AcademyHealth

PAYING FOR POPULATION HEALTH:

CASE STUDIES OF THE HEALTH SYSTEM'S ROLE IN ADDRESSING SOCIAL DETERMINANTS OF HEALTH

Robert Wood Johnson Foundation

Support for this report was provided by the Robert Wood Johnson Foundation. The views expressed here do not necessarily reflect the views of the Foundation.

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INTRODUCTION

With support from the Robert Wood Johnson Foundation, AcademyHealth launched the Payment Reform for Population Health initiative in 2016 to explore improving community-wide health through the transformation of the health care payment system. As part of their efforts to identify the opportunities and challenges associated with linking payment reform to population health, AcademyHealth requested development of four case studies of sites where health systems were actively involved in addressing social determinants of health (SDOH) including housing, employment, education, food security, transportation, healthy behaviors, and neighborhood and built environment. With these criteria, the following case study sites were selected having respectively developed interventions focused on medically complex homeless individuals, people with chronic diseases, pregnant women and their newborns, and uninsured individuals with multiple chronic conditions: Burlington, VT; Muskegon, MI; Cincinnati, OH; and Greenville, SC.

Each of the following case studies includes a detailed description of the intervention, outlines enabling factors, and provides considerations for the future.

To learn more about the Payment Reform for Population Health initiative, visit www.academyhealth.org/p4ph.

Burlington, Vermont: Reducing Health Care Costs and Homelessness through Temporary and Permanent Supportive Housing Programs

Project Partners

United Way of Northwest Vermont
Burlington Housing Authority
Community Health Center of Burlington
Champlain Housing Trust
Champlain Valley Office of Economic Opportunity
Steps to End Domestic Violence
Howard Center
Chittenden County Continuum of Care
Fanny Allen Foundation
Vermont Housing & Conservation Board
Vermont Community Loan Fund
Vermont Community Foundation
State of Vermont Agency of Human Services
Other state agency & development partners

Over the last four years, the University of Vermont Medical Center (UVM Medical Center) in Burlington has worked with public and private partners to support three supportive housing projects for homeless people with complex medical needs. The hospital was facing significant challenges finding discharge options for their homeless patients. Additionally, as a founder of the statewide Accountable Care Organization (ACO), the UVM Medical Center's business model increasingly focused on controlling costs, while improving health outcomes. As the only hospital in Burlington, they bore all the risk for avoidable acute and emergent care related to patients' social determinants of health.

However, pressing need was not the only reason investing in housing became the hospital's strategy. There were other strategic alignments. The United Way of Northwest Vermont had been a driving force in shaping the region's homeless service agenda; their executive director sat on the hospital's community benefits committee. The hospital medical director led UVMMC's population health efforts and understood the potential value of upstream strategies. Finally, there were willing and knowledgeable housing, supportive services, and investment partners.

The joint effort that started in 2013 has resulted in the development of 23 permanent and four short-term housing units for medically fragile individuals as well as 59 motel beds with supportive services. Vermont's unique health care environment and cross-sector financing and collaboration has made it possible for the housing investments to be in the hospital's financial interest as well as aligned with its mission.

History of Investments in Collaborative Housing Initiatives

In 2010, two homeless men froze to death. The state of Vermont responded by expanding access to temporary motel vouchers but, by 2013, costs for these motel vouchers had tripled, so government administrators limited eligibility. The stricter state rules made it difficult for mental health, substance abuse and other health and human service providers to discharge or domicile homeless people whose medical needs made it risky for them to be on the street. For the UVM Medical Center, the new restrictions created an operational problem: homeless people remained as inpatients or in the emergency department (ED) even though they no longer required that level of care. Yet, discharging fragile people to the street put patients at risk and often resulted in more frequent readmissions.

First Housing Initiative

At the same time, the Champlain Housing Trust (CHT) was re-directing some of its affordable housing focus to the burgeoning homelessness problem. They believed they could operate a more efficient motel structure than the state's commercial motel program. Jointly with the United Way, they approached the UVM Medical Center to try to solve a shared problem. The Trust had the capacity to acquire, renovate, and manage property for low income individuals; and the Medical Center had a community benefit commitment and a growing care delivery and cost problem. In November 2013, CHT purchased a 59-room commercial motel, remodeled and opened it as Harbor Place, temporary housing with supportive services for homeless individuals. CHT was able to undercut the state's prior rate for commercial motel shelter services by 40

percent. The state, in turn, agreed to help finance a $300,000 operating reserve and committed to reserving at least 30 beds each night for qualified people. United Way, the Fanny Allen Foundation, and the UVM Medical Center financed the rest of the operating reserve and the UVM Medical Center prospectively purchased 550 bed nights for the first year for patients who would be discharged from the hospital. The agreement allowed five other local health and human service providers to refer clients to Harbor Place. This commitment of rooms by the state and the UVM Medical Center allowed CHT to secure $1.85 million in financing for acquisition and provision of rehabilitation services.

This initiative is a true collaborative effort. The UVM Medical Center's discharge planners place patients at Harbor Place who are homeless or unstably housed or who have medical or functional needs that prevent them from returning home. The median length of stay at Harbor Place is eight days, although guests can be there longer. CHT provides the property management services and three additional organizations provide case management services to motel guests: Safe Harbor, the Community Health Centers of Burlington's Healthcare for the Homeless program; the Champlain Valley Office of Economic Opportunity; and Steps to End Domestic Violence. In year two of the project, the UVM Medical Center estimates that Harbor Place resulted in $500,000 in savings in inpatient admissions. Additionally, CHT reports that homeless people temporarily housed at Harbor place are five times more likely to end up in a permanent home than if they had gone to a commercial motel through the state's voucher system. Harbor Place provides an entry point for case management and other services that support housing readiness.

UVM Medical Center Use by Harbor Place Residents: 2013-2015

Patients Discharged from the Hospital: 95
Reduction in ED Visits: 42%
Reduction in Inpatient Admission Costs: 81%
Hospital Savings: $10,300/person
Overall Hospital Estimated Savings: $1M

Second Housing Initiative

As Harbor Place was completing its first year, the original collaborators, along with the Burlington Housing Authority and the Chittenden County Homeless Alliance, began a new project to create permanent housing for chronically homeless people who are the most medically vulnerable. Using the national 100,000 Homes Campaign approach, volunteers conducted a community survey resulting in a wait list that prioritizes people based on a Vulnerability Index. Because early experiences with Harbor Place indicated that stabilization of some of the discharged homeless residents required more and lengthier clinical and case management support than previously anticipated, CHT converted a second motel to provide permanent supportive housing to those at the top of the wait list, including those at Harbor Place. Beacon Apartments opened in January 2016, providing housing to 19 medically complex people and many with physical and behavioral comorbidities.

As of December 2016, 16 of the 19 original residents remain housed at Beacon. After a year at Beacon, all residents are eligible for a flexible rental subsidy from the Burlington Housing Authority they can use anywhere in the community. As of January 2017, however, none of the residents who qualified for the vouchers accepted a move. Safe Harbor staff believe that residents stay at Beacon because of the accessible web of services embedded there, the community of residents that is forming, and the fact that many are still adjusting to life in permanent housing.

Third Housing Initiative

Through 2016, the UVM Medical Center faced an ever-expanding need for community housing that could support patients with short-term medical needs post discharge. At the same time, the housing providers recognized that some of the most medically and behaviorally complex homeless individuals in Harbor Place or on the housing waitlist required a more supportive environment than Harbor Place or Beacon provided. In December 2016, CHT and UVM Medical Center announced that CHT had acquired and would convert a third motel into four one-bedroom units of permanent supportive housing for the more complex individuals identified through the 100,000 Homes vulnerability assessment, and four units of temporary housing for eight patients discharged from the hospital but requiring short- and medium-term medical support. The new development will have on-site medical support and around-the-clock, non-licensed awake staff. The UVM Medical Center will invest $3 million for this new development: $1 million for CHT's purchase and rehab of the facility and $2 million for rent and operating costs for the support services provided by Safe Harbor.

Building on Success: Beacon Apartments

- Operating reserve from Harbor Place helps support Beacon
- UVM Medical Center expands Safe Harbor support to provide case management
- Modeling on similar patients allowed the hospital to project 60% cost reductions for year one of Beacon

Local and State Health Care Environment: Coverage, Health Care System Structure and Payment

Coverage

In the late 1980s, Vermont began implementing health coverage programs for uninsured populations. Incremental changes in insurance coverage, care delivery, and payment strategies continued to re-shape the healthcare environment for the next 20 years. A decade ago, legislation reformed the non-group market, expanded an employer-based premium assistance program, created a subsidized public insurance program, and established a state-led **Blueprint for Health**, a platform for systematic change. In 2011, legislation creating the state's health exchange also laid out the framework for progressive movement toward a single payer system. As of early 2015, the state had near universal coverage with 96 percent of Vermonters insured.

Blueprint for Health

A program for integrating a system of health care for patients, improving the health of the overall population and improving control over health care costs by promoting health maintenance, prevention, and care coordination and management. (18 VSA Chapter 13)

Health Care System Structure

The 2011 statute also created the independent Green Mountain Care Board (GMCB) which is responsible for controlling health care costs through hospital budget authorization, regulation of insurance companies, oversight of rate setting and payment reform, and innovation, including supporting the development of all payer ACOs. The GMCB approves hospital budgets and sets Net Patient Revenue (NPR) targets. Hospitals that exceed their NPR target are asked to provide rate relief for commercial insurers. Most recently, in October 2016, the Centers for Medicare and Medicaid Services (CMS) approved Vermont's all payer waiver that establishes a statewide ACO. By the end of 2022, the state expects that all Medicaid, approximately 90 percent of Medicare, and 70 percent of commercial insurer beneficiaries will be attributed to an ACO.

Payment and Financing

The UVM Medical Center, in collaboration with Dartmouth-Hitchcock, founded OneCare Vermont in 2014. This transition has been facilitated by its 20-year process of hospital acquisitions and mergers, beginning in 1995 when Fletcher Allen Health Care was formed by the merging of two hospitals and an academic faculty practice, giving birth to the state's only academic medical center – now known as UVM Medical Center. This was followed by physician practice restructuring and expanding experience in risk-based payment arrangements. When the hospital's NPR exceeded targets last year, the UVM Medical Center sought partial allocation of its over-budgeted revenue for the financing of the newest supportive housing project. The UVM Medical Center was the first hospital to request funds to be redirected for any purpose other than insurance rate relief, a position not well-received by the insurance industry.

Other Enabling Factors: Making a Difference

Market dominance, an ACO structure, philanthropic history, and payment reform experiences would not have inherently prompted the UVM Medical Center to invest in supportive housing for their homeless patients. Other histories, relationships, and resources were central to mounting this successful population health strategy, including:

- **A History of Collective Action:** The Burlington area has a long history of cross-sector engagement in civic problem solving. The United Way of Northwest Vermont (UW) has played a particularly important role in facilitating collaboration. In 1996, UW convened a year-long community consultation in response to concerns regarding the planned hospital and medical practice mergers and federal threats to block grant Medicaid. Fletcher Allen provided significant support for this process, which both eased the development of the academic medical center and resulted in a 20-year healthy community strategy. CHT and its partners have continued to provide a platform for ongoing supportive and affordable housing, among other community health development efforts.
- **Cross-Sector Resources & Alignment:** The three supportive housing projects would not have been possible without CHT and its successful history in leveraging property acquisition, rehabilitation, management, and operational support. CHT also brought to bear critical state and local public agency support in acquiring an operating reserve, motel and permanent housing vouchers, collaborative case management support, and backing from political leadership. A well-functioning Healthcare for the Homeless program, Safe Harbor, based at the Community Health Centers of Burlington, brought experienced clinical and case management capacity, otherwise unavailable through the UVM Medical Center. Additionally, a network of other skilled service providers in domestic violence, mental health, and addiction services

has assured access to multiple evidence-based approaches to the chronically homeless population.

- **Hospital-Community Collaboration:** There are extensive historic and current financing, board membership, coalition and other relationships in Burlington that shaped these projects. Of particular note is the role UW plays as one of six community members of the 12-member UVM Medical Center community benefits committee, the Community Health Investment Committee. The committee is unusually situated to help align investment strategies both with other philanthropic organizations and with its own financing and policy development in the health, human services, and housing sectors.
- **Integration of Population Health and Community Benefits within the Hospital:** The UVM Medical Center's Chief Medical Officer serves as the ACO's population health leader and developed the Community Health Investment Committee – which makes investments in the community to improve community health and also reduce costs. Additionally, as an emergency medicine doctor, he knows the challenges that homeless patients present clinically and operationally to the hospital. Like his collaborators at CHT, he has been able to leverage critical utilization and cost data to evaluate the hospital system's community benefit and population health investments.
- **Timing and Other Unique Circumstances Introduce Opportunity:** Constrained shelter resources created the initial emergency that prompted this cross-sector response. Neither the hospital, nor local philanthropy could answer the problem alone. CHT's decision to expand their mission provided an opportunity for collective action. The Burlington area had availability of nearby vacant and under-utilized vacation motel properties that could readily be converted for temporary and permanent housing use. Some of the community collaborators had already been working together in the prior shelter and their experience and resources were well-situated to make these new endeavors successful. Finally, the state's progress in supporting population health strategies and moving regional areas towards becoming accountable health communities had built a shared framework for improving health by addressing social determinants, including housing.

Considering the Future

Despite the successes to date, these novel supportive housing programs face several future challenges. Housing investments for complex individuals do not inherently result in reduced health care spending. While there was immediate financial and operational relief for the UVM Medical Center with the opening of Harbor Place, the return on investment for the second, Beacon Apartments, is less clear. Residents stay longer and have fixed and ongoing support costs. They also have fewer hospital stays from which ongoing savings can be realized. Additionally, where Beacon was envisioned to be a renewable resource that graduated tenants to more traditional permanent housing with the dedicated vouchers, the first-year experience is showing that this transition is more uncertain.

> "A hospital bed is one of the most expensive places you could stay…This is exactly the kind of investment we need to make if we're going to achieve the goal of improving the health of our communities while controlling costs."
>
> *– Hospital Executive*

As they move ahead, the Burlington collaborators face many questions shared by other health systems investing in social determinants of health:

- How important is the impact the investment has on pay for performance requirements?;
- Does financial ROI need to be demonstrated and, if so, is the required time horizon going to be sufficient?;
- Is it possible to better account for total cost of care across sectors?;
- How do systems adjust their strategies in the face of uncertainty regarding the complexity and duration of patient support needs?; and
- How do sectors build joint strategies when there may be multiple investors but savings accrue to a single sector?

Finally, as policymakers and health care leaders focus on controlling health care costs, these supportive housing projects represent a unique circumstance of health care premium dollars being very explicitly transferred

to non-healthcare functions through the decision of the Green Mountain Care Board. Finding mechanisms to actively shift health care resources to another sector has been challenging in the population health arena and the likelihood of its replication in Vermont for this or other health concerns tied to social determinants, like the current opioid crisis, is unclear. The insurance industry was not supportive of this transfer and the GMCB has a primary obligation to control health care costs.

Despite the challenges, these supportive housing projects provide a robust example of population health strategies that are cross-sector in development, investment, and management and hold great promise to improve health care delivery, outcomes and cost. The projects address a broadly-held community concern and are demonstrating success in the housing and care of complex homeless individuals. The UVM Medical Center investment is responsive to operational needs and increasing payment and performance related risk, even as there is uncertainty about how, over time, these investments will be supported. The UVM Medical Center understands that to be successful in the evolving alternative payment environment it must embrace total population health management. In a Fee-for-Service payment world, housing is a good idea, but not a great investment. In Vermont, however, where patients are increasingly covered by value-based payment arrangements, housing may be a good investment afterall.

Cincinnati, Ohio: Reducing Infant Mortality through Community-Clinical Collaborations

Cradle Cincinnati Vision & Partners

Every child born in Hamilton County will live to see his or her first birthday.

Hospitals: Christ Hospital; Cincinnati Children's Hospital; Mercy Regional Health; TriHealth; University of Cincinnati Medical Center

Community Service Providers: Every Child Succeeds; Health Care Access Now; Healthy Moms & Babes

Public Sector & Philanthropy: Cincinnati Health Department; Hamilton County Health Department; Interact for Health; March of Dimes; United Way

Over the last five years, Cradle Cincinnati, also referred to as Cradle, has worked to reduce infant mortality in southwest Ohio. As a cross-sector collaboration of hospitals, government agencies, social service organizations, philanthropy, and community advocates, Cradle's objective is to optimize clinical care while meaningfully addressing the social determinants of the health of pregnant women and their infants. Multiple clinical, community support, and health care financing efforts have been brought to bear locally and in conjunction with statewide work at the Office of Medicaid and with the Ohio Perinatal Quality Collaborative. This case study looks at a current multi-partner effort to expand the roles and numbers of community health workers (CHW) supporting pregnant women within a community experiencing ongoing care delivery transformation.

With a local population of approximately 300,000, Cincinnati's six hospital systems serve a broader catchment area of 2.1 million, encompassing areas of two adjacent states as well. Urban and rural poverty, along with long-term racial and ethnic health disparities, shape patterns of health status and care utilization. In Ohio, infant mortality among African Americans has persisted at almost three times that of whites. Hamilton County, where Cincinnati is located, ranks as one of the two counties with the highest infant mortality rates in the state. Yet there are promising improvements due to several unique community collaborative resources including:

- Cradle Cincinnati and its facilitation of cross-sector partners;
- Prenatal care quality improvement efforts co-led by TriHealth, Children's and University Hospital clinicians;
- Active involvement of community social service organizations, including Health Care Access Now (HCAN);
- Targeted philanthropic and governmental financing; and
- The broader health care delivery transformation, data and planning support provided by The Health Collaborative.

While building strategic alliances across health and human services in Cincinnati has been challenging, addressing infant mortality has had a galvanizing effect for joint action.

History of Aligning Community and Clinical Strategies

From 2011 to 2015, 508 babies died before their first birthday in Hamilton County, ranking it in the lowest 10 percent of urban counties in the US. In 2013, Cradle Cincinnati was formed as a deliberate effort by public and private entities to strategically align community and clinical approaches to improve birth outcomes and reduce the estimated $402 million cost of preterm births in the county. Since the negative health outcome and economic effects of birth outcomes are diffusely experienced because women's health, maternity, and infant clinical providers and affiliated hospitals are silo-ed, Cradle developed a collective impact approach across systems and sectors. Housed at, but independent of, Children's Hospital, Cradle Cincinnati supports multiple strategies, which address three core objectives: pregnancy spacing; reduction of smoking during pregnancy; and safe sleep. Their efforts are geographically targeted and focus on improving community activation, connecting moms with needed resources, and supporting learning collaboratives focused on prenatal care improvement. CHWs and home visitors have also been central to providing support to those moms at highest risk. Over the last eighteen months, this neighborhood-focused, cross-sector collaborative, Start Strong, has documented a 17 percent decrease in infant mortality.

Community Health Access Program Low Birth Weight (LBW) Prevention Outcomes

- Reduction in LBW (adjusted): 36%
- Estimated Cost Savings/ Every $1 spent:
  - 1st Yr of Life: $3.36
  - Long-term: $5.59

Based on these efforts, Cradle Cincinnati and its partners were well-positioned to receive one of nine grants from Ohio Medicaid's 2016 initiative to support "community-driven proposals to combat infant mortality… and connect women and infants to quality health care and care management." These funds expand upon existing Cradle-related efforts and will allow for the deployment of 13 new CHWs to serve 1,000 pregnant women over the next two years. The Pathways HUB model, launched in Cincinnati seven years ago by HCAN, will be the platform for referrals, training, and data collection for the CHWs who will work out of four care coordinating agencies. Besides increasing the availability and roles of trained CHWs through this standardized mechanism (Pathways), the grant seeks to improve the front door access for pregnant women with an expanded 211 service referral system operated out of United Way. Cradle and HCAN also hope to better analyze the cost and impact of the Pathway HUB in a manner that can inform future payment strategies. Current Medicaid managed care rates under-fund the CHW and HUB operating costs by as much as 40 percent. The Ohio Medicaid grant will augment the work of Cradle's Learning Collaborative which has spent the last three years building clinical-community teams focused on quality improvement in prenatal care, including effective linkage between provider practice sites and CHWs.

Building Performance-based Pathways to Health

HCAN emerged from a multi-year community and health system consultation and pilot project conducted by the Health Foundation of Greater Cincinnati (now Interact for Health) and focused on improving the health of low-income individuals. Care coordination was identified as a priority because of its potential to effectively bridge health and human services. Begun in 2009, HCAN adopted the Pathways Community HUB model previously launched in central Ohio. The Pathways HUB framework relies upon a structured approach to the social determinants of an individual's health: a comprehensive risk assessment (Find); assignment of pathways for intervention (Treat); and the systematic tracking of connections to care (Measure).

The HUB has several characteristics that distinguish its approach from prior care coordination and CHW efforts. It consists of 20 social need and health care utilization pathways that specify strategies which lead to measureable outcomes. In Ohio, performance-based payments related to pathway completion incentivize efforts to achieve positive outcomes. Ohio Medicaid managed care plans first recognized these "pay points" in 2010 for the pregnancy-related pathways. The added value of the HUB is its provision of a community-wide platform for care coordination across agencies that serve targeted populations and geographies and address specific social and economic support needs. These HUBs, located across the state, provide a standardized approach to assessment and intervention strategies while regionally organizing referral processes and data collection. In turn, it reduces fragmentation within the human services sector as well as between human services and primary care.

> "I couldn't get through one appointment at the free clinic before I needed the CHW. The patients often needed the CHW more than they needed me…It's great to have that RN following someone's diabetes but it's also great to have someone follow people and make sure they have enough food and that their utility bills are being paid."
>
> – Physician Executive

Changing the trajectory of preterm, low-birth-weight (LBW) babies has been a priority for the Ohio Medicaid program. A four-year evaluation of the HUB model program in another region, Community Health Access Project (CHAP) in Richland County, Ohio, revealed impressive impacts on LBW and associated savings. In 2013, it was estimated that two-thirds ($373M) of total prenatal and delivery care costs for Medicaid beneficiaries were due to the 13.79 percent preterm rate.

Modeling their efforts after CHAP, HCAN has shown promising results in its 2012-2016 interventions focused on LBW. Last year, 85 percent of their infants were full-term and 84 percent weighed within normal ranges. HCAN has also diversified its portfolio of work and financing, now operating with an annual budget of over one million dollars. HCAN's strategy is to align the Pathway services with the performance measures mandated by Ohio Medicaid for the managed care plans. With this focus on alignment, HCAN has launched an emergency department super-utilizer intervention with documented cost avoidance; initiated a collaborative chronic disease management intervention with the residents in the adult faculty medical practice at TriHealth's Good Samaritan Hospital; and negotiated contracts with the four state Medicaid managed care plans that pay for pregnancy care coordination. HCAN, along with the other

six HUBs in Ohio, are now uniquely capable of meeting the plans' new birth outcome reporting requirements.

HCAN now has 18 affiliated CHWs operating through its pregnancy care coordination sites:

- The Cincinnati Health Department and its primary care network;
- Crossroad Health Center, an FQHC; and
- Healthy Moms & Babes, a Catholic home visitation and community support organization.

The new Cradle Cincinnati grant from Ohio's Department of Medicaid allows HCAN to expand its pregnancy-related interventions and collaboratively model a more integrated approach to CHW support for pregnant moms in Cincinnati. Funding for three new CHWs will go both to the existing HCAN care coordination sites at the Health Department and Healthy Moms & Babes, as well as to two new sites at Every Child Succeeds, a home visit support program for new moms in Southwest Ohio and northern Kentucky; and TriHealth Outreach Ministries.

During this two-year Medicaid-funded effort, HCAN will manage referrals to the care coordination agencies, conduct training and staff development, and host the data regarding client engagement and completed referrals through the Pathways Care Coordination System (CCS). By expanding its connection to other pregnancy support home visiting and CHW programs, HCAN – and Cradle, the lead on the grant – are also testing a broader platform and more regional approach to Cincinnati's existing HUB. TriHealth, through its Outreach Ministries, is a partner in this grant.

The Role of Mission and Strategy

TriHealth is one of five health systems actively engaged with Cradle in improving pregnancy outcomes in Cincinnati. Its commitment to community health has a long history in the Catholic and Methodist hospital systems that joined in 1995 to become TriHealth with five hospitals and over 130 care delivery sites. TriHealth is an integrated not-for-profit health system that also operates or includes network affiliates providing preventive, wellness, rehabilitation, homecare, skilled nursing and hospice related services. In 2015, TriHealth posted revenues of $1.8 billion.

TriHealth has been aggressively transforming its system of care in anticipation of more value-based purchasing. Along with its Physician Hospital Organization (TriHealth PHO or TPHO), TriHealth has been increasingly engaged in alternative payment and delivery models. In the Medicare and commercial spaces, TriHealth and TPHO function like an accountable care organization (ACO), serving 100,000 commercial and 60,000 Medicare patients under risk-based payments. The TPHO, which includes both employed and aligned physicians, has worked closely with TriHealth's hospitals on clinical integration and quality improvement initiatives.

> "The maternity space has been mostly acute-focused, differentially on negative maternal health outcomes. Working in the prenatal space is opening up this whole world of upstream risk and working on social determinants of health… we're focused on infant outcomes in collaboration with the moms."
>
> *– OBGyn Physician*

In 2010, TriHealth adopted the Primary Care Medical Home (PCMH) as the preferred model of care for its employed physician practices and, since that time, they have been active participants in Ohio's Comprehensive Primary Care (CPC) and CPC+ (Centers for Medicare and Medicaid Services-sponsored) initiatives supporting regionally-based multi-payer payment reform and care delivery transformation. All of TriHealth's employed practices participate in CPC+ and the system now has 150 National Committee for Quality Assurance (NCQA) certified-certified PCMHs.

TriHealth has supported efforts to work with free health centers and the TriHealth Outreach Ministries, which provides health screenings, health education and other services in local parishes. These two commitments figure considerably into both the ongoing TriHealth care delivery transformation and their current participation in the Medicaid-funded Cradle Cincinnati initiative. Through the free clinic, volunteer physicians have had the opportunity to see the impact of integrating CHWs in their practice, which informed a TriHealth system-wide study and consultation last fall that has resulted in forthcoming changes to their PCMH model. CHWs will be teamed with nurse care managers both because of the unique roles they can play in care coordination and addressing social determinants of health (SDOH). To support that change, TriHealth is investing in preparing a workforce that will be better able to integrate SDOH concerns and interventions into care giving. Nurse care managers have been charged with developing the workflow and assignment strategies, while TriHealth and its corporate co-sponsor, Bethesda, Inc., have launched a collaborative training program with HCAN in the adult medicine residency program. In a joint effort with United Way, TriHealth is also building incumbent CHW workforce training to provide

career opportunities for their entry level staff.
CHWs have been part of TriHealth's Parish Nursing Program for eight years, and, for most of that time, they worked as part of the HCAN HUB. Three years ago, the Parish Program moved from TriHealth's community benefits office to the Department of Medicine at Good Samaritan Hospital. This relocation effectively integrated the CHW role into Good Samaritan's clinical care delivery system. As a result, the HUB Pathways screening and referral documentation have been incorporated into EPIC, the electronic health record, and the internal referral process has been consolidated. Supervised by a lead nurse, CHWs receive referrals that come from the parishes, the hospital, or outpatient clinics and practices. While they spend most of their time on the road visiting with their pregnant patients, the CHWs have offices in each of the parishes and at the Good Samaritan Hospital where they can access EPIC to coordinate patient care. The primary pathways they engage are prenatal, post-partum, adult and infant medical home, and those associated with housing and social service support.

CHWs generally follow a woman through her pregnancy and the first year after the child's birth. Funded through Outreach Ministries, the CHWs are now part of TriHealth's operating budget. As services for the community which are otherwise non-reimbursable, the CHWs constitute part of TriHealth's overall community benefit effort. With strong CHW outcome data from TriHealth's collaboration with Cradle's Start Strong initiative, Good Samaritan is moving to further align CHW work with prenatal care delivery by moving the workers into the OB/GYN department in summer 2017.

It is from there that the new collaboration with HCAN under Cradle's Medicaid grant for prenatal CHW expansion will occur. Three more CHWs will be added to the cohort and allow TriHealth to fully cover the zip codes identified in the Good Samaritan / TriHealth Community Health Needs Assessment. TriHealth is already experiencing the impact of improved birth outcomes on their system as neonatal intensive care unit (NICU) costs – and thus hospital revenue – drops. As TriHealth looks ahead at a meaningful business model, they do not consider reimbursement through the Pathways "pay points" an effective financing strategy over time, seeking rather to identify potential shared savings that can be recognized in adjusted capitations.

The Local and State Health Care Environment: Coverage, Health Care System Structure and Payment

Ohio has recently seen a substantial reduction in its uninsured population from 15 percent, prior to Affordable Care Act implementation, to 6 percent in 2016 resulting in 700,000 newly covered beneficiaries through Medicaid expansion alone. Increased coverage has also been accompanied by considerable state leadership in care delivery and financing changes. The Medicaid state agency has been elevated to the Cabinet level and a gubernatorial Office of Health Transformation was created with the goals of modernizing Medicaid, streamlining health and human services, and promoting value-based payment. The state and collaborating health systems have been aggressive in pursuing numerous CMS initiatives in care delivery improvement, coordination, integration and financing, including Medicare Shared Savings programs and next generation ACO development.

The state distinguished itself in the 2013 Round 1 of State Innovation Model (SIM) grants as one of only two in the country to get the maximum allocation to develop multi-payer payment and delivery models. Reducing infant mortality is a focus of Ohio's SIM population health improvement strategies. Now in the Round 2 SIM testing phase, the state is focusing on PCMH) and episode-based payment developments.

The Cincinnati area has been well-positioned to engage these efforts, in part, because of the capacity that The Health Collaborative, and its predecessor organizations, have brought over the last two decades. Created in 2015, the Collaborative combines the historic health information technology and health information exchange roles of HealthBridge, the hospital quality improvement and transparency functions of the former Greater Cincinnati Health Council, and the Health Collaborative's practice transformation and payment reform technical assistance and analytic functions. Particularly relevant to this case study has been their history of facilitating cross-hospital, provider, and payer collaborations in area PCMH development, and their prominent role in convening cross-sector heath planning. The Collaborative has led the area's CMS Comprehensive Primary Care (CPC) Transformation and the follow-up CPC+ projects with over 500 practices now participating in advanced care management and payment transformation. The Collaborative's recent award of a CMS Accountable Health Communities grant will further local health and human services referral, data sharing, and analytic capacity.

Other Enabling Factors: Making Collaboration Possible

Aligning interests and efforts in a competitive health care market is challenging. Several strategic resources are making a difference in building a collaborative response to infant mortality in Cincinnati.

- **A Backbone Organization:** Cradle Cincinnati is a model example of backbone organizations referenced in the population health literature. It has successfully improved health and human service system alignment and infant health outcomes. The use of learning collaboratives is clearly one of the mechanisms that contributes to its success.
- **A State with a History of Innovation Using Community Health Workers:** Ohio's unique history of practice, evaluation, certification, and financing in CHW use had contributed to the development of the Pathways HUB model and other CHW and home visitation efforts. The health outcomes focus of these efforts to address SDOHs holds great promise for successful integration with evolving PCMH and accountable care organizations.
- **Philanthropy Focused on Transformation:** Participating hospital systems, local industry, and foundations have invested considerable financial and other resources in Cradle's infant health strategies. Playing a particular role has been Bethesda, Inc. with their focus on delivery transformation within the TriHealth system and more broadly in the region. They funded Cradle's Start Strong effort; helped build the Cradle Learning Collaborative; directly supported a number of Cradle collaborators; and currently fund several initiatives to model more integrated care, including the new HCAN collaborative with TriHealth's Faculty Medical Center. They also were an early funder of The Health Collaborative's PCMH development.
- **A History of Building Healthcare Industry Engagement:** For twenty years, Ohio payers, hospital systems and employers have been building a platform for health data analytics and system collaboration through what is now The Health Collaborative. Their efforts are an extraordinary testimony to the possibility of aligning certain business interests in a competitive environment. The Collaborative's role in supporting health planning and analytics is an important part of the backdrop for Cradle's success and for future community-clinical collaboration. Although its core products are focused on healthcare industry data management and related needs, they have increasingly been the venue for broader health planning. The Health Collaborative's management of the Robert Wood Johnson Foundation-sponsored Aligning Forces for Quality (AF4Q) grant secured the capacity for primary care practice transformation in the area. Its collaboration with Re-Think helped build a population health collective impact framework for Cincinnati; and the successful Accountable Health Communities grant holds the promise of creating the next stage of development in addressing SDOH through community-clinical linkages.

The Collaborative's Aligning Forces for Quality (AF4Q) grant allowed payers and employers to come to the table with hospital systems to prepare for payment reform; it created a culture in the community focused on addressing both quality and cost.

Considering the Future

Cradle Cincinnati and its collaborating organizations are poised to realize ongoing improvements in birth outcomes. Their Learning Collaborative continues to shape both clinical practice change and community engagement. The Ohio Medicaid grant will support more trained CHWs and participating sites as well as improve analytics regarding payment for Pathway HUB services the expanded use of the 211 system in both the state Medicaid and the new Accountable Health Communities grants will help to solidify a platform for intake and linkage across health and human service sectors. System-wide commitments to addressing social determinants of health, like TriHealth's plans for CHW inclusion in primary care medical homes, hold out the hope of both better patient outcomes and potential health system savings. With Cradle as a strong backbone organization in the infant mortality arena and The Health Collaborative providing broader system data, analytics, and convening functions, Cincinnati appears to be uniquely situated to address diverse population health needs.

"We need the health and human service entities to work closer, trust, coordinate, align and share… Everybody is doing their own thing."

– Human Services Agency Director

Nonetheless, the challenges of a competitive market environment are considerable. Those difficulties are not just located within and between clinical settings, but also are represented in efforts to successfully align human services. The struggles to figure out when to *build vs. collaborate* are not unique to Cincinnati, nor are the challenges of where to locate relevant data collection (in EPIC, in the HUB, or both) and how best to structure appropriate payment incentives (in Pathways "pay points" or a better capitation rate that may recognize shared savings). The need to improve health outcomes while realizing efficiencies requires optimizing strategies in both health and human services. Cincinnati may have a unique opportunity to strategically align models of SDOH assessment, intervention, data collection and linkage in a manner that can substantially shift health care delivery, outcomes, payment, and savings.

Greenville, South Carolina:
Building an Accountable Care Organization for the Uninsured

Greenville Health System by the Numbers

Hospitals: 11, including specialty

Physician Practices: 180

Patients: 3.3M outpatient visits; 52,000 hospital discharges

Revenue: $2.1B

Insurance: 30.4% Commercial; 40.4% Medicare;

Preparing for a more value-based and risk-bearing purchasing environment, Greenville Health System (GHS) has evolved as an integrated health system over the last decade incorporating a population health management strategy focused on care delivery transformation and quality and cost improvement. This case study describes its strategies to address the needs of uninsured patients in its catchment areas. GHS has built a multi-layered approach to creating what they call Accountable Communities. Core to their model are Patient-Centered Medical Neighborhoods (PCMNs) nested in broad-based community-level interventions. Unique to the GHS strategy is their development of Neighborhood Health Partners (NHP), a multi-pronged, targeted response to the non-clinical determinants that can influence their patients' health.

Diverse financing strategies have supported interventions to decrease excess emergency department (ED) and inpatient use and to improve health outcomes, particularly among the uninsured; these efforts have moved GHS upstream and outside its clinical walls. Community Paramedicine, Community Health Worker (CHW), and Mobile Clinic services now focus on people in five "hot-spot" medical neighborhoods, coordinating safety net medical and social service providers with hospital-based care. Over the last five years, GHS has become part of two major statewide initiatives focused on uninsured patients' care access and coordination. AccessHealth, funded by the Duke Endowment, seeks to create innovative health care access for the uninsured through community and hospital partnerships. The Healthy Outcomes Plan (HOP), a project of South Carolina's Medicaid program, supports similar linkages focused on chronically ill, uninsured individuals. Together, AccessHealth and HOP provide a platform upon which the GHS community innovations sit, substantially expanding the health system's ability to shape a virtual "ACO for the Uninsured." GHS now serves 3,000 individuals annually through the HOP and AccessHealth programs and measures of health care utilization and outcomes are promising.

This case study exemplifies how communities, amidst constraints in government funds and opportunities from adhoc philanthropic grant resources, can find themselves knitting together services to treat one overarching social determinant of health – access to health care itself.

History of Care Outside Clinical Walls

In 2010, 27 percent of the residents in Greenville County were uninsured. Having realized earlier gains in quality and costs through care integration and coordination for covered populations, GHS started to look at options for better managing uninsured patients. The health system had begun building data analytics related to high utilizers of ED services and emergency medical services (EMS). Maps of high impact communities led them to assess community-based options to stabilize patients and divert potential admissions. Already a part of a national consensus process regarding community paramedicine, GHS and the Greenville County EMS received a three-year contract from BlueCross BlueShield of South Carolina (BCBSSC) Foundation to model a triage and enhanced paramedicine practice called Community Care Outreach.

Greenville County 911 dispatchers transferred non-emergency calls to specially trained nurses who consulted with the patient and facilitated medical and social service referrals. Through this grant, GHS also began the development of medical neighborhoods, a geographic approach to mapping need and deploying medical and social support resources to uninsured community members.

Paramedicine Practice Community Care Outreach

Year One Results (6/2013-8/2014)

- 462 Averted ED Visits: $367,208 in savings
- 887 Avoided EMS Transports: $352,139 in savings

Successes in the first grant period brought additional BCBSSC funds as well as social innovation dollars from the national Nonprofit Finance Fund. GHS was committed to the Fund's "pay for success" model and had access to claims and medical record data analytics from their Care Coordination Institute, which supports GHS' population health management business intelligence. GHS invested in data infrastructure, building software systems to support clinical and social support referral processes.

"The need for services and access to care is over-whelming. We arrive on scene every day and realize that patients are using EMS and the 911 system as a healthcare safety net. What they really need is access to social services, transportation and affordable primary care."

– EMS paramedic Roger Dobbs

In 2015, the Community Paramedicine pilot launched, focusing on uninsured individuals in the five PCMNs that had the highest rates of ED and EMS utilization. In collaboration with local EMS, GHS built NHP Care Teams with social workers and paramedics. Already familiar with many patients, the paramedics can pinpoint opportunities for interventions likely to reduce unnecessary hospital use. The NHP Care Teams conduct home visits, provide episodic medical care, assist in medication management, provide post discharge support, and facilitate access to community resources for issues as diverse as housing insecurity and cleanliness, neighborhood safety, food, and transportation. Routine, non-urgent home visits are made for patients with ongoing chronic needs.

Delivering community supports through the NHP Care Teams is both effective in decreasing hospital admissions and costs and in improving primary care utilization. However, the teams also became aware of significant difficulties many patients faced in accessing appropriate primary care, given limited accessible and affordable transportation. The health system had seen similar challenges within its low-income Medicaid and Medicare populations.

Therefore, in February 2016, GHS purchased a Mobile Health Clinic (MHC) with funding from several foundations. The MHC focuses on the same PCMNs as the NHP Care Teams and brings comprehensive care closer to where people live. Staffed by a Nurse Practitioner, a paramedic, CHWs, and administrative staff, the Mobile Health Clinic brings its services to community organizations already providing support to help people meet their basic needs. These sites include Triune Mercy Center, a church that works with the homeless, and Phillis Wheatley Community Center, a multi-service organization that has served the black community for over 90 years. In less than a year, the MHC has served 900 individuals in 149 community clinic days at 10 sites. They also have identified 31 ED diversions related to their support and are currently completing their year one analysis. Of the first 900 patients, 71 percent were uninsured and 655 people were subsequently referred to AccessHealth and HOP. This referral process illustrates the critical connection between the population health strategies GHS is deploying and these wrap-around coverage programs for the uninsured.

Wrapping Care around the Uninsured

South Carolina has historically struggled with high un-insurance; over 500,000 non-elderly adults lacked coverage in 2015. Additionally, low Medicaid provider participation compromises access even for qualified beneficiaries. As a result, the state has consistently been between 40th and 46th in America's Health Rankings and significant income disparities, as well as racial and ethnic health disparities persist in obesity, infant mortality, diabetes, and hypertension, among others. State and local entities have been aggressive in getting federal discretionary funding for indigent care.

Neighborhood Health Partners

Care Team Results (2016)

- Total Home Visits: 1,185
- Total costs decreased by $554,504 ($7,779 per pt.)
- Hospital admissions decreased by 44.4%
- Readmissions decreased by 50%
- Emergency room visits decreased by 29.3%
- Primary care utilization increased by 41.4%
- Specialty practice utilization decreased by 28.4%

With support from community, healthcare industry, and other philanthropic actors they have, over time, created what is now a network of 264 low-income health clinics, including 22 Federally Qualified Health Care Centers (FQHCs) and 41 free clinics. Nonetheless, building coordi-

SC AccessHealth's Mission

Support communities in creating and sustaining coordinated data-driven provider networks of care that provide medical homes and ensure timely, affordable, high-quality healthcare services for low-income uninsured people

nated strategies for ambulatory and inpatient care access for uninsured individuals has been challenging.

AccessHealth: In 2008, the Duke Endowment launched what has become a statewide 29-site approach to coordinated systems of care for the uninsured. AccessHealth is not insurance but rather a care model that facilitates access to medical homes, social resources, and care coordination and management for uninsured adults below 200 percent of the federal poverty level. A little over 10 percent of these low-income uninsured individuals live in Greenville County.

The Duke Endowment primarily awards AccessHealth grants to hospitals which then connect qualified individuals to primary care providers in their health systems or in community practices, including local free clinics and FQHCs. Additionally, they seek to address transportation, financial, and other barriers patients face in using available care. AccessHealth programs function as community healthcare hubs. All AccessHealth sites have target enrollments; in 2015, they served over 45,000 individuals statewide and were responsible for an estimated 21.1 percent reduction in inpatient discharges.

GHS manages two AccessHealth programs that serve four counties. In 2014, GHS acquired Oconee Memorial Hospital, which had been operating a two-county AccessHealth site since 2011. That same year, GHS received the AccessHealth Greenville County grant, which also covers two counties, when it transferred from its prior management under the United Way of Greenville County. GHS originally situated their CHWs and care transition coordinators in hospital EDs. While the strategy proved effective at "capturing" patients, it was not successful in maintaining them in care, one of AccessHealth's goals. Now GHS has located their care coordinators in community-based clinics, alcohol treatment and detox settings, and other behavioral health, welfare and social service settings that uninsured people rely upon. In 2016 alone, GHS served more than 1,800 people through AccessHealth Greenville County and now serves approximately 3,000 people across the four counties.

Healthy Outcomes Plan (HOP): Absent Medicaid expansion, the state adopted the 2013 HOP, an initiative to bring medical care and support to uninsured individuals with chronic conditions. Funded through state-only dollars, HOP is part of the Legislature's Medicaid Accountability and Quality Improvement initiative. The state seeks to incentivize hospitals to improve care delivery, coordination, and outcomes for high utilizers of ED services. All Medicaid participating hospitals with EDs are involved and cumulative enrollment across the 44 HOP sites through 2016 was 23,000.

The Role of Free Clinics in South Carolina 2015

- 41 clinics; 47 sites
- 38,961 patients
- 132,199 medical patient visits
- 4,865 volunteers
- 305,206 volunteer hours
- 358,675 prescriptions ($45M value)
- $90M estimated value of services $14M operating budget
- $14M operating budget

Hospitals have obligations for the HOP consumers they enroll. They must conduct a comprehensive physical exam and complete a bio-psychosocial (GAIN-SS) screener and a state-developed assessment of social determinants of health. They measure patient activation (PAM), build a care plan, identify a medical home, and provide patient-level data, including NCQA satisfaction measures and patient narratives. In addition, they are required to build partnerships between acute, primary care, and non-medical service providers and demonstrate impact on at least one of ten chronic conditions. Addressing social determinants of health is a strong expectation.

Hospitals also have considerable incentives to be a part of HOP: they receive program start-up and care management funds and retain disproportionate share hospital (DSH) dollars and enhanced primary care physician payments. They also receive enhanced Medicaid rates for existing beneficiaries to address some of the uncompensated acute and specialty care for HOP enrollees. Safety net providers, including FQHCs and Free Clinics, also receive funding to support the patients they manage. Extensive technical assistance and analytic support is provided to participating sites through the Medicaid Policy Research Division of the University of South Carolina (USC) Institute for Families in Society.

With data now available for two full years, HOP statewide has demonstrated that it successfully targeted people with complex chronic and behavioral health conditions. Sixty-three percent have a diagnosis of asthma, diabetes, and/or hypertension and over two-thirds have a behavioral health or substance abuse diagnosis. HOP patients cost the system more in the first year, but pent-up unmet need is likely the driver of these initial expenses. Preliminary cost effectiveness analyses show that, if trends continue through FFY18, projected cost avoidance statewide will be $99.4M.

44 Healthy Outcomes Plan Programs & Partners

- 58 Medicaid participating Hospitals
- 68 Free Clinics, FQHCs, & Rural Health Clinics
- 19 Behavioral Health Clinics
- Local Social Service Organizations
- State Correctional, Mental Health, other Agencies

Other important benchmarks are also promising. Enrolled patients show better behavioral health status and increased engagement, a change important to improving care utilization and outcome. Through its HOP program, GHS accounts for approximately 10 percent of cumulative statewide enrollees. In a January 2017 report, the GHS HOP has patients with more acute needs at baseline who, in aggregate, achieved greater reduction in hospital and ED use compared to the rest of the state. Several factors account for this differential. GHS' HOP has a medical neighborhood strategy and utilizes their community paramedicine and mobile health clinic resources. They also engage community health workers through PASOs, a statewide Latino organization of health promotion promotores. USC evaluators found that those HOP sites, like GHS, that had a history as AccessHealth sites are more successful.

The Local Health Care Environment: Coverage and Health Care System Structure

GHS entered into the HOP program with considerable system development experience. It had been the area safety-net hospital and had a long history working with other community-based medical and social services that addressed the needs of low-income individuals. Extensive care delivery transformation, hospital and physician network acquisition and consolidation, and increasing managed and risk-based contracting had focused their quality improvement and cost control strategies. The location of the nation's newest medical school on their main campus two years ago also brought GHS new capacity for care delivery and innovation. By 2016, GHS had seven medical campuses, 23,000 covered lives in their employee health program, a Medicare Shared Savings Program (MSSP) serving 58,000 individuals statewide, and a Medicaid managed care contract. It is the dominant healthcare system in the Upstate region. As a result, GHS directly experiences burdens of the negative health status and uncompensated care needs of the uninsured populations.

GHS leadership is committed to population health management and has put in place multiple care integration and quality improvement efforts over the last decade, including NCQA medical home certification for many of its physician practice sites. Selective clinical interventions shifted practice in several medical care delivery arenas and have increasingly focused clinicians and administrators on upstream risk. Involvement in the state's Birth Outcomes Initiative (BOI), for example, significantly changed prenatal clinical management. GHS adopted Centering Pregnancy, an evidence-based model of prenatal education and support focused on the non-medical barriers to safe pregnancies.

GHS HOP Partners

- Four GHS Hospitals
- Bon Secours St. Francis Health System
- Greenville County EMS
- New Horizons Family Health Center (FQHC)
- Carolina Health Centers, LLC (FQHC)
- Greenville, Taylors, Clemson,
- Rosa Clark, & Good Shepherd Free Clinics
- Phoenix Center
- Department of Mental Health
- Department of Health and Environmental Control
- Greenville County Medical Society
- United Way

Greenville Health System also brought PASOs promotores in-house to support the social, legal, and economic challenges faced by Latina women, the system's largest growing cohort of pregnant women. The PASOs staff is now fully integrated in GHS's OB care delivery. Most recently, GHS has adopted a multi-pronged effort to address addiction among pregnant women and reduce neonatal abstinence syndrome. They are working to align medical management and critical community support. The GHS Accountable Communities Office and its projects are a product of that intersectional strategy and the basis for GHS's HOP success and their

ongoing efforts to shape an "ACO for the Uninsured." They are aggressive about testing and measuring interventions as they prepare for future payment environments.

Other Enabling Factors: Making a Difference

Two streams of innovation at GHS have built a platform for improving the health of uninsured individuals. Clinical care-oriented population health management successes moved the organization to thinking about community-wide population health. The resulting Accountable Communities Office has built an increasingly diversified portfolio of data-driven, community-based interventions, focused simultaneously on access to care, SDOHs, and the reduction of avoidable ED and hospital use. Beyond the role of population health-focused leadership, there are several unique factors contributing to this evolving story and to Greenville's success in HOP and in its broader uninsured strategy.

- **Strategic State Medicaid Leadership:** The state Medicaid office put in motion a number of unique interventions from 2011 through 2013 that shaped responses to SDOH and negative health outcomes. Forging a collaborative strategy with BCBS and the South Carolina Hospital Association (SCHA), Medicaid prodded providers and hospitals by leveraging reimbursement incentives across payers and systems. Learning collaboratives and other technical support produced knowledgeable partners and improved outcomes. These developments created a favorable environment for HOP that similarly relies on Medicaid incentives to engage hospitals in care and quality improvement for the chronically ill uninsured.

- **Significant Analytic and Technical Support:** The state's investment in the University of South Carolina Institute's Division of Medicaid Policy Research brings tremendous data access, analytic capacity and programmatic support to bear in all the Medicaid-related initiatives, including HOP. With 20 years of experience with the state's Medicaid data and with program expertise regarding low-income populations, the Division functions as an integral part of the conceptualization, benchmarking, quality improvement, and evaluation support as HOP seeks to meet the legislated program goals.

- **A Long History of Philanthropic & Hospital Association Engagement:** For over 100 years, the Duke Endowment has been investing in hospital care for uninsured individuals. AccessHealth is just a recent example of their focus to establish collaborative networks of primary care for this population. Facilitated by the SCHA, the AccessHealth model has leveraged philanthropic commitments from the BCBSSC Foundation, United Way, and others. The SCHA commitment to uninsured individuals, and to community health more broadly, has led them to sponsor the state's free clinic organization as well as the Alliance for a Healthier South Carolina, a cross-sector group focused on improving the state's population health more broadly. In a state with limited health-related resources outside of the hospital systems, SCHA works to build collective impact approaches.

- **GHS Investment in Human Resource Development:** Beyond its many service initiatives, GHS invests in population health by building "non-traditional" health and human workforce participants as well as knowledgeable community leaders. They helped drive community paramedicine and CHW state certification, partnered with local technical and other colleges regarding training for these workers, and engaged medical school and local undergraduate students in health promotion in their PCMNs. In 2014, as part of their Accountable Communities initiative, GHS began its Medical Scholars program, an invitation-only educational program designed to bring local business and community leaders together to learn about the healthcare industry and the challenges of the Upstate populations, seeking ambassadors and contributors to future solutions beyond clinical care.

Considering the Future

Despite the remarkable progress, GHS faces considerable challenges moving upstream to deal with the SDOH for those patients who lack insurance. Their effort to support care for uninsured individuals ultimately relies on the incentives of the state, the generosity of volunteer providers, and an unspecified commitment from the hospital to assure access to needed health care. The HOP project is still too early in its implementation to fully understand the relative costs and contributions, as well as the potential viability of an eventual state Medicaid coverage strategy for this population.

Moreover, Medicaid's ongoing commitment to HOP is uncertain, given the program's legislated status and the critical transitions in Medicaid leadership. In fact, last year Medicaid defunded its innovative CHW program. HOP has faced other challenges across the state, some of which Greenville has also experienced. Extending resources to critical social support agencies, as Greenville has with PASOs, has been limited; transparency regarding hospital investments has been difficult to achieve; reliable data transfers between hospitals and community partners and hospitals and the state have been a struggle and are a work in progress. Nonetheless, Greenville Health System – and the state of South Carolina – provide important lessons and important hope for progress in addressing the health and healthcare for the uninsured.

Muskegon, Michigan:
Improving Health through Community-Based Care Coordination

Mercy Health Muskegon

- Teaching & Community Hospital System
- Four Hospitals serving 5 counties
- Inpatient Discharges: 17,000
- Physicians: 375 in Affinia Health Network (PHO)
- Behavioral Health, Pharmacy, Homecare, Hospice, and Visiting Nurse Services
- Annual Revenue: $538M

Over the past eight years, Mercy Health Muskegon, and its subsidiary, the Health Project, have demonstrated that community health workers (CHWs) connected to, but situated outside of the medical system, can increase access to care, improve health outcomes, and reduce costs for low-income at risk populations. Through its Pathways programs, CHWs are placed at care coordination agencies in the community and at clinical locations within the hospital system with the goal of addressing social determinants of health and improving access to health care. Referrals come into a central Pathways HUB based at the Health Project and all organizations – those within Mercy Health Muskegon and independent community-based organizations - use the same care coordination software. The Health Project has served multiple populations through the Pathways HUB and its recent success in a Centers for Medicare and Medicaid Services (CMS) demonstration grant has resulted in the Pathways HUB program becoming part of the operating budget of the hospital. The Health Project's rigorous evaluation program has documented improved health outcomes and reduced costs across populations. In addition to Pathways, the Health Project operates multiple programs including cross-sector public health coalitions, health and other benefit enrollment services, and mobile health screening. Its medication assistance program alone serves over 3,000 people annually with more than 8,000 prescriptions. As the community benefits arm of Mercy Health Muskegon, the Health Project also conducts the hospital's Community Health Needs Assessment and supports implementation.

With a $4M budget and 30 employees, the Health Project has been the community health arm of Mercy Health Muskegon since it was acquired in 2008. As part of a next generation ACO with increasing performance-based payment experience, the hospital anticipates a future where achieving better health outcomes and lower costs will, in part, rely upon upstream interventions that address social determinants of health. Additionally, as the sole provider of acute and emergency services in a community with a large uninsured population, Mercy Health Muskegon views the Health Project as a means to connecting people to coverage and other charity and social support that can improve primary care utilization and reduce avoidable hospital and emergency department (ED) care.

Since 2000, Mercy Health Muskegon has been part of Trinity Health, a nationwide Catholic hospital system that strives to be an innovator in population health and has directly funded some of the Muskegon efforts. The following sections look at the history of the Health Project, the local health care environment, and factors that have enabled the success of the Pathways HUB program and the Health Project as a whole.

History of the Health Project: Coalitions and Community Health Workers

The Health Project was formed in 1992 as a product of the Comprehensive Community Health Models of Michigan (CCHMS), a joint initiative of the W.K. Kellogg Foundation and the Community Foundation for Muskegon County. From the beginning, its advisory board represented key community members, including payers, providers and residents. Its goals of expanding health care access also embraced prevention and health system efficiency, objectives that continue to inspire the Health Project's work. Their cross-sector strategy emphasized the inter-connection of health and human services providers in collaboration with local government, business, and community organizers. Over the years, the Health Project has created multiple program lines and, once acquired by Mercy Health Muskegon, became its community benefits office. Coalition work has helped to frame the Health Project's major initiatives, including the Pathways HUB community health worker projects.

Goals of Comprehensive Community Health Models of Michigan

- Establish an inclusive, accountable health care decision-making process;
- Improve health by increasing access to affordable coverage;
- Increase health system efficiency …that emphasizes health promotion and disease prevention.

Coalitions: Tackling Community Health Challenges

Coalitions bring disparate groups together to develop a shared sense of a problem and a common agenda for its resolution. Over 25 years, the Health Project has supported the development of coalitions to tackle seemingly intractable problems, including improvements in health care access, health disparities, homelessness and high rates of substance use among youth. It has incubated 24 separate coalitions and formalized that work in 2002 by hiring a coalitions manager, still with the organization today.

In an environment with limited resources, coalitions play an important role in minimizing duplication of services and efficiently focusing investments. Health Project coalitions use a logic model that requires participants to define the problem and identify root causes and local drivers before developing strategies. They are also required to be trained in the Collective Impact model, a collaborative approach for tackling complex social problems that cross sectors. This approach trains people to develop five conditions that lead to results: a common agenda; shared measurement systems; mutually reinforcing activities; continuous communication; and backbone support organizations.

The role of the Health Project's Community Health Workers is to stabilize people *socially* so that they can connect *medically*.

After the failure of national health care reform in the early 1990s, the Health Project started a coalition to improve access to health care that resulted in an affordable health insurance program for the uninsured, called Access Health. Now a separate entity, Access Health has provided coverage to approximately 1,000 people annually in Greater Muskegon through a product for businesses employing low-income workers. Access Health is notable among similar programs around the country for its longevity, its unique "three share" financing model (employer, employee and local government) and its population health management program. In 2014, Access Health was certified as meeting the Affordable Care Act's (ACA) minimum essential coverage requirements for compliance under the individual mandate.

Community Health Worker Initiatives

Ten years into its existence the Health Project began piloting programs that use CHWs to connect people to public benefits programs. From 2007 to 2011, the Health Project tested several population-specific programs and partnered with health services researchers to study their impact on health outcomes and cost. Through these early projects, the Health Project refined its approach by identifying which tactics were most effective with different populations. Table 1 below outlines specific projects, target populations, funders, and results.

In 2007, the Health Project adopted the Pathways Community HUB Model developed by Sarah Redding, MD, MPH, with her husband, Mark Redding, MD. The Health Project serves as the HUB, a central point of entry for referrals. Initial screening is conducted and clients are assigned to care coordination either through the Pathways HUB's own CHWs or those employed by collaborating agencies. A standardized assessment of the social determinants of clients' health defines "pathways" through which CHWs guide and support members. Risk scores help prioritize interventions that address diverse issues, including domestic violence, housing instability, food insecurity, and lack of access to transportation. Depending on their focus and skillsets, CHWs are cross-trained on health-related information regarding pregnancy, addiction and mental health, and on health promotion skills including motivational interviewing and the Stanford chronic disease model.

Michigan Pathways to Better Health: A Federal Demonstration and an Evolving Strategy

In 2012, the Health Project was prepared to play a leadership role in developing and implementing the CMS Innovation Grant because of the experience it had gained in earlier projects as well as the structure it had established with the adoption of the Pathways HUB model. Led by the Michigan Public Health Institute, the goal of this federal demonstration grant, Pathways to Better Health, has been to increase primary care utilization and decrease emergency department (ED) visits and inpatient admissions by connecting chronically ill Medicaid and Medicare beneficiaries to health care and to other services that address their social determinants of health. The Center for Medicaid and Medicare Innovation (CMMI) funding enabled the Health Project to dramatically expand the reach of its CHWs by hiring more staff and formalizing its network of partner organizations.

CMS funding also supported nursing and social work staff based in the hospital case management department, providing clinical supervision for the CHWs and assuring close coordination with hospital-based care. This "hard-wiring" of the Pathways HUB to the hospital system has been beneficial for both. The hospital gains improved care coordination and the CHWs benefit from understanding their role in helping clients achieve better health. Based on earlier experience, the Health Project designed this initiative as an interim care model. On average, clients become more medically and socially stable after ten months.

TABLE 1: The Health Project's Community Health Worker Programs and Results

Dates	Who	Intervention [# served]	Funder	Stated Results
2007-09	Hi-risk diabetics	CHWs conduct home visits to educate clients and connect back to office-based primary care [138]	Blue Cross Blue Shield	HA1C scores for the intervention group lowered by 7% (avg of 7.89 pre-test to 7.3 post-test) at 6 months of enrollment and after 2 home visits
2007-13	Medically fragile parolees	Navigators connect recent parolees with health coverage, a medical home, medications, and help them obtain their prison medical records [500+]	Michigan Dept. of Corrections	Reduced recidivism from 46% in 2007 to less than 22% in 2012 for 2-year parolees (AHRQ)
2011-15	Hi-risk pregnant women	CHWs support clients in the community with basic needs (housing, food), connection to pre-natal care, and education on birth and newborn care [150]	March of Dimes, Trinity Call to Care	Reduction in low birthweight babies and fewer infant health issues at birth; mothers in program less costly than average Medicaid mother despite higher risk factors
2012-16	Chronically ill (Medicaid or Medicare enrollees)	CHWs connect patients to primary care and to services that address social determinants of health [5,700+]	CMS Innovation Grant	Official CMS results not available until July 2017 although early data suggests reductions in ED visits and hospital re-admissions

Pathways to Better Health CMMI Partners

- Mercy Health Muskegon
- Senior Resources of West Michigan
- Hackley Community Care (FQHC)
- Every Woman's Place (Domestic violence org)
- Affinia Health Network (PHO)
- Mission for Area People (Anti-poverty org)
- Community enCompass (Housing agency)

Through the grant, the Health Project was also able to further adapt the SDOH assessment tool and the data platform on which it sits, improving both referral patterns and analytic capacity regarding client risks, service utilization, and health and social status outcomes. Additionally, close collaboration with Trinity Health has led to the development of an electronic system that facilitates the sharing of Pathways client information with patient electronic health records, building improved communication between clinical providers and the Pathways HUB. When the CMS grant ended last year, Mercy Health Muskegon recognized early indicators of the project's success with some of its most difficult patients and decided to support the Pathways HUB's continuation as part of its operating budget.

Now, the Health Project have CHWs based at nine locations – five community-based Care Coordination Agencies and four clinical settings within Mercy Health Muskegon. Pathways to Better Health is now one of the Health Project's four care coordination programs, which also includes Pathways to a Healthy Pregnancy, Pathways to Re-Entry, and Pathways to a Healthy Future, the most recent being a youth-oriented strategy. Since 2013, Pathways has referred 6,000 individuals with between 1,200 and 1,500 individuals now served annually through the Pathways HUB.

The Local and State Health Care Environment: Coverage, Health System Structure and Payment

Coverage

The Muskegon area has suffered from high un-insurance rates, poverty and poor health outcomes. As of 2015, around eight percent of Michigan's non-elderly adult population was uninsured. In contrast, the three immediate counties served by the Health Project (Muskegon, Oceana and Newaygo) have un-insured rates ranging from 14 to 19 percent. In 2014, Michigan expanded its Medicaid program through an 1115 Waiver covering an additional 605,000 people, with the vast majority being adults below 138 percent of the federal poverty level. In 2012, Michigan was ranked the 37th healthiest state in the nation with the three counties surrounding Muskegon ranked 65, 60 and 67 out of 82 in the state. Muskegon County, with the highest population of

these, ranked lowest in the state regarding numerous health indicators: smoking; obesity; physical inactivity; drinking; sexually transmitted infections; and teen birth rates.

Health Care System Structure

In 2008, Mercy General Health Partners and Hackley Health System merged to form Mercy Health Muskegon, making it the only acute and emergency services provider in the Lakeshore area. As a single, consolidated entity, Mercy Health Muskegon has been able to dramatically reduce its inpatient footprint. In 1995, there were 800 licensed inpatient beds in Muskegon. However, the hospital projects it will have only 270 by 2019. Having made its most costly operations more efficient, Mercy can focus on prevention efforts, such as those identified in its 2016 Community Health Needs Assessment: increasing the supply of primary care and behavioral health providers, developing better non-urgent medical transportation for people living outside the urban center, and connecting people to health and social services resources.

> If someone were to ask me how to replicate this, I would say first, merge all hospitals so that there is no local competition. Second, merge the physicians so they are not competing. Third, create a Health Project.
>
> *– Hospital Executive*

Payment and Financing

Although most of its reimbursements are still on a Fee-for-Service basis, both Mercy Health Muskegon and its physicians' organization, Affinia Health Network, participate in some value-based reimbursement models including the Medicare Shared Savings Program and risk-based contracts with Blue Cross Blue Shield of Michigan. The hospital and physicians' organization have taken initial steps to respond to anticipated payment reform, purchasing a patient registry and building in more clinic-based care coordination as well as becoming a Next Generation ACO. In addition, changes are occurring at the state level to support these upstream efforts. The Michigan Department of Health and Human Services is developing a Medicaid Shared Savings Program. This initiative is one of many programs that are part of the Department's five-year strategic plan, the Blueprint for Health Innovation, focused on testing payment and delivery reform approaches. With funding from the CMS State Innovation Model (SIM) program, the state is rolling out this plan in five regions, including Muskegon.

The Health Project's successes in bridging community and clinical interventions have positioned it to serve as the backbone organization for their region's test initiatives. That role includes convening partners to address community health needs, creating linkages between health care and community organizations that are addressing social determinants of health, and increasing the number of people enrolled in patient centered medical homes (PCMHs).

An Acquisition, Alignment and Investment: Transforming a Community Partner

Shortly after Mercy Health Muskegon became the community's sole hospital system, it acquired the Health Project. While the Health Project had been successful in obtaining program-based funding, it struggled to find support for its general operations. Although the hospital had always worked with and supported the Health Project, under one corporate umbrella, the Health Project and Mercy Health Muskegon found even more concrete ways to align their work. The Mercy Health System is learning how to better solve problems with community members, and the Health Project has reliable connections to the health care resources its clients and coalitions need. This collaboration has also resulted in additional unexpected benefits for both partners. For example, the Health Project works with the hospital's financial services department to find patients on its "bad debt list" who are eligible for Medicaid, Access Health or charity care. At the same time, for insured patients who are part of the health system's risk-based contracts, any savings the Health Project achieves by better supporting appropriate care use accrues directly to Mercy Health Muskegon as the sole hospital and ED in town.

Other Enabling Factors: Incentivizing Systems to Invest

Hospital consolidation, adoption of clinical population health strategies, ongoing levels of un-insurance and poor health outcomes, and increasing alternative payment arrangements are all factors that have contributed to Mercy Health's investment in the Health Project Pathways. Other enabling factors are the strong mission of the hospital, a commitment to evaluation and quality improvement, and a local culture rich in social capital (i.e., social cohesion, interdependency, creativity).

- **Mission as Strategy:** For Mercy Health, and its corporate parent, Trinity Health, mission is about both history and market distinction. Commitment to the poor, justice, stewardship, and integrity are core values that were foundational and continue to shape their care delivery and community collaborations. Trinity's mission shaped Mercy Health's decision to acquire the Health Project to support its growth and development. A Catholic health care delivery system now located in 22 states, Trinity invests in local efforts that it believes can be transformative

elsewhere in its system. Helping to finance the acquisition of the Health Project, Trinity is now implementing the Pathways strategy across other sites. The simultaneous focus on social determinants, improved health care use and outcomes, and efficient use of resources aligns with Trinity's population health goals.

- **Commitment to Evaluation and Quality Improvement:** The Health Project has consistently applied logic models and evaluation strategies to its activities. Even before becoming a part of Mercy Health, the Health Project engaged evaluators to assess the health and other impacts of their programs. They also have been committed to quality improvement, engaging early on in the national Pathways learning community. Integrating into the Mercy system has enhanced their focus on demonstrating returns on the hospital investments in cost avoidance, savings where possible, and the improved health outcomes that will be the expectation of future payment models.

A Hospital Builds Pathways to Health

The hospital's continued support for the Health Project and its coalitions is a recognition that sometimes a hospital needs to look beyond its own walls for solutions to its biggest challenges.

Local culture rich in social capital: The existence of the Health Project itself, a sophisticated, innovative, data-driven, and results-oriented organization, is unusual in a community of Muskegon's size and is enabled by an environment rich in social capital. Muskegon is noted for its history of proactive government support for cross-sector cooperative initiatives. It is a city focused on engaged problem solving, including in health. As one Health Project researcher noted, "Don't underestimate the importance of the remarkable civil society – and social capital – in that county." The Health Project is a product of that history.

Considering the Future

The breadth of activities the Health Project undertakes through Pathways continues to expand. They have just completed year one of a Trinity-financed care transitions project for seniors with promising early data. They have recently embarked on a new Pathways initiative: Pathways to a Healthy Future focused on youth aged 12-18 in an effort to address behavioral risk factors. Their data-sharing platforms have improved communications with clinical settings. Mutual respect and collaborative approaches are at the core of the Health Project and its health and social systems relationships. Nonetheless, challenges exist, including:

- Improvements to the interface of the community-based care coordination with clinic-based care delivery and population health management;
- Culture change within the hospital and outpatient settings to assure trust in these care extenders in the community;
- New skill development within the Pathways HUB staff and CHWs;
- Even more effective linkages between community and clinical resources as the Health Project moves into its backbone role for the regional initiatives; and
- Improved integration of the Health Project's data systems with the hospital and physician organization's patient registry software.

Finding reliable, long-term funding streams to support CHWs is still a work in progress. Expanded Pathways require resources beyond those currently provided through hospital operations and community benefits. Hospital executives have approached the state and Medicaid managed care plans regarding fee-for-service (FFS) reimbursement for CHW services. SIM implementation temporarily stopped progress in this arena. FFS payments for CHWs will help to support the Health Project's workforce but will not provide the hospital system with the flexibility and reliability needed to invest in an array of population health programs.

Why Invest in Upstream Investments?

"It's a sinkhole – you could pour money into upstream investments. We need to be thoughtful and careful about what's going to create change. Everything we do has a medical context. We'd like to prevent crime but we are providers of health care services."

– Hospital Executive

Like many health systems grappling with upstream investments in social determinants of health, Mercy Health faces the challenge of determining which investments will yield reliable returns. Given the diversity of needs in Muskegon, the hospital struggles to prioritize resources that will improve health and reduce costs. Investing in care transitions, outpatient care management, and patient centered medical homes make sense for risk- and performance-based contracts.

However, Mercy Health has also chosen to invest in community-based care coordination through CHWs, a program that has a longer timeframe for a return on investment and less certain outcomes. They are seeing positive results but continue to assess impact. Inherent to the hospital's success in negotiating differential need and investment has been the extent to which the Health Project has been able to successfully sit at the crossroads of the community-clinical interface. This is an unusual accomplishment for an entity that has become a wholly-owned subsidiary. Continuing to support the Health Project's concomitant independence from and strong connection with Mercy Health will be central to negotiating difficult choices and building effective population health strategies for the future.

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Citations Below from Cincinnati Case Study and the Muskegon Case Study

1. http://www.leg.state.vt.us/jfo/healthcare/Finance%20prez%20-%20profile%20of%20uninsured%20-%20update.pdf
2. HCAN is one of only 7 certified Pathway HUBs in the country. For further information, see: Pathways Community HUB Manual: A Guide to Identify and Address Risk Factors, Reduce Costs, and Improve Outcomes. Agency for Healthcare Research and Quality (AHRQ); AHRQ Publication No. 15(16)-0070-EF. 2016. Accessed May 3rd 2017. And: Zeigler, B. P., Redding, S. A., Leath, B. A., & Carter, E. L. Pathways Community HUB: A Model for Coordination of Community Health Care. Population health management. 17(4): 199-201. 2014.
3. Cradle Cincinnati: Every Baby, Every Day: Strategic Plan. [PowerPoint Presentation]. Cradle Cincinnati. Oct 2016. http://www.cradlecincinnati.org/wp-content/uploads/2014/02/Strategic-Plan-Update-with-Appendix-10.27.16-Compressed.pdf. Accessed May 3rd 2017.
4. Redding S., Conrey, E., et al. Pathways Community Care Coordination in Low Birth Weight Prevention. Maternal and Child Health Journal. 19(3):643-650. 2015.
5. HUB Replication Team. Replication of the Pathways Community HUB Model. [PowerPoint Presentation].Legislative Briefing Ohio Commission on Minority Health. May, 2015; Sartorius, Peter, "Pathways Model Aligns Care, Population Health", May-June 2015, Health Progress, pp.25-29
6. "Community Health Workers: Supporting a People-Centered Workforce", Trinity Health publication, no author, no date; Presentation, Dec. 1, 2016 Pathways to Better Health of the Lakeshore – Muskegon HUB
7. Pathways to Community Health, 2016 Community Health Needs Assessment for Muskegon, Oceana and Newaygo counties, prepared by Health Project of Mercy Health, July 2015.
8. Kaiser Family Foundation