operations; and information technology and security.
- **Aging and Disability Institute** – Network Readiness Assessment: This tool can be used by CCHs to assess their capacity and readiness to plan, develop, and manage a coordinated network of service providers across seven domains: leadership; administration, information technology and compliance; market awareness and orientation; strategy and planning; financial acumen; business and network development; and network management.

For CBOs:

- **Aging and Disability Business Institute** – Readiness Assessment: This assessment tool can be used by CBOs to evaluate their readiness and capacity to engage in cross-sectoral health care partnerships across six domains: leadership, strategy and planning, market awareness and orientation, management and operations, partnership development, and financial acumen.
- **Nonprofit Finance Fund** – Nonprofit Readiness for Health Partnership Tool: This tool helps CBOs identify capacity or investment needs and assess readiness for partnerships with health care organizations to address SDoH.

CCHs should consider the following advanced steps to build capacity across these domains:

- **Develop and implement capacity-building strategies:** CCHs should use strategies informed by their capacity assessments to build the capacity of their organization and network over time. Such strategies can include:
  - Dedicating time and funding to capacity-building. This can be challenging for many initiatives to finance *(See **Section 3** for additional details).*
  - Hiring staff at the CCH level to focus on building capacity.
  - Providing technical assistance and training to CBOs on capacity-building, including helping CBOs to effectively use resources to build capacity.
  - Working with CBOs to develop capacity expansion plans.
  - Creating and/or participating in existing learning collaboratives and platforms for efforts to address HRSNs *(See **Box 3** for an example of how one CCH created their own shared learning platform).*
- **Account for variations in capacity in network design:** CCHs can also use strategies to account for ranges in the capacity of the CBOs and their networks. Some examples include:
  - Creating tailored CBO screening and onboarding assessments and processes. Some CCHs have created or recommended separate processes for smaller CBOs that provide a longer glidepath to get used to working with the CCH.
  - Creating CBO network design models to reduce administrative burden and maximize efficiency. One example is a shared services model, where CCHs serve as a central entity to take on administrative tasks and create shared capacity and infrastructure for the network so smaller CBOs can focus on service delivery. CBOs within the network could also initially share service delivery regions while capacity is built over time. Another example is a hub and spoke model, where CBOs that are identified as higher-capacity could serve as "anchors" or backbones for smaller CBOs. Anchor CBOs could also create regional or local "sub-networks" with a set of smaller CBOs to facilitate service delivery.
  - Including CBOs in governance structures and processes in order to identify context-specific strategies that would support capacity-building at the organizational and network levels.
  - Conducting continuous outreach to additional CBOs and holding ongoing trainings to help build CCH stability and support network resiliency throughout fluctuations.

How to Further Build Capacity by Leveraging Data:

Building data capacity is essential for the effectiveness and efficiency of CCHs. Data capacity allows organizations to systematically collect, analyze, and use data to inform decision-making processes and improve service delivery.

To build data capacity, CCHs should consider the following steps:

- **Identify a data partner:** Data expertise comes from experience and, often, formal education. While CCH staff should aim to increase their data literacy and comfort, partnering with or hiring a data scientist is recommended.
  - For example, in North Carolina's Pilots program, one Network Lead first contracted with a local data organization focused on using data for social good, then decided to hire their own data team after seeing the benefits of data strategy prioritization.
  - A good data partner will exhibit:
    - Technical skills and capabilities. CCHs may have to outsource technical skills assessment to a known data expert
    - Track record of successful projects
    - Strong communication and collaboration skills
    - Commitment to data privacy and security
    - Alignment with organizational values and goals
- **Assess current data capacity:** In addition to conducting organizational capacity assessments, it is crucial for CCHs to conduct comprehensive data capacity assessments, both for themselves and their CBOs.
- **Assemble a data strategy team:**[4] A data strategy team needs representation from all levels. At the least it should contain: a technical expert, program and evaluation staff, a member from leadership, a community representative, and a member from each CBO in the network.
- **Draft a data strategy:** Working with your team, craft a data strategy that:
  - Defines clear objectives
  - Identifies key metrics and sources *(See **Section 2** for additional information)*
  - Develops a data collection plan
  - Establishes data governance policies
  - Chooses and deploys analysis and reporting tools
  - Strengthens data literacy and use
  - Establishes mechanisms for feedback & improvement
  - Communicates roles and responsibilities
- **Create ongoing opportunities for training and learning:** Many CBOs have little experience or familiarity with the amount and types of data that health system partners will need. A series of workshops or webinars can help empower a culture of data-driven decision-making. An effective curriculum would cover the basics of data collection, analysis, interpretation, visualization, storytelling, and data-driven decision-making.

BOX 3 | PROMISING EXAMPLE
The Virginia Community Care Innovation Collaborative

Bay Aging, doing business as VAAACares®, Virginia's statewide CCH, created the Virginia Community Care Innovation Collaborative to serve as a shared learning platform for stakeholders interested in addressing HRSNs. The Collaborative is open to members from all organizations interested in connecting people to services to address HRSNs, including CBOs, health care provider organizations, MCOs and other health plans, philanthropy, and public agencies. Through the platform, members can attend webinars and workshops as well as access and share resources related to capacity-building, finance and operations, information technology, and more. In November 2023, the Collaborative released a CBO Strategy Guide to help CBOs learn and implement sustainable strategies for addressing HRSNs.

[4] Refer to "How to appropriately staff an organization to meet its data needs" for additional details on data-related responsibilities and identifying data staff needs.

SECTION 2

Assessing Local Needs and Resources to Address Them

It is critical that CCHs assess their communities' unmet HRSNs as well as existing resources to address them.[5] Doing so can inform and facilitate the development of an effective CBO network for service delivery. Data play a crucial role in identifying resources and unmet social needs by providing accurate, comprehensive insights into community health trends, resource availability, and service gaps.

CCHs should take the following steps to get started:

- **Leverage existing data:** CCHs can use existing cross-sectoral data to better understand community make-up, needs, and resources. Some examples of where to find such data include:
  - ***North Carolina-specific examples:*** North Carolina Social Determinants of Health map, HealthyCommunitiesNC
  - ***Additional examples:*** Community Health Needs Assessments and improvement plans from local health departments and hospitals, Medicaid enrollment data, health information exchanges, American Community Survey, County Health Rankings, Social Vulnerability Index, Area Deprivation Index, Behavioral Risk Factor Surveillance System
- **Collect community-specific data:** CCHs can supplement information from publicly available data with their own data collection activities in their communities, such as surveys, interviews, and focus groups. Some CCH interviewees and their partners also described having natural opportunities to identify local needs and resources through service delivery and community events.
- **Identify and engage key partners:** It is also critical for CCHs to identify and engage key partners that can help them better understand the local ecosystem of needs and resources within their region. CCHs should consider engaging these partners through activities like resource mapping. Key stakeholders to engage often include:
  - ***State and local government agencies:*** State policymakers play important roles in creating and overseeing health policy authorities and programs to address HRSNs. At the regional and local levels, many CCH interviewees also work with health departments and local councils of government to gather local direction on needs and participate in setting locally driven goals and metrics.
  - ***Community members:*** CCHs should participate in community meetings, coalitions, panel discussions, and outreach events to identify strategies and resources to help build community capacity to address social needs.[6]
  - ***Health systems:*** Some CCHs have partnered with health systems and Federally Qualified Health Centers (FQHCs) to identify initial areas of high need and deploy supports, such as community health workers, accordingly. FQHCs can be particularly important partners in community efforts due to their functions as trusted conveners, experience working with volunteers and part-time staff, financial infrastructure, and specialized knowledge and expertise related to addressing the community's health and social needs. Some CCHs also exchange data with health system partners.

  To facilitate the engagement process and ensure all voices are heard, CCHs should consider establishing stakeholder-specific meetings and HRSN service domain-specific meetings. One CCH interviewee described holding county-specific meetings with partners as well as service domain-specific meetings that spanned counties to understand local ecosystems and any gaps.
- **Choose key metrics:** Once CCHs have identified potential data sources, they can begin to make a plan for action. In order to assess the current state of HRSNs and set a baseline to compare to future progress, data teams should choose 10 to 15 key metrics. Good key metrics have the following properties:

[5] Refer to the Community Tool Box's "Assessing Community Needs and Resources" for additional information and resources on this topic.

[6] Refer to Chapter 6 in *Shift Happens in Community: A Toolkit to Build Power and Ignite Change* for additional details on facilitating and moderating community discussions.

- **Relevant:** Directly related to the HRSNs being addressed.
  - Good: Number of grocery stores in low-income neighborhoods
  - Better: Percentage of low-income population without access to a grocery store
- **Actionable:** Provides information that can inform decision-making and interventions.
  - Good: Percentage of the population with unmet medical needs
  - Better: Percentage of population receiving annual check-ups
- **Accessible:** Easily obtainable and understandable by stakeholders.
  - Good: Proprietary clinic data about A1C results in patients
  - Better: Estimated percentage of population diagnosed with diabetes available through the Centers for Disease Control and Prevention
- **Sensitive to change:** Able to reflect changes over time to measure the impact of interventions.
  - Good: Number of parks and rec centers in the region
  - Better: Percentage of population that exercises 1+ times per week
- **Equity-focused:** Highlights disparities and promotes health equity.
  - Good: Percent of population living below the poverty level by county
  - Better: Percent of population living below the poverty level disaggregated by race, ethnicity, sex, and age groups by census tract
- **Diverse:** Covers all aspects of community health to provide a comprehensive assessment.
  - Good: Basic demographic and socioeconomic data
  - Better: Basic demographic and socioeconomic data + environmental factors + behavioral factors

Additionally, when choosing key metrics, CCHs should work with their partners to understand any metrics they are using and/or are interested in and explore opportunities for alignment. For example, CCHs may want to understand the metrics that are important to health system and health plan partners and work to track similar metrics that can help demonstrate their impact and value *(See **Section 6** for additional information and examples).*

After taking initial steps to assess local needs and resources, CCHs can consider the following advanced, yet essential, steps:

- **Identify gaps and set priorities:** Once key metrics have been established and data collated, CCHs should identify resource gaps and set priorities by analyzing the data to pinpoint areas where needs are unmet or where there are significant disparities. By identifying any gaps, CCHs can prioritize their efforts and resources to address the most pressing needs in their communities.
  - To identify resource gaps, CCHs should:
    - Analyze data to find discrepancies between current resources and community needs, taking into account both overall population gaps and **disparities in outcomes** by race, ethnicity, sex, age groups, income brackets, etc.
    - Examine **geographical gaps** by using tract-level metrics when possible to understand if there are disparities within counties.[7]
    - Conduct a **historical trajectory** analysis to not only capture a snapshot of the current state but also predict future unmet needs[8] *(See **Figure 1** for an example of how historical trajectory analysis can inform CCHs of resource gaps).*
    - Incorporate the **lived experiences** of community members through surveys, interviews, and focus groups that can provide valuable qualitative insights that complement the quantitative data. Consider using processes like root cause analysis to identify the underlying factors contributing to needs and inform solutions.

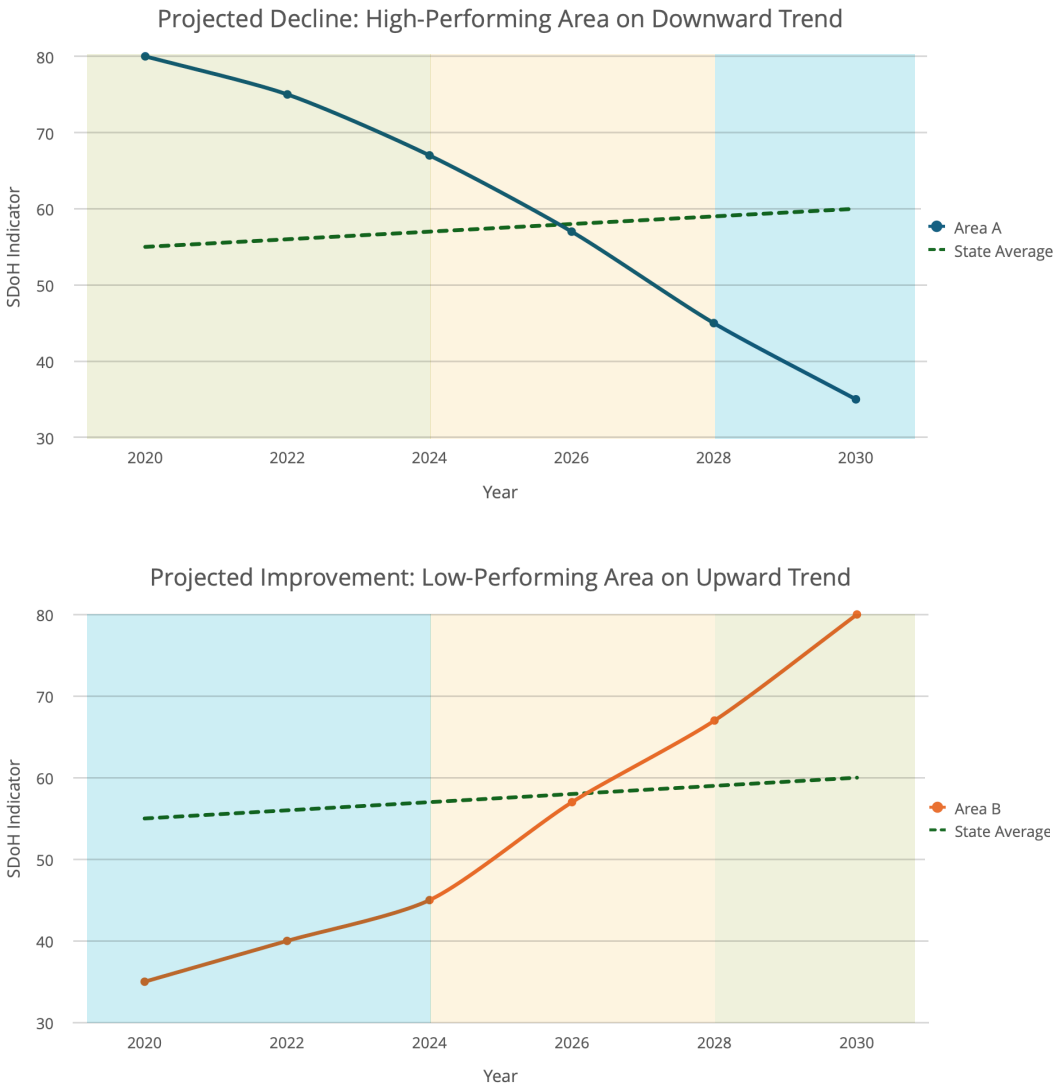
[7] Refer to this ArcGIS "Create a map" tutorial for a quick primer on how to make a simple map in ArcGIS software.

[8] Refer to "How to build forecasting models in Excel" for a quick primer on how to create basic projections in Excel.

- Notice where there are **gaps in data.** What metrics are missing? Are there important disaggregations that are not available?

- To set priorities, CCHs should:
  - Identify efficient and effective levers by understanding causality and correlation within the data. This process will likely require a combination of expertise and some more advanced data techniques, like correlation matrices[9] or causal analysis. Recognize that improving one metric can have downstream effects on multiple others. For example, improving access to primary care services may also reduce emergency room visits and improve overall community health outcomes *(See **Box 4** for more information on correlation).*
  - Consider factors such as the number of people affected, the level of need, the effect on equity, and the feasibility and efficiency of interventions.
  - Engage community members in the prioritization process to ensure that the chosen priorities align with community needs and values.

Figure 1 | Examples of Insights from Historical Trajectory Analysis



This is a hypothetical example illustrating why a historical trajectory analysis is helpful for CCHs to not only capture their current state but also predict future unmet needs in order to understand resource gaps. In 2024, Area A appears to be doing much better on this hypothetical indicator than both the state average and Area B. However, when we look at projections into the future state, we see that Area A likely needs supports, whereas Area B is on a fast path to improvement without additional supports.

[9] Refer to "Correlation in Excel: coefficient, matrix and graph" for a quick primer on how to create a correlation matrix in Excel.

- **Analyze data from multiple sources:** While data on local needs and resources exist, information can be limited and fragmented. To help fill data gaps, CCHs should consider integrating data from multiple sources. For example, North Carolina Pilots Network Leads worked with local data partners to determine the potential demand for Pilots services in each county in their region by analyzing data from multiple sources. This included Medicaid enrollment data, Pilots screening data, and some domain-specific data from service providers – for example, one Network Lead analyzed data reported to the North Carolina Council for Women by interpersonal violence service providers on an annual basis. The Network Lead determined what percentage of those cases were likely eligible for Pilots enrollment based on Medicaid eligibility in the general population.
  - Data from multiple sources can also be combined into an index to simplify data that needs further context. For example, a transportation hardship index can be created by mathematically combining percent of households without access to a vehicle and a walkability metric *(see **Figure 3** for an example).*

BOX 4 | DIGGING DEEPER
Correlation

Correlation is a statistical measure that describes the strength and direction of a relationship between two metrics. Understanding correlations between your metrics can help CCHs identify levers of change.

Correlation does not imply causation. While correlation can indicate a relationship between variables, it does not prove that one variable causes changes in another. Strong correlations can highlight areas for further investigation and potential causal relationships that might require more advanced analysis.

Practical applications of correlation in work to address HRSNs include:

- Identifying patterns: Use correlation matrices to explore potential relationships between variables.
- Setting priorities: Focus on metrics with strong correlations to key outcomes, as these may provide leverage points for intervention.

How to Further Assess Needs and Resources by Leveraging Data

More advanced efforts can consider **mapping needs to resources.** To do this, CCHs should:

- Work with a data specialist to create a basemap of a need metric, shaded or colored by severity of need *(See **Figure 2** for an example).*
- Overlay point data about sites of service directly related to that need in order to identify geographical gaps *(See **Figure 3** for an example).*
- Take similar approaches with accessibility services. For example, overlaying service sites with Spanish translation over a map shaded by the percentage of the population which speaks Spanish can help Identify where more Spanish translation services are needed.

Figure 2 | Example Maps Showing Needs at the County vs. Census Tract Levels

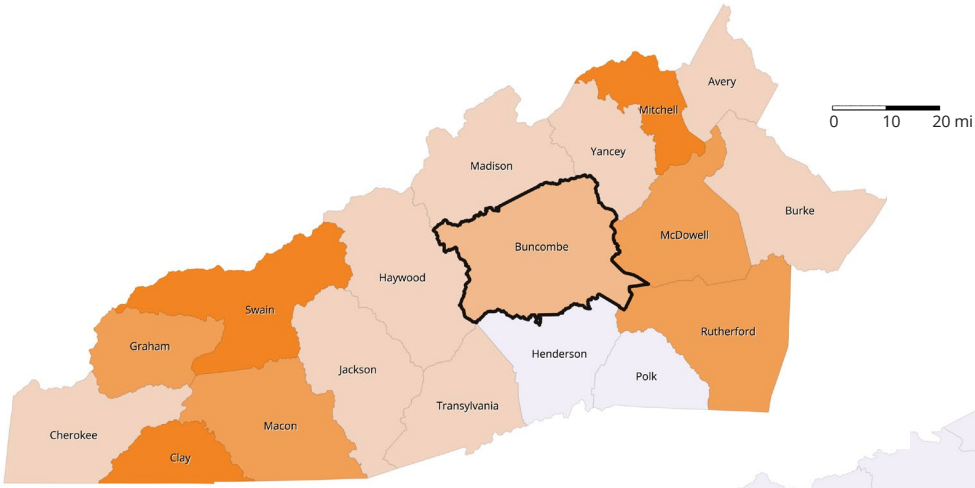


Figure 2a.
Percent of Households Reporting No Access to a Vehicle: Western NC

- 0 to 4%
- 4% to 5%
- 5% to 6%
- 6% to 7%
- Over 7%

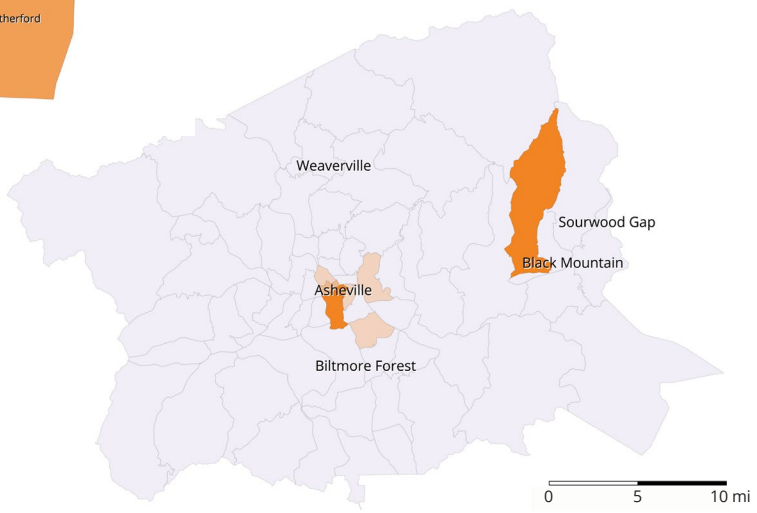


Figure 2b.
Percent of Households Reporting No Access to a Vehicle: Buncombe County, NC

- 0 to 10%
- 10% to 20%
- 20% to 30%
- 30% to 40%
- Over 40%

Suppose a CCH is building a transportation network in Western North Carolina. Figure 2a is an initial attempt to understand transportation needs, highlighting areas with the highest and lowest percentages of households without vehicle access. Given the mountainous rural landscape, households without a vehicle may face significant transportation challenges. However, aggregated county-level data often miss the nuances within smaller communities.

Figure 2b zooms into Buncombe County at the census tract level, each with an average population of around 4,000 people, demonstrating that, within a county, different neighborhoods have different experiences. Buncombe County is unique as it includes Asheville, the largest city in Western NC. Despite the mountainous terrain, some Census tracts have over 40% of households without vehicle access. Asheville's urban setting may explain why some residents do not need a vehicle, complicating the interpretation of the data. The challenge is distinguishing between those who need a vehicle and those who choose not to have one.

Data source: U.S. Census Bureau; 2022 American Community Survey 5-Year Estimates, Table B08201.

Figure 3 | Example Map Showing Overlapping Needs and Resources at the Census Tract Level

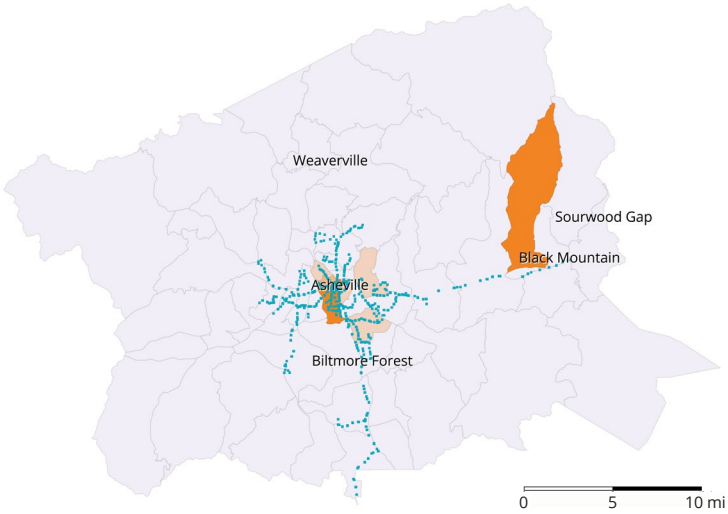


Figure 3a. Percent of Households Reporting No Access to a Vehicle overlaid with Bus Stops: Buncombe County, NC

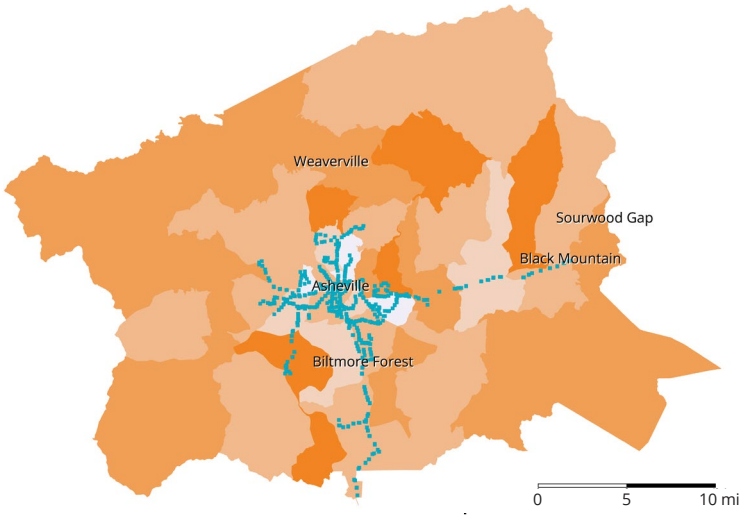


Figure 3b. Transportation Hardship Index (Vehicle Access and Walkability) overlaid with Bus Stops: Buncombe County, NC

Figure 3a incorporates bus stops into the analysis presented on the previous page, providing context on local public transportation access. It quickly becomes apparent that areas with the highest percentages of households without a vehicle often have bus stops nearby, which may explain the lower vehicle ownership in those neighborhoods. That could mean that the bus system is designed appropriately to serve those who need it, although it is still difficult to understand if available bus stops match neighborhood walkability.

Figure 3b therefore incorporates combines additional data to assess Buncombe County's transportation needs more critically. It combines the percentage of households without vehicle access with WalkScore.com's Mobility Score into a single index we name "Transportation Hardship," allowing for richer interpretation of the relationship between car access, public transportation access, and neighborhood walkability. The darker orange areas of the map highlight Census tracts with both lower walkability and higher percent of households without a vehicle, which may be where transportation services are most needed. Unsurprisingly, many areas without bus stop access have higher transportation hardship, and many areas with bus stops have lower transportation hardship. Perhaps surprisingly, however, some of the darker oranges Census tracts do include bus stops, showing that car access, public transportation access, and walkability must be considered together.

Teal dots represent bus stops.

Data sources: U.S. Census Bureau; 2022 American Community Survey 5-Year Estimates, Table B08201. WalkScore.com; 2023 Public Transit. WalkScore.com; 2023 Walkability, Walk Score, Transit Score, and Bike Score.

SECTION 3
Supporting Financial Sustainability

Funding structures for programs to address HRSNs can be difficult for CCHs and their CBOs to navigate. Working with health care payers presents an entirely new financial model to many CBOs that are used to grant funding, and finding sustainable funding for initiatives to address HRSNs can be difficult.

To ensure the financial success of their organizations and networks, CCHs should consider the following initial steps:

- **Assess CCHs' financial and business capacity:** CCHs should leverage existing resources and business support centers to determine key skills related to financial/business capacity and develop templates for assessments *(See **Section 1** for additional information and resources).*
- **Assess prospective CBOs' current financial models and critical financial management skills:** Important skills to assess include budgeting, cash flow management, and financial planning. These should be assessed as part of the network application process *(See **Box 5** for information on data-driven approaches to evaluating funding models).*
- **Dedicate upfront time and training to help CBOs understand the program's financial structure:** For example, several North Carolina Pilots Network Leads created training programs and resources to help smaller CBOs with business skills, both before they began service delivery and on an ongoing basis afterwards *(See **Box 6** for additional details on one North Carolina Pilots Network Lead's approach).*
- **Partner with organizations with specialized expertise:** Several CCHs described partnering with consultants and/or support centers for nonprofits and small businesses to leverage specialized expertise related to financing.

BOX 5 | DIGGING DEEPER
Using Data to Evaluate Funding Models

CCHs should use financial data to evaluate the effectiveness of different funding models for themselves and their CBOs and identify trends to inform future financial strategies. By examining trends over time, CCHs can identify which funding sources are most reliable and which ones may need adjustments or diversification to improve financial stability. Relevant financial data to consider include:

- Month-over-month cash flow: Tracking monthly cash flow helps to understand liquidity and identify any cash flow gaps that might affect operational sustainability.
- Funding utilization rates: Assessing how efficiently funds are utilized to highlight areas for cost savings or necessary adjustments in spending.
- Revenue streams: Analyzing the diversity and stability of revenue sources to ensure a balanced and sustainable funding mix.
- Referral tracking: Monitoring the financial impact of referral networks on revenue and expenses, including reimbursement rates and cost-sharing arrangements.
- Expense patterns: Identifying trends in fixed and variable expenses to forecast future financial needs and potential areas for cost reduction.
- Grant and donor contributions: Evaluating the contribution and reliability of grants and donations to the overall funding portfolio.

To further advance financial sustainability, CCHs can consider the following advanced steps:

- **Explore options for offering funding and resources for upfront and ongoing capacity-building,** which has been critical to the success of other initiatives to address HRSNs. Finding funding sources for this has been challenging for many CCH interviewees, but some have utilized funding from Medicaid Section 1115 waivers and/or philanthropy.
- **Consider opportunities to help the network transition to sustainable funding models over time.**[10] This could involve starting with capacity-building and infrastructure funding, moving to a reimbursement model, and eventually to more advanced payment models as financial stability increases (or a hybrid model). Potential areas for development include:
  - Estimating and updating costs of services over time
  - Learning how to create business plans
  - Making the business case for addressing HRSNs
  - Implementing financial data tracking and analysis
  - Investing profits back into the business
  - Exploring different payment models, such as outcomes-based payment and value-based payment, and how they have been implemented
  - Using existing tools to help CBOs prepare for new financial models. One example is the HCBS Business Acumen Toolkit, which helps prepare CBOs to expand the ways they do business and build a roadmap to financial and programmatic sustainability

BOX 6 | PROMISING EXAMPLE
Community Care of the Lower Cape Fear's Business Solutions Center

Community Care of the Lower Cape Fear, a North Carolina Pilots Network Lead, created a Business Solutions Center for the CBOs in its network using funding from local philanthropy. The Business Solutions Center provides free services and resources to strengthen the infrastructure and long-term financial sustainability of CBOs, including training, coaching, and consulting in accounting and finance, profit and loss, grant writing, staffing models, sustainability planning, and more.

- **Consider opportunities to blend and braid funding** from different funding sources to develop funding strategies that incorporate a mix of revenue streams, including grants, donations, contracts, and service fees, to ensure sustainability.[11] This could be done by:
  - Coordinating eligibility criteria and/or enrollment in complementary programs to support resource needs.
  - Identifying funding sources for blending and braiding at the CCH and/or CBO levels. Examples of diverse funding sources to braid and blend could include Medicaid (e.g., through Section 1115 waiver programs like North Carolina's Pilots program, in lieu of services, value-added services, Z and G codes in North Carolina), Medicare (Medicare Advantage supplemental benefits, new Medicare HRSN codes), commercial payers, health systems (community benefit), other state and federal funding, grants, and philanthropy.
  - Identifying opportunities for technical assistance, training, and partnerships on blending and braiding.

[10] Refer to Section 5.2 of the Partnership's Functions of a Mature Community Care Hub for additional details on financial management and accountability.

[11] Refer to Theme 2.2 of the Duke-Margolis report "Addressing Social Needs through Medicaid..." for additional details on models and opportunities for blending and braiding funds.

How to Further Support Financial Sustainability by Leveraging Data

Data play a pivotal role in establishing sustainable funding models and enhancing financial planning for CCHs. By adopting data-driven approaches, organizations can make informed decisions that support long-term financial health and program effectiveness. Many CCH interviewees described how obtaining relevant financial data can be challenging, so CCHs should consider the following data-driven approaches to financial planning as their data capacity evolves over time.

- **Predictive analytics:** Leverage predictive analytics to forecast future funding opportunities and risks. By analyzing trends, CCHs can anticipate changes in funding availability and prepare accordingly *(Refer to **Box 7** for more information on predictive financial models and forecasts).*
- **Continuous monitoring:** Implement systems for ongoing monitoring and evaluation of funding strategies. Regularly updating financial data and analyzing performance metrics ensures that funding models remain effective and adaptable to changing circumstances.
- **Impact investment:** CCHs can explore the following data methodologies for measuring and demonstrating investment impacts:
  - Social Return on Investment (SROI): SROI is a framework for measuring and accounting for the value created by an organization, expressed in monetary terms. It helps quantify social, environmental, and economic outcomes, allowing stakeholders to understand the broader impact of investments beyond financial returns.
  - Cost-effectiveness analysis: This technique compares the relative costs and outcomes of different courses of action. It helps identify which interventions provide the most significant impact per unit of cost, guiding resource allocation decisions to maximize efficiency and effectiveness.
  - Performance metrics: These are specific, quantifiable indicators used to assess the success of an organization in achieving its goals. Performance metrics provide a clear picture of progress and outcomes, enabling organizations to track performance over time and make data-driven improvements *(See **Section 2** for additional information).*

BOX 7 | DIGGING DEEPER
Forecasting & Predictive Analytics

Predictive analytics involves using statistical techniques and machine learning algorithms to analyze current and historical data in order to make predictions about future events. In the context of financial sustainability, predictive models can forecast future revenue streams, identify potential funding risks, and suggest optimal resource allocation strategies.

To create your own predictive financial model or forecast:

- **Gather relevant financial data,** including historical revenue, expenses, and external factors that may influence funding.
- **Collaborate with a data scientist to develop a model.** Forecasting often requires advanced knowledge of statistics and modeling. A good data partner will work with CCHs, developing a model that best answers their questions and helping to interpret its results.
- **Integrate the model into the organization's financial planning processes.** Continuous monitoring and updating of the model ensure it remains accurate and relevant as new data becomes available.

SECTION 4
Ensuring Equitable Access and Participation

It is critical that CCHs leverage strategies to ensure equitable access to and distribution of services to address HRSNs. This entails a two-pronged strategy to:

A. Ensure that community members have equitable access to HRSN services.

B. Ensure that CBOs within the network have an equitable opportunity to participate and serve their communities as HRSN providers, which can facilitate greater access to and uptake of services and boost communities' economic development.

Ensuring Equitable Access to Services

To ensure equitable access to services for community members and clients, CCHs should take steps to address any barriers to accessing services to address HRSNs.

CCHs should take the following initial steps to do this:[12]

- **Understand the populations being served.**
  - CCHs should identify subpopulations in the community that may not be represented in data or are not receiving services. Cross-walking demographic and service utilization data can help to pinpoint these subpopulations.
  - CCHs should seek to understand how systemic racism and linguistic capacity in service provision affect access.
  - When possible, CCHs should create networks that leverage local CBOs with community connections and trust rather than larger national vendors.
  - Part of understanding the community involves being aware of and responsive to things that are impacting a community. For example, one CCH interviewee started to offer trauma-informed care training to CBOs in response to a shooting in their region.
- **Address barriers to enhance service accessibility.**
  - Communications teams should be able to reach diverse, local community audiences and develop accessible communications materials, such as by clearly explaining services in a way that is relevant and understandable to people (including multilingually).
  - Referrals to service programs should be able to come from many touchpoints in the community, not just clinical visits. For example, North Carolina's Pilots program has a 'no wrong door' policy, meaning that eligible individuals can access the program through multiple pathways, such as referrals by CBOs and community members.
  - CCHs should make efforts to address logistical barriers to accessing services, such as transportation and childcare. One way to do this is by meeting people where they are in spaces like schools and faith-based organizations, or by delivering services directly to the home (e.g., food boxes, healthy home goods, home modifications). Data can also be used to identify and quantify these barriers, such as those related to transportation, cost, childcare, and resource availability.
- **Create opportunities for community governance:** CCHs should develop an advisory board with representation from CBOs, local partners, clients, and community members to advise on access, participation, and evaluation.[13] For example, in the original North Carolina Pilots application and guidance, prospective Network Leads had governance structure requirements that included representation of specific groups, such as consumers and non-medical service providers.
- **Apply cultural humility in service delivery:** CCHs and their CBOs should ensure that services are culturally appropriate and provided with cultural humility, such as by providing healthy and culturally appropriate foods.

[12] Refer to the Centers for Medicare and Medicaid Services' (CMS) Disparities Impact Statement for guidance on how to establish organizational health equity goals.

[13] Refer to Standard 6 of the PCHI Certification Standards for additional details on forming a community advisory council.

To further strengthen equity for community members/clients, CCHs can take the following advanced steps:

- **Use data and analytics to assess and increase network adequacy:** Accurate measurement of network adequacy can help CCHs identify gaps in timely access to services, improve service delivery, and ensure equity among CBOs.
  - CBOs should regularly provide updates about their estimated capacity for service referrals and any gaps related to service delivery.
  - Working with a data expert/team, CCHs can combine HRSN surveys with demographic data to estimate future referrals.
  - CCHs should set benchmarks for network adequacy metrics, such as capacity-to-referral ratios, service availability, and time/distance to services for those that require travel. Regular analysis of these metrics can ensure the network can meet established benchmarks and make adjustments as needed.
  - Using advanced geospatial analysis can help visualize service coverage and identify underserved areas.
  - Where gaps in coverage are identified, CCHs should ask its CBO network to consider expanding physically or via telecommunication strategies, when possible based on capacity, to ensure people in the region can be effectively served.
- **Monitor the quality of services across subpopulations and identify strategies** to promptly address quality concerns and disparities *(See **Section 6** for additional information).*
- **Work to ensure that there are enough CBOs in the network that are led by and/or serving historically marginalized populations** to better reach these communities. For example, North Carolina's COVID-19 Support Services Program prioritized engaging grantee organizations that were led and staffed by historically marginalized populations and focused on serving communities disproportionately affected by COVID-19, which aided in ensuring service delivery in these communities.
- **Intentionally include CBOs in the network with deep local knowledge and trust:** One North Carolina Pilots Network Lead worked to do this by connecting with trusted local organizations, such as barbershops and faith-based organizations, emphasizing that this was especially necessary to do in rural areas that may have fewer CBOs to engage.

Ensuring Equitable Opportunities for CBO Participation

To ensure equitable participation and service allocation to CBOs, CCHs should be considering equity throughout their work with their CBO network.

CCHs should take the following initial steps to do this:

- **Help CBOs distribute services equitably by providing support:** CCHs can provide financial and technical assistance, training, incentives, and guidance to CBOs to support them in the equitable distribution of services.
  - CCHs need to support CBOs beyond just including them in the network, such as by establishing structures for upfront and ongoing technical assistance and training for CBOs. Part of this work involves continuously assessing whether CBOs are feeling supported. One CCH interviewee did this by hiring centralized IT staff so the CBOs they worked with did not have to hire their own. The same CCH provided training to agencies interested in contracting to ensure they were set up for success before creating contracts.
  - CCHs can create incentives for CBOs to hire and retain bilingual staff, such as by offering a bonus to CBOs for doing so or by giving a salary increase to bilingual staff. One North Carolina Pilots Network Lead provided incentives for their CBOs to hire and retain bilingual staff in areas with high rates of Hispanic/Latinx populations.
  - CCHs can provide guidance to promote equitable distribution of services to CBOs. CCHs could recommend that referrals/services be allocated to CBOs representing a diversity of traits, such as organizational size and sociodemographic composition of staff. CCHs could also recommend to include CBOs in the network that serve specific population groups.

- **Consider the composition of CBO networks.**
  - CCHs should develop tailored outreach and onboarding strategies to ensure they are reaching a variety of CBOs. For example, one North Carolina Pilots Network Lead held one-on-one meetings with smaller CBOs to assess their interest in and readiness for joining the network, while also posting larger calls for applications that tended to capture highly resourced CBOs.
  - CCHs can assess CBOs' policies, procedures, and governance structures to determine if the staff and leadership are proportionally representative of the clients and community being served and prioritize including CBOs with reflective leadership and governance in their network. Where gaps are identified, CCHs should encourage CBOs to integrate more community involvement into their procedures and governance.

To strengthen equitable participation opportunities for CBOs, CCHs should consider the following advanced strategies:

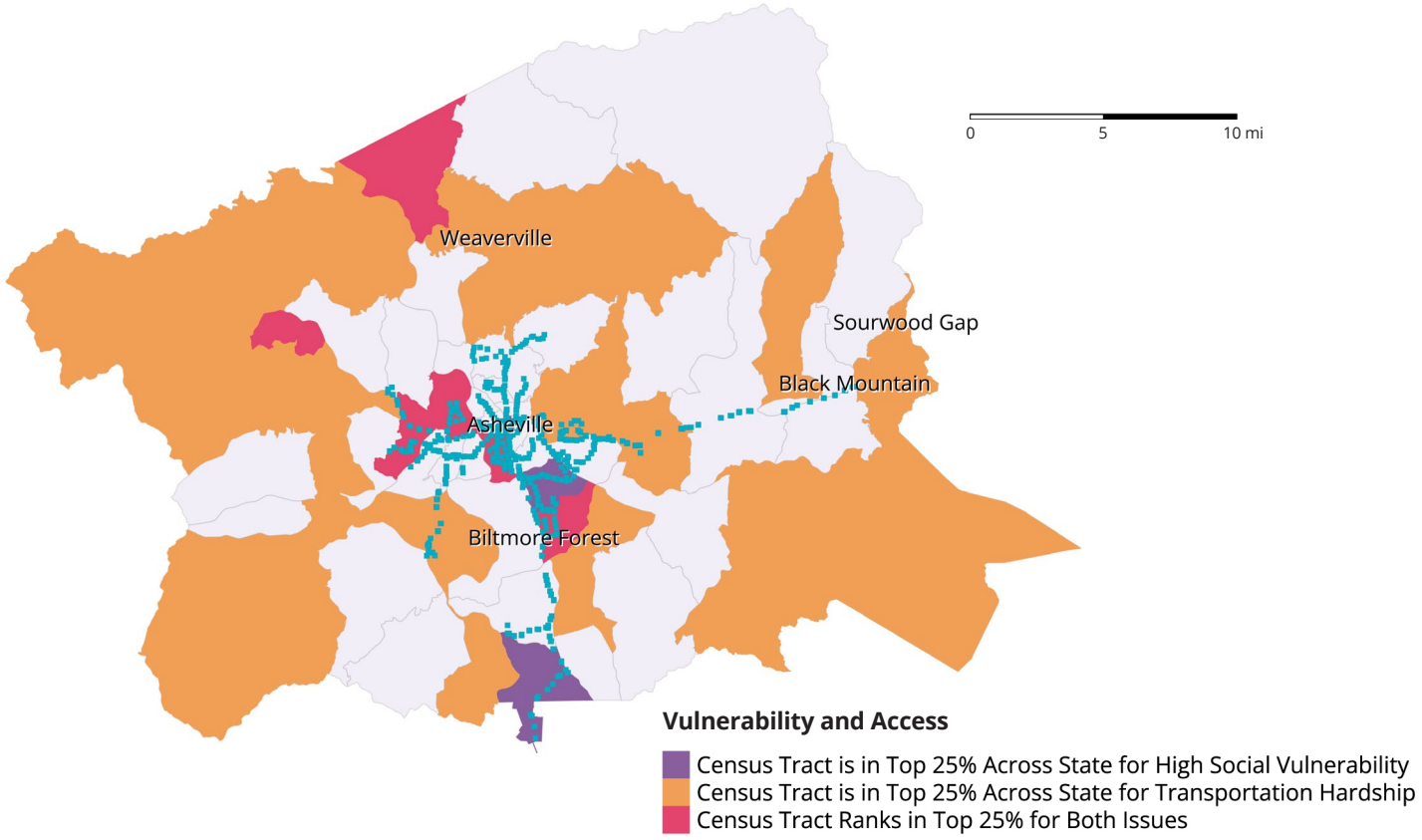
- **Support the inclusion and growth of smaller CBOs.** One CCH interviewee allowed partner organizations to set their own target amounts for referrals, which allowed small CBOs to participate while receiving minimal referrals. CCHs can also support smaller CBOs by helping them scale existing services and geographic reach or learn a new service related to existing services over time.
- **Consider supporting partnerships between smaller and larger CBOs,** as delegation could help smaller CBOs participate more in service delivery. For example, models could be created where larger CBOs help with case management services and delegate intervention service delivery, such as food boxes, to smaller CBOs. Larger CBOs could also act as a support system for smaller CBOs. One CBO interviewee suggested a tiered approach to referrals, where local CBOs get the referral first and larger/statewide CBOs serve as the backup or second referral.

How to Further Ensure Equitable Access by Leveraging Data

- **Use and collect disaggregated data:** Whenever possible, CCHs should use and collect data that is disaggregated by relevant subpopulations. Data broken down by race, ethnicity, gender, age, and other relevant factors can help CCHs identify inequities that may be masked by aggregated data. It is important to keep in mind that datasets are imperfect and may not fully capture nuanced population details, and changes over time, in an accurate way.
- **Ensure data collection methods are inclusive and culturally sensitive.**
  - For example, CCHs may want to ensure they are reaching marginalized groups, writing surveys with accessible language, providing options for those without internet access to participate, and creating surveys in multiple languages.
  - Where possible, use standardized categories for race, ethnicity, language, gender, and other demographics and establish standards of practice to ensure the same categories are used across data collection efforts, but ensure you have inclusive options when collecting data. For example, asking about gender is generally more sensitive than asking about sex. Include options for those identifying as trans or non-binary as well.
  - Report data with self-identified labels as much as possible. For example, survey participants who self-identify as Black may not necessarily self-identify as African American and vice versa. Avoid relabeling to categories other than what the original survey contained.
- **Protect privacy and confidentiality to encourage participation.**
- **Consider geographical gap analysis to monitor service delivery and identify gaps:** Geographical gap analysis is a powerful method for visually representing service distribution and identifying areas of need. Choropleth maps, which use color shading to represent data values across geographic areas, are particularly effective in revealing complex spatial patterns and informing strategic planning. Maps are visually engaging and intuitive ways to answer "where" questions. Choropleth maps are

especially useful when addressing geographically defined disparities or when visualizing service distribution can enhance understanding and decision-making. These maps can highlight variations in data across different regions, making it easier to identify areas of high need or insufficient service coverage *(See **Figure 4** for an example of a map for geographical gap analysis).*

Figure 4 | Example Map for Geographical Gap Analysis



This map builds on Figure 3b (page 16) by incorporating the CDC Social Vulnerability Index to identify areas more susceptible to community-level social determinants of health stressors. It shows areas where both high levels of social vulnerability and high levels of transportation hardship intersect (red Census tracts). Notably, the purple Census tracts are areas that include a large proportion of highly vulnerable populations who live in an area serviced by the bus system and without a high level of transportation hardship. These Census tracts would not have been identified in Figure 3b as needing transportation supports, but vehicle ownership or walking may not be a feasible option for many people in these Census tracts due to financial or physical constraints. These areas may be added to those uncovered in Figure 3b as neighborhoods needing additional transportation supports.

The purpose of this map is to emphasize the importance of critically analyzing data to ensure equitable access. The next step would be to share this map with the community and CBOs operating in the area, acknowledging that data approximate lived experiences and may not capture all perspectives.

Teal dots represent bus stops.

Data sources: U.S. Census Bureau; 2022 American Community Survey 5-Year Estimates, Table B08201. WalkScore.com; 2023 Public Transit. WalkScore.com; 2023 Walkability, Walk Score, Transit Score, and Bike Score. Centers for Disease Control & Prevention; 2022 Social Vulnerability Index Database, United States.

SECTION 5
Coordinating Across Different Initiatives

Initiatives to address HRSNs often involve organizations across sectors, including health, social services, community, and government. Developing partnerships is a critical part of coordinating the delivery of HRSNs. CCHs should help facilitate cross-sectoral communication and partnerships across siloed efforts with organizations such as CBOs, MCOs, state Medicaid agencies, and care managers *(See **Box 8** for Additional Resources on Coordinating Across Initiatives).*

CCHs should take the following initial steps to coordinate across different initiatives:

- **Hire the appropriate staff** to facilitate cross-sector communications and partnerships, such as communications staff to reach diverse local stakeholders, or navigation and care manager liaisons to provide additional coordination. For example, the North Carolina Integrated Care for Kids program hired Family Navigators and Integration Consultants to support and bridge services for children. CCHs could consider incorporating similar roles to facilitate cross-sector coordination.
- **Facilitate cross-sectoral training sessions** to increase interactions among various stakeholders. For example, CCHs could bring care managers together with CBOs to cross-train them on the roles and responsibilities of each stakeholder.[14]
- **Centralize updates and information sharing** with partners. CCHs should create opportunities for bi-directional information sharing and opportunities for CCHs, MCOs, and CBOs to better understand how one another functions. For example, CCHs could hold monthly town halls, learning collaboratives, or other forums for communication between CCHs and MCOs.
- **Build trust among CBOs** and emphasize collaboration and information delivery. For example, CCHs could highlight successful initiatives/partnerships and advertise small wins/gains to promote trust and collaboration.
- **Focus on community engagement** with dedicated staff responsible for community partnerships to facilitate the success of these efforts. For example, CCHs could involve the community through a "no wrong door" approach, which should include facilitating community referrals from key community partners *(See **Section 4** for additional information on how to ensure equitable access to services to community members).*

BOX 8 | Additional Resources on Coordinating Across Initiatives

- **Robert Wood Johnson Foundation – Aligning Systems for Health toolkit:** This resource provides a framework for how to navigate cross-sector partnerships highlighting practical learnings on "what works" and "pitfalls" in creating cross-sector initiatives and the importance of building and sustaining relationships.
- **Manatt & Partnership to Align Social Care – Working with Community Care Hubs to Address Social Drivers of Health: A Playbook for State Medicaid Agencies:** This resource provides additional details on CCH and state Medicaid agency collaboration.

[14] Refer to Theme 5.1 of the Duke-Margolis report "Addressing Social Needs through Medicaid..." for additional details on tailoring technical assistance and training to stakeholders and service domains.

CCHs should consider the following advanced steps when coordinating across different initiatives:

- **Sustain long-term relationships and prioritize ongoing partnership development beyond the scope of a particular program or intervention:** CCHs should play an important role in building and strengthening relationships with key and unique partners, such as health plans, faith-based organizations, or providers, and may need to think of different ways to effectively engage those groups.[15] For example, CCHs could create regular touchpoints with partner organizations, provide more opportunities for bidirectional communication, focus on building trust, develop workflow supports, and encourage feedback to facilitate provider engagement *(See **Box 9** for an example of how a North Carolina Pilots Network Lead has done this).* A challenge CCHs should be aware of is that funding is often needed to pursue partnership development and sustainability.
- **Diversify funding:** CCHs should identify ways to blend and braid funds and resources across sectors as a way to diversify their funding sources to support financial sustainability *(See **Section 3** for additional information on blending and braiding funds).* This can be difficult to do, so cross-payer and cross-funder coordination and alignment are steps CCHs could start with.
- **Coordinate services across geographies as programs expand:** As HRSN initiatives continue to expand across geographies (e.g., regions and states), CCHs should determine roles for CBOs that can provide services across larger service areas and identify ways to coordinate those services with local groups and CCHs *(See **Section 1** and **Section 4** for additional information on engaging smaller and larger CBOs to foster CBO equity).*
- **Improve data exchange:** A key component of coordinating the delivery of HRSN services is data sharing among organizations working to address HRSNs across silos and sectors and finding ways for those data systems to communicate.[16] Some key aspects of improving data exchange include:
  - Making the development of technology infrastructure for HRSN programs a top priority.[17] Technology platforms, like NCCARE360, represent an opportunity for growth to align social and health services infrastructure. The closed-loop referral feature in NCCARE360 provides an opportunity to better coordinate the delivery of services.
    - Depending on the initiative, CCHs may have varying levels of authority over technology platform contracts. At a minimum, CCHs should be aware of these contracts and look for opportunities to provide feedback on the contracting process and procurement of technology vendors.
    - Patient privacy and confidentiality is often a concern across referral platforms and CCHs will need to think about cross-sectoral laws and regulations (e.g., HIPAA, FERPA, VAWA, VOCA, HMIS regulations, and SAMHSA 42 CFR Part 2 regulations) when partnering to ensure patient privacy and confidentiality.
    - One challenge is that many cross-sectoral platforms will not likely have a functionality to bill or invoice through the platforms, as billing and invoicing can be highly specific to different programs or financing mechanisms. NCCARE360 does facilitate invoicing and the automatic translation of invoices to claims forms for the Pilots program, but this is uncommon. CCHs should be prepared to handle invoicing and billing with their CBO and MCO partners through a more manual process that may vary by contract.
  - Developing data agreements, which is an important step in data sharing among organizations across silos and sectors. However, setting up data agreements often takes a long time and can get "sticky." Data-sharing agreements should clearly define what data will be shared, how it will be used, and how privacy will be maintained.

[15] Refer to Chapter 4 in *Shift Happens in Community: A Toolkit to Build Power and Ignite Change* for additional details on collaboration between grassroots and institutional partners, including the health sector and providers.

[16] Refer to Chapter 2 of the ACL's Community Care Hub IT Playbook for additional details on IT systems and data sharing.

[17] Refer to Sections 6.1 and 6.2 of the Partnership's Functions of a Mature Community Care Hub for additional details on key IT functions and systems.

- Holding regular meetings and workshops to discuss data insights, share tools, and develop joint strategies. Data sharing among CCHs and their partners is crucial for creating a cohesive and efficient system of care. Sharing data, tools, and strategies enables CCHs and their partners to learn from one another, avoid duplication of efforts, and build on successful interventions.

How to Further Coordinate Across Initiatives by Leveraging Data

- **Establish uniform data collection protocols** to ensure that all CCHs and CBOs collect data in a consistent manner. This consistency is critical for facilitating accurate comparison and aggregation of data across different regions and organizations. Uniform protocols should include standardized definitions, data entry procedures, and reporting formats to minimize variability and enhance reliability.
- **Ensure data quality and consistency** across networks to maintain high standards of data integrity.
  - Implement quality control measures, such as regular audits and validation checks, to maintain high standards of data integrity.
  - Conduct regular training sessions for data collectors and analysts to ensure accuracy and consistency in data collection and reporting.
  - Establish feedback mechanisms to continually improve data collection processes and address any issues promptly.
- **Use network analysis to map relationships** and interactions among CCHs, CBOs, and other stakeholders. This can reveal key nodes and connections that are critical for effective service delivery *(See **Box 10** for more information on network analysis).*

BOX 9 | PROMISING EXAMPLE
Access East's Work to Coordinate Stakeholders Across Service Lines

Access East, Inc., one of the North Carolina Pilots Network Leads, works to coordinate stakeholders across its service lines. In addition to its work in the Pilots, Access East also provides Medicaid care management through a network of patient-centered medical homes and operates programs to address health care gaps experienced by people who are uninsured. Through all of this work, Access East works to bring together key regional partners from health care and social service organizations to meet the health needs of the Eastern North Carolina region, which is largely rural. Access East is also a key member of the Eastern North Carolina Health Stewards, a group of regional stakeholders representing over 45 organizations that collaborate and share resources to improve health in Eastern North Carolina.

BOX 10 | DIGGING DEEPER
Network Analysis

Network analysis is a powerful tool used to examine the relationships and interactions within a network of organizations or individuals. In the context of CCHs, network analysis can map the connections among CCHs, CBOs, and other stakeholders involved in HRSN initiatives and uncover potential areas for improvement.

Benefits of Network Analysis:

- Identifies central players in the network
- Helps in understanding the flow of services
- Supports strategic planning
- Enhances collaboration and resource sharing

How to Conduct Network Analysis:

- **Gather data on the relationships and interactions among CCHs, CBOs, and other stakeholders.** This can include communication patterns, referral processes, and collaborative efforts. Use surveys, interviews, and existing records to collect this information.
- Work with a data partner to **create a visual representation of the network** and identify the nodes (e.g., CCHs, CBOs) and edges (e.g., communication links, referrals) within the network. A data partner will also help **analyze the network to identify key metrics** such as centrality (importance of network "nodes"), density (overall connectivity), and clustering (subgroups within the network).
- Use these metrics to **understand the roles of different actors, the strength of their connections, and the overall health of the network.**
- Interpret the results to **identify central players** who can act as hubs for information and resource dissemination.
- **Pinpoint potential bottlenecks** or inefficiencies in the flow of services.
- **Develop strategies** to strengthen weak connections, improve collaboration, and enhance service delivery.

SECTION 6
Developing a Monitoring and Evaluation Plan

It is important for CCHs to develop a monitoring and evaluation plan for their organizations and CBO networks. Tracking the outcomes and impacts of initiatives to address HRSNs can help CCHs demonstrate their value to policymakers and funders and improve systems. However, developing a monitoring and evaluation plan can be very challenging; it is often costly, unfunded, or underfunded, sometimes in ways that raise equity concerns (for example, it can be more challenging for smaller organizations to pay for evaluations without external support). If funding for HRSN services is scarce, there can also be moral tensions with spending money on an evaluation plan rather than services—even though understanding and ensuring quality of services and impacts on the community is critically important.

CCHs should take the following initial steps to develop a monitoring and evaluation plan:

- **Establish the appropriate data structures early on:** CCHs should begin by asking questions from their perspective on what a data strategy and data security entail, what information they are going to monitor and how, and what they are going to do with the information. CCHs can work with external partners from the beginning to intentionally define what, how, and why they are going to track information. For example, health care payers will want to know the impact on health care use, spending, and outcomes, and CCHs will need to look outside health care systems to assess broader impact.
- **Consider how to measure program compliance and integrity:** While there are many challenges with developing a monitoring and evaluation plan to assess and support the effectiveness of initiatives to address HRSNs – and it is often more difficult for CCHs starting up – a good place to start is with program compliance and integrity. Quality, compliance, and program integrity are large components of major initiatives to address HRSNs, like North Carolina's Pilots. CCHs will need to determine what they need to set up for grant or program compliance and reporting. Some key steps CCHs can take include:
  - Creating a compliance program and hiring a compliance lead.
  - Reviewing contracts to make a list of the responsibilities of the CCH, including what they would do, track, and report on. This may include monitoring CBO performance, funder-mandated reports, technical assistance, and training.
  - Hiring the necessary staff within a CCH to ensure program integrity, analyze data, and ensure data are secure. Continue to monitor if additional staff are needed and contract with organizations as needed.
- **Collect and monitor data to assess CBO and network performance:** CCHs should collect and monitor data to assess CBO and network performance beyond data used for program compliance. Some steps to collect and monitor data include:
  - Using data from a variety of sources to assess CBO performance, including data from platforms like NCCARE360, financial data like invoices, available state or regional data, and qualitative data from interviews, surveys, learning collaboratives and/or stakeholder meetings *(See **Section 2** for additional information on data sources).*
  - Starting off with monitoring referral volumes (where referrals are going or lagging), measuring time-to-service, and tracking service delivery (who is receiving services).
  - Identifying ways to make reporting easier for CBOs, such as by requiring the use of simple forms and checkboxes instead of long notes.
  - Developing a written plan that describes how to monitor network quality and advance continuous quality improvement[18, 19] *(See **Box 11** for an example of how one North Carolina Pilots Network Lead assesses network quality).* There can be barriers

[18] Refer to Sections 3.4 and 3.5 of the Partnership's Functions of a Mature Community Care Hub for additional details on assessing quality and leading improvement across the CBO network.

[19] Refer to Standard 7 of the PCHI Certification Standards for additional details on continuous quality improvement practices.

to addressing quality improvement within a network and determining what quality metrics look like considering variation in service offerings and program implementation across regions. It can be difficult to assess quality without the standardization of services, pointing to a need to define and monitor quality of services. CCHs will also need to consider how they will respond to dips in performance.

- Making relevant data on CBO performance available to the community and creating opportunities for community engagement and feedback, so communities know about the program's performance and can be involved in quality improvement efforts to ensure services are high-quality and timely.

CCHs should consider the following advanced steps when developing a monitoring and evaluation plan:

- **Select and assess appropriate measures** starting with process measures (e.g., time to service), performance measures (e.g., quality of services and costs), and lastly, outcomes on unmet HRSNs and health outcomes (e.g., high-quality housing supports). What gets measured gets managed, meaning the act of measuring itself brings focus and management attention to those areas. Choosing the wrong metrics can lead to misaligned priorities and ineffective interventions.
  - For example, one metric that North Carolina Pilots Network Leads use to assess CBO performance is the ratio of referrals to completed services. A potential tradeoff of using such a metric could be that CBOs accept less referrals, or only accept simple referrals, hoping to keep this ratio high.
  - To avoid such pitfalls, it is crucial to align measurement with strategic goals. Metrics should reflect the objectives of the organization and provide insights into whether those objectives are being met. This ensures that all efforts are focused on achieving the desired outcomes.
  - CCHs should define success metrics by setting clear, relevant, and actionable measures that directly relate to organizational goals. These metrics should be specific enough to provide meaningful insights but broad enough to cover all critical aspects of performance. Good metrics for monitoring and evaluation share all of the same traits as good metrics for assessing local needs and resources *(See **Section 2** for additional information on metrics).*

BOX 11 | PROMISING EXAMPLE
Impact Health's Approach to Defining and Measuring Network Quality

Impact Health, one of the North Carolina Pilots Network Leads, recently developed an approach for examining network quality using a framework called "STEEEP" – which stands for safe, timely, effective, efficient, equitable, and person-centered. Impact Health adapted this framework from established dimensions of health care quality and tailored it to service delivery for the Pilots. One example of a concept used in this model is efficiency, which is defined as avoiding any sort of waste (e.g., staff, ideas, equipment). To assess this, examples of measures used include fraud, waste, and abuse monitoring and cost-benefit analysis of capacity-building funds. Another example is safety, which focuses on the safety of those receiving services and the staff delivering them. Examples of factors examined here include conducting background checks on Pilots staff, and assessing whether CBOs have privacy and safety policies and procedures in place. Impact Health's model works to ensure Pilots services are provided with consistency and quality, verify CBOs are clear on expectations, build trust with stakeholders, measure value objectively, and be consistent with metrics used in the health care sector. Impact Health is monitoring the initial implementation of this approach and is building in flexibility to adapt it over time as needed.

- **Set realistic and achievable targets:** These targets should be based on historical data, industry benchmarks, and organizational capacity. Setting attainable goals helps maintain motivation and provides a clear path for continuous improvement.
  - Review historical data: Examine past performance to establish a baseline and identify trends.
  - Benchmark against industry standards: Use benchmarks to compare performance with similar organizations and set competitive targets.
  - Assess organizational capacity: Consider the resources, capabilities, and limitations of the organization *(See **Section 1** for additional information on capacity assessments).*
  - Engage stakeholders: Involve staff, service recipients, and other stakeholders in setting targets to ensure they are realistic and supported *(See **Box 12** for an example of how one organization does this in their evaluation process).*
  - Define incremental steps: Break down long-term goals into smaller, manageable milestones.
  - Monitor and adjust: Regularly review progress towards targets and adjust as necessary based on ongoing performance and changing conditions.

- **Select measures to assess health outcomes:** An evaluation of an intervention must capture more than just cost savings. The goal is to improve health, and finding measures to capture health in its entirety is difficult. For example, organizations may receive data on the number of food boxes delivered and the amount of capacity-building funding that was distributed, but that data does not show the true impact of the program on health outcomes. Some strategies some CCH interviewees have used include:
  - Engaging partners to better understand the data being received.
  - Using data to provide a clear understanding of whether or not needs were met, how to scale the network or service delivery, and where to refine approaches and/or incorporate new best practices.
  - Generating data to tell a story of what a network is doing and the effect they are having to help communicate impact more broadly.

BOX 12 | PROMISING EXAMPLE
North Carolina Center for Health & Wellness' Approach to Evaluation

The North Carolina Center for Health & Wellness, an organization working to develop a CCH in North Carolina, created its Culture of Results Initiative to provide training and support services, including evaluation services, to local, regional, and state partners to help them assess opportunities and impact with a goal of sustaining programs statewide. Culture of Results is a collaborative model in which the community is involved from the start in developing the evaluation. Culture of Results uses Results-Based Accountability™, an evidence-based, equity-focused framework for planning and evaluation. Topics covered can include identifying key measures for tracking performance and impact, operationalizing data collection and analysis, and communicating impact. The initiative has helped partners measure and expand their impact, grow funding, and strengthen community health improvement efforts.

- **Conduct ongoing data collection,** which is vital for tracking progress, identifying trends, and making informed decisions. Regularly updated data provide a dynamic view of performance and help organizations respond to changes in a timely manner. Strategies for continuous data collection include:
  - **Service recipient satisfaction surveys:** Conduct regular surveys to gather feedback on patient experiences and satisfaction with services.
  - **Community health surveys:** Periodically survey the community to assess health behaviors, needs, and outcomes.
  - **Staff feedback surveys:** Regularly collect feedback from staff at both CBOs and the CCH to understand operational challenges and areas for improvement.
  - **Mobile apps:** Consider developing or using existing mobile applications to capture service data and recipient satisfaction.

- **Leverage technology platforms** as they can make monitoring and reporting easier, especially as monitoring at the service level can be intensive. However, there are challenges to be aware of, including that CCHs may have to regularly update the technology they use as new nuances are found or platform issues arise, and may be required to continuously train staff on how to use updated software *(See **Section 5** for additional information on NCCARE360 and other data exchange considerations).*
  - CCHs may be in different stages in building out their data management infrastructure. Once a CCH has set up the appropriate data structures, they should build out dashboards to integrate data and automate as much as possible, which allows the team to use the data instead of finding the data and eliminates manual processes. Dashboards are powerful tools for real-time monitoring and visualization of data. They provide a centralized platform to track key metrics and performance indicators *(See **Box 13** for additional information on developing dashboards).*
- **Develop an evaluation process** that allows you to make adjustments to process, training, data systems, etc. as needed, such as adjusting for nuances or how to document.

BOX 13 | DIGGING DEEPER
Dashboards for Real-Time Monitoring

- A dashboard is an interactive visual interface that displays key data points and metrics in a consolidated, easily accessible format. See this page for one example of a dashboard.
- Dashboards offer several advantages, such as real-time data visualization, easy accessibility, and the ability to customize views for different users. However, they also have limitations, including potential data overload, the need for regular updates, and the requirement for users to be trained in their use.
- Effective dashboards should be user-friendly, visually appealing, and designed to highlight the most critical information. Key features include:
  - **Customizable views:** Allows users to tailor the dashboard to display the metrics and data most relevant to their needs.
  - **Drill-down capabilities:** Enables users to click on high-level data points to access more detailed information.
  - **Automated data updates:** Ensures that the data displayed is current and reflects real-time changes.
  - **Visual appeal:** Uses clear and intuitive design elements to make the data easy to understand.
  - **Usability:** Focuses on the user experience to ensure that the dashboard is accessible and straightforward to navigate.

APPENDICES

Appendix A: How We Developed This Report

We studied the implementation of North Carolina's Healthy Opportunities Pilots and similar initiatives leveraging CCHs using a multimethod qualitative approach. Through previous research and community engagement, we identified six overarching themes related to the functions of a CCH. We conducted 16 interviews with 27 informants from different sectors involved in addressing HRSNs, including CCHs, Medicaid MCOs, CBOs, state and federal agencies, and other cross-sectoral initiatives. The majority of interviewees were from organizations based in North Carolina, but we did speak with some stakeholders operating in other states or nationally. Interviews were conducted using a semi-structured guide that was organized a priori by the six themes while allowing for development of emergent subthemes by inductive reasoning. We used consensual, team-based qualitative methods to analyze content and synthesize themes and recommendations across interviews. Key takeaways from each interview were compiled into a matrix organized by the six themes. Thematic memos were drafted for each interview and subsequently debriefed with a multi-disciplinary team to reflect on key findings. We also conducted a literature review to identify key resources related to each of the six topics *(see **Appendix B**).*

Appendix B: Additional Resources

Below is a list of links to additional resources that were referenced throughout this report.

- A Quick Guide to Successful Data Partnerships (Johns Hopkins Bloomberg School of Public Health)
- Addressing Social Needs through Medicaid: Lessons from Planning and Early Implementation of North Carolina's Healthy Opportunities Pilots (Duke-Margolis Institute for Health Policy and Milbank Memorial Fund)
- Aligning for Health Framework and Resource Library (Robert Wood Johnson Foundation)
- Assessing Community Needs and Resources (Community Tool Box)
- Assessment Tools (Aging and Disability Business Institute)
- CCH Action Plan (Administration for Community Living)
- Community Care Hub IT Playbook (Administration for Community Living)
- Community Care Hubs: The Essentials of Data Sharing (National Council on Aging)
- Community Resource Mapping Facilitation Guide (Virginia HEALS)
- Data Maturity Assessment (data.org)
- Disparities Impact Statement (Centers for Medicare & Medicaid Services)
- Functions of a Mature Community Care Hub (Partnership to Align Social Care)
- HCBS Business Acumen Tool Kit (ADvancing States)
- Healthy Communities NC (Cape Fear Collective)
- Healthy Opportunities Pilots (North Carolina Department of Health and Human Services)
- Incorporating Community-Based Organizations in Medicaid Efforts to Address Health-Related Social Needs: Key State Considerations (Centers for Health Care Strategies)
- Inventory of Resources for Standardized Demographic and Language Data Collection (Centers for Medicare & Medicaid Services)
- Measuring Value: A Guide to Social Return on Investment (SROI) (New Economics Foundation)
- Nonprofit Readiness for Health Partnership (Nonprofit Finance Fund)
- North Carolina's COVID-19 Support Services Program: Lessons for Health Policy Programs to Address Social Needs (Duke-Margolis Institute for Health Policy and Milbank Memorial Fund)
- Pathways Community HUB Standards (Pathways Community HUB Institute)
- Resource Guide: A Health Plan's Guide to Paying CBOs for Social Care (Aging and Disability Business Institute, Partnership to Align Social Care, and Camden Coalition)
- Root Cause Analysis Explained: Definition, Examples, and Methods (Tableau)
- Shift Happens in Community: A Toolkit to Build Power & Ignite Change
- Social Return on Investment (SROI) - New Approach (Sopact)
- Sustainable Strategies for Providing Health-Related Social Supports: A Guide for Community-Based Organizations (Virginia Community Care Innovation Collaborative)
- Top Three Criteria to Evaluate When Selecting a Technology Partner for a Nonprofit (Asemio)
- Working With Community Care Hubs to Address Social Drivers of Health: A Playbook for State Medicaid Agencies (Manatt and Partnership to Align Social Care)
- Virginia Community Care Innovation Collaborative

About the Authors & Acknowledgements

About the Duke-Margolis Institute for Health Policy

The Robert J. Margolis, MD, Institute for Health Policy at Duke University is directed by Mark McClellan, MD, PhD, and brings together expertise from the Washington, DC, policy community, Duke University, and Duke Health to address the most pressing issues in health policy. The mission of Duke-Margolis is to improve health, health equity and the value of health care through practical, innovative, and evidence-based policy solutions. Duke-Margolis catalyzes Duke University's leading capabilities, including interdisciplinary academic research and capacity for education and engagement, to inform policymaking and implementation for better health and health care. For more information, please visit **healthpolicy.duke.edu**.

This report was produced as part of an ongoing research project on generating practical, timely lessons for advancing and aligning North Carolina's health care transformation leadership to address social needs. For more information, visit our project webpage.

About Cape Fear Collective

Cape Fear Collective is a pioneering nonprofit organization dedicated to cultivating data-driven solutions for a better North Carolina. By leveraging data science, collaboration, and innovative programs, Cape Fear Collective addresses critical issues such as affordable housing, health care access, and economic opportunity. With a mission to empower local communities, the organization collaborates with a diverse range of partners, including government agencies, grassroots nonprofits, and private sector leaders, to create sustainable, data-driven strategies that foster equity and enhance the well-being of all residents. Through their commitment to transparency and community engagement, Cape Fear Collective is transforming the landscape of social impact and driving meaningful change in North Carolina. Please visit our website at capefearcollective.org.

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