Pathways Community HUB

An Innovation Station Best Practice

Purpose: This document is intended to support MCH professionals to implement a practice found in Innovation Station. This resource provides the information needed to replicate the practice and is divided into two sections: the first section provides a high-level overview of the practice while the second section describes how to implement the practice. For additional information on any of the content provided below, please reach out to the practice contact located at the bottom of this document.

Section I: Practice Overview

Location:	National	**Title V/MCH Block Grant Measures Addressed**
Category:	Best	**NPM #1:** Percent of women, ages 18-44, with a preventive medical visit in the past year **NPM #4:** Percent of infants who are ever breastfed **NPM #5:** Percent of infants placed on their backs **NPM #6:** Percent of children, ages 9 through 35 months, who received developmental screening using a parent-completed screening tool in the past year **NPM #11:** Percent of children with and without special health care needs, ages 0 through 17, who have a medical home **NPM #13.1:** Percent of women who had a preventive dental visit during pregnancy **NPM #13.2:** Percent of children, ages 1 through 17, who had a preventive dental visit in the past year **NPM #14.2:** Percent of children, ages 0 through 17, who live in a household where someone smokes **NPM #15:** Percent of children, ages 0 through 17, who are continuously and adequately insured
Date Submitted:	5/2019	

Practice Description

The purpose of the Pathways Community HUB (HUB) is to provide an evidence-based, organized, pay-for-outcomes focused, network of community-based organizations that hire and train community health workers (CHWs) to reach out to those at greatest risk, identify their risk factors and assure that they connect to medical, social, and behavioral health services to reduce their risk. A certified HUB improves health, reduces costs, and promotes equity.

Purpose

The United States spends significantly more money per capita on health care services than other developed nations and continues to lag in key outcome measures such as infant mortality. The primary sources of these adverse health and social outcomes are risk factors. To address risk factors, communities can develop standardized, organized, and effective community-based care coordination networks focused on the comprehensive identification and reduction of risk.

In the early 1990s, the HUB model developers gained experience with effective community care coordination in Kotzebue Alaska. Alaska's long-standing Community Health Aide Program assists in connections to care for high-risk populations through extensive CHW education, close supervision and a network of resources. Though not extensively researched, Alaska's model program contributed to significant improvements in low birth weight and infant mortality within Inuit high-risk populations. Alaska fully engages culturally connected individuals who are imbedded in the community and assures connections to medical and other support services to address risk factors. Building from this experience, in 1998 the HUB model developers began to deploy CHWs in Mansfield Ohio though the local Community Health Access Project (CHAP). Significant quality improvement-based learning was achieved through the wisdom of CHWs, local business leaders, and scientists, resulting in the innovations of the model.

The Osteopathic Heritage Foundation supported the development and expansion of the HUB model to three Ohio counties. As the model became standardized, communities in Toledo and Cincinnati began to Implement the model in Ohio and other states began to replicate the model. As national networks of Pathways Community HUB programs developed, the Agency for Healthcare Research and Quality (AHRQ) supported the creation of the Community Care Coordination Learning Network (CCCLN). This network in collaboration with Westat, the Georgia Health Policy Center (GHPC), and Communities Joined in Action (CJA) resulted in broader research and evaluation of the model. Standards and related fidelity to evidence-based components of the model began to develop through a national Guidance Council of implementers, payers, and public health experts. This effort was focused on a commitment to furthering an effective scalable approach to improve outcomes and reduce cost. In 2016, the Kresge Foundation supported the piloting and establishment of National Certification resulting in the Pathways Community HUB Institute (PCHI) developing and delivering national HUB certification in collaboration with the GHPC, CJA and others. The Pathways Community HUB model has benefited greatly from the support of many partners in Ohio. The Ohio Department of Medicaid and Medicaid Managed Care Plans (MCPs) provided strategic support and guidance around building a sustainable financial model for HUBs. This work was led by Buckeye Health Plan (Centene), UnitedHealthcare Community Plan and CareSource initially, with Molina Healthcare and Paramount Advantage joining later. All five Ohio Medicaid Managed Care Plans support Pathways Community HUBs. The Ohio Commission on Minority Health has provided leadership since 1998 for Pathways Community HUB replication and expansion across the state. The Commission collaborated effectively with the HUBs to increase visibility with state policy makers resulting in securing legislation to support contracts with MCPs and obtaining funding to scale the model in Ohio. The Commission has also played a critical role in requiring and promoting the evidence focused national standards of the model. This fidelity to the HUB model and certification is essential in order to demonstrate outcomes. The Ohio Department of Health has served in several key programming and research roles. The Ohio Department of Jobs and Family Services has helped to further demonstrate the ability to braid health and social service funding streams to

accomplish a whole person approach to care. Using Ohio as a model, other states are deploying similar approaches to certification and braided funding in implementing the HUB model.

Each HUB represents a network of at least 2 and up to 30 community care coordination agencies (CCAs). The CCAs hire and support the CHWs who reach out to those most at risk, assess medical, social and behavioral health risk factors, and confirm that risks are addressed using standardized Pathways. The CCAs contract with their local HUB for outcome payments achieved by their CHW workforce. The HUB establishes financial agreements with available funding including managed care organizations (MCOs), public health, and others. The HUB provides payment to the network of agencies based on confirmed and comprehensive risk mitigation outcomes as documented in Pathways. The HUB also provides training, technology support, data management, quality improvement, supervision, training and related services.

The Pathways Community HUB model creates an organized multiagency network of community-based care coordination that:

a) Improves outcomes by identifying and engaging at-risk individuals and confirming that their health, behavioral health and social service risk factors are addressed;
b) Achieves fidelity and accountability for performance through national certification provided by PCHI. The published national standards (see prerequisites and standards) are used to confirm model fidelity and appropriate use of the data collection tools and standard Pathways. The Pathways track each identified risk factor through to a confirmed outcome;
c) Provides an accountable framework for communities who want to build infrastructure for an effective care coordination network of community agencies;
d) Individuals from and part of the community, serve in the most central CHW role of the model. Over 10% of all CHWs in Ohio HUBs started as clients;
e) Provides standardized mechanisms for data reporting, research, and continual quality improvement;
f) Provides an evidence-based approach to community networks so they can collaborate effectively and market care coordination services to diverse funders for broader implementation and sustainability;
g) Through certification, provide funders and policy makers assurance that community networks have met specific operational, health outcome, and cost of care improvement benchmarks;
h) Supports the Care Coordination Learning Network of collaboration and quality improvement across HUBs nationally.

Finding the specific individuals within communities who are most likely to have a poor health outcome, addressing their specific needs, and accountably measuring their results will influence the overall health of individuals and the community. The CHAP program that piloted the first HUB model demonstrated a significant improvement in low birth weight for expectant mothers enrolled through peer reviewed publication (Redding S. 2015). This pilot initiative was also able to show a county-wide reduction in low birth weight.

The HUB model has demonstrated outcome and cost improvements when replicated in Toledo (Lucas B., 2018) and other programs nationally (AHRQ Innovations Exchange). The HUB model has also been applied to other high-risk populations including adults with chronic conditions, substance use disorders, behavioral health issues, and individuals who inappropriately use the emergency department. Recent implementation includes working within schools to support children with high risk academic performance to assure both medical and social factors are

addressed to improve education and future employment success. The HUB model has been replicated in six communities in Ohio, and in multiple other states including Michigan, New Mexico, Wisconsin, and Washington.

Practice Foundation

The HUB model was built on the Social Determinants of Health/Systems Theory and the Social Support Theory. The HUB model foundation relies on the understanding that addressing the issues that prevent individuals from accessing health care, housing, food, employment, education, and other critical supports directly impacts health outcomes. The HUB model recognizes that modifiable risk factors within medical care, social services, and behavioral health are interlinking and interdependent in their impact and a more holistic approach to addressing risk is needed to improve outcomes (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion, 2019). An expectant mother who is homeless, depressed, and lacks prenatal care may have significantly better outcomes including reduced stress, if all three of these critical risks are identified and addressed compared to approaches that may only address one or two of these factors.

The 20 standardized Pathways provide documentation and accountability for the individually modifiable medical, social, and behavioral health risk factors that need to be addressed in order to achieve health equity. CHWs establish the community engagement necessary to build trusting relationships with community members served. High risk individuals benefit from the evidence-based approach to identifying and addressing their risks in a holistic community and person-centered approach.

Core Components

The Pathways Community HUB Certification Program (PCHCP) under PCHI was created to provide standards for communities to follow to achieve model fidelity and program effectiveness. There are 11 prerequisites that must be met before a new HUB can move forward with the certification process. The HUB must then meet at least 90% of the 17 standards to achieve Level 1 PCHCP certification. A HUB that meets 100% of the standards achieves Level 2 PCHCP certification. PCHCP works with a national guidance council to review and provide feedback on the certification standards. (See PCHCP Standards)

Practice Activities

Please See Attachment D for the specific national standards of the HUB model. The following provides an overview of the practice activities.

Core Component	Activities	Operational Details
Pre-Implementation Establishing the HUB Network	Contact PCHI to receive resources and assistance with the precertification process.	National certification is critical to achieving evidence-based fidelity and related recognition. Establishing this goal early in the implementation process is important.
	Develop community collaboration with a contracted network of community care coordination agencies (CCAs).	The establishment and ongoing management of a broad community network of care coordination agencies that contract with the central HUB.
	Funding, training, data collection, reporting, and invoicing.	The HUB begins to serve the prioritized population by engaging funders; training CHWs, supervisors, and HUB staff; preparing for data collection, reporting, invoicing, quality improvement activities; and related support of the network.
Implementation HUB Responsibilities	HUB network quality assurance and contract compliance	HUB provides assurance of appropriate training, supervision, policies and procedures, HIPAA compliance, and operational requirements across the HUB network of CCAs. HUB implements quality improvement strategies.
	Engagement of at-risk clients and related referrals to the HUB	Many strategies and referral relationships are used to engage the most at-risk individuals within the service area of the HUB. Priority populations may include maternal and child health, chronic disease, employment, school readiness and success, and others. Clients referred to the HUB are fairly assigned to each CCA in the network and this connects the client to the CHW. CHWs complete the enrollment and provide ongoing home visiting based care coordination. CCA supervisors are required to review and sign off on all documentation.

Core Component	Activities	Operational Details
Implementation CCA Responsibilities	Operational support and human resources	The CCA employs the CHW providing the care coordination service. The CCA provides human resources related support and guidance. The clinical supervision of the CHW is ideally provided by a supervisor hired and employed by the CCA. Clinical supervision may be provided by the local HUB if a CCA does not have staffing to provide supervision.
	Care coordination enrollment	CHWs may find the client to enroll through canvasing within the community or they may receive the client though referral from the HUB. The HUB can receive referrals from anywhere in the community as well as MCOs and public health. As a first step, the CHW checks in with the HUB to make sure that a CHW from another CCA in the HUB network isn't already caring for the client. This important step prevents service duplication. The CHW then completes the enrollment including gathering demographic information and the completion of an individual and household-based risk assessment.
	Pathway assignment	The CHW works to understand the primary strengths and concerns of the client along with the data obtained through the assessments to begin to build a care plan. The care plan is founded on assignment of Pathways for each specific risk identified. The assessment and the care plan are reviewed, modified, and signed off by the clinical supervisor.
	Assuring identified risks are addressed though completed Pathways	The CHW works with the client to connect to a variety of interventions and services based on the Pathways assigned. Pathways can include appointments with medical providers, intervention therapies, food, clothing housing, adult education, employment and many others. When the risk is confirmed to be mitigated, the specific Pathway is documented as "completed". When not successfully mitigated, the Pathway is documented as "finished incomplete". Each Pathway has a standardized outcome that must be reached to document "Completed". When possible, all at-risk household members are enrolled into the HUB. Providing care to the family improves the health of infants and children living in the home. Risks are addressed including adult household tobacco use, depression, medical care access, and parenting skills with those most closely interacting with the infants and children.
	Ongoing follow-up and eventual discharge of client	The CHW visits at least monthly to reassess risks and assign new Pathways as needed as they continue to work towards medical and social wellness. When the risks are addressed and the client achieves care plan goals (i.e. has a medical home, is up to date with care, achieved necessary education and employment), they can be discharged from active care coordination service. There are many examples of clients reaching better health outcomes and financial stability through education and employment.

Core Component	Activities	Operational Details
Ongoing Monitoring and Sustainability	Quality Improvement	At the HUB, Pathway completion is tracked and monitored across all CCAs and all CHWs that work within the CCAs. The HUB reviews issues of quality, timeliness of service, and documentation issues. The tracking of Pathway completion lends itself to specific areas of evaluation significance. Reporting of Pathways supports evaluation at the level of the CHW, the CCA and for the entire HUB. Pathways are evaluated by category to see how many individuals are impacted by specific risks (i.e. housing, food, daycare, medical home, access to behavioral health). In addition, reports can examine how many of these risks are being addressed successfully ("completed Pathways") vs. those not able to be addressed (finished incomplete Pathways). The HUB model also supports looking at the time that it takes to complete each Pathway based risk mitigation. This critical analysis provides specific data at an individual level and population level to decision makers that can inform the need for specific community infrastructure enhancements. The HUB prepares performance reports to support quality improvement and improved performance. Incentive programs for CHWs are also informed by this reporting and several approaches to providing incentives are available through PCHI.
	Networking and CHW support	Providing resources and support for the collaboration that occurs across the care coordination agencies in the HUB network is a critical HUB activity. The CHWs and supervisors from CCAs get together at least on a monthly basis. The CHWs represent a variety of CCA agencies with different focus areas spanning housing, food security, behavioral health, primary care, and others. This networking assists CHWs in identifying resources for clients. These otherwise siloed organizations can become a team of agencies led by culturally connected CHWs focused on a holistic approach to identification and mitigation of risk factors.
	Ongoing development of programming and additional sustainability support	HUBs often start with a limited portfolio of funding opportunities. Their initial focus may be one priority population and outcome area, such as infant mortality reduction, adults with chronic disease, or justice involved populations. HUBs can work towards capacity to serve the entire family and provide care coordination for many different medical, social, and behavioral health conditions in partnership with local specialty service providers. This most often requires maximizing the braided funding needed to allow focus on a diverse range of risks. The HUB is charged with a continued focus on quality, outcome results, research, growth and long-term sustainability

Braided Funding

Care coordination in communities without a Pathways Community HUB can be highly duplicative with multiple care coordinators from many separate funding and programmatic initiatives serving the same family. This duplication is financially wasteful and can be a burden to the family who must manage multiple people visiting their home. In the HUB model, multiple care coordination related funding streams are coordinated through the HUB. This feature allows care coordinators and CHWs to serve a holistic array of risks for each of those identified in a high-risk household. The CHW focuses on enrolling the client, delivering the risk assessment and working through the Pathways. The Pathways Community HUB assures non duplication of service and that each of these enrolled individuals is assigned to the most appropriate funder. The infant served may be assigned to the health department program. The adult served may be supported through a chronic disease focused MCO. This allows the family to be served by one primary care coordinator or CHW and their clinical supervisor instead of multiple care coordinators each from different siloed programs. Mature HUBs may have as many as 10-15 different funding resources. Funding such as United Way has specifically been designated for individuals (i.e. undocumented) that have no eligibility for other resources. Duplication of care coordination is permitted for any individual when it is needed; for example, an out of control diabetic may additionally benefit from a diabetes education nurse coordinator.

Summary Principles of the HUB Model

The HUB works to in the community served to become one cohesive care coordination-focused enterprise spanning medical, social and behavioral health. An organized and well supervised team of CHWs from a variety of different CCAs reach out to the most at-risk populations, assessing and addressing modifiable risks in a pay for performance approach. The focus is to improve medical outcomes and the interrelated social outcomes including establishing safe housing, food security, education, and sustainable employment. The model stands on two principal pillars:

1. Effective learning interventions. In our research, we have identified that many of the critical modifiable risks with the potential to be addressed in high risk individuals require learning focused intervention (Falletta 2019). Providing both education and relationship-based support to a young mother to assure safe sleep practices, no smoking in the home, proper car seat use, and positive parenting are each based on achieving learning-based changes. The accomplishment of behavior change is substantially influenced by the relationship CHWs develop with the individuals and families they serve. CHWs are from and part of the community. They visit their clients frequently, spending an hour or more with each visit. They are there for the client to address crisis issues such as food and housing. The time the client may receive getting this type of education and support from primary medical providers continues to decrease (Dugdale D. 1999). The CHWs' community, cultural, and co-experience in supporting their clients through crisis empowers them to be highly influential when they ask a mom not to smoke in the home, place baby on their back to sleep, encourage her to achieve adult education success, and many other behavior changes impacting the health and future of the developing child and family. In collaboration with assuring appropriate medical care, the CHW within a HUB assists in more fully addressing a broad array of critical modifiable risks.
2. Pay for outcomes. The national standards require that 50% of HUB funding is tied to achieved outcomes. Consistent with outcome-based payment success demonstrated in medical models (Porter M. 2016), the completed Pathways tie payment to confirmation that the identified risks have been addressed. Examples of these Pathway completions include establishing safe housing, obtaining a medical home, behavioral health treatment intervention, etc. The assessment of risk and the completion of the quality outcomes via payment driven Pathways is central to the model. Tying payment to

confirmed outcomes has been part of documenting better results as well as improved accuracy of documentation within the Pathways (Zeigler B 2015). The achievements of confirmed risk mitigation within the completed Pathways are not process based. This payment model is substantially different from the current fee-for-service structure that captures a wide range of events that include both completely process (visit note completion) as well as intervention-based service products. In the HUB model, the outcomes achieved based on risks identified are at a minimum intermediate outcomes, and in some Pathways, they represent significant final outcomes. Pathways confirming that an evidence-based or best practice intervention has been received (e.g. assuring the client has attended their first medical home visit, started speech therapy, etc.) do not represent a final outcome. They do represent that the client has been assisted in overcoming barriers of understanding, education, insurance, and others to receive interventions with evidence to positively influence the outcome. In some of the Pathways a larger and more final outcome is measured such as assurance that the baby was born normal birth weight in the Pregnancy Pathway and assurance that stable housing has been achieved for a homeless family in the Housing Pathway. In all Pathways there is confirmation that a critical risk has been addressed resulting in an intermediate or final outcome. The outcome focused payment approach within the HUB model is contrasted with the most prominent strategies of accountability and payment in care coordination that focus on caseloads, chart notes and related process measures of accountability.

The HUB model responds to health and social disparity with a culturally connected, comprehensive approach to the identification and mitigation of risk. The whole person and family methodology amplifies the response through addressing risks that are interconnected with synergistic impact on overall wellness. Paying for process has been confirmed not to be effective (Porter M., 2016). Success in contracts that pay for intermediate and final outcomes is further supported in the HUB model.

Evidence of Effectiveness (e.g. Evaluation Data)

Two of the studies demonstrating the greatest impact include S. Redding et al., J. Maternal and Child Health 2015 and the recent B. Lucas, 2018 study.

The Journal of Maternal and Child Health study demonstrated the following, “Women enrolled in CHAP care coordination from 2001 through 2004 had significantly lower adjusted odds of experiencing a low-birth weight delivery than non-CHAP women [adjusted odds ratio = 0.36, 95 % CI (0.12, 0.96)] representing an overall decrease in low birth rate for enrolled populations of 60%. The study also demonstrated a $3.36 short term and $5.59 long term return on investment for every dollar placed in the program”. (Redding et al. 2015)

In 2018, Buckeye Health Plan in Ohio conducted a study of over 3,700 deliveries in the Toledo HUB service area. They demonstrated a 236% return on investment and 1.55 times less likelihood of an infant needing special care nursery services (Lucas B & Detty A 2018 #1; Lucas B & Detty A 2018 #2). This study has been accepted for presentation at the American College of Obstetrics and Gynecology in May 2019.

The following list provides a broader overview of the literature and institutional recognition supporting the HUB Model.

Peer Reviewed Literature and Conference Presentations Documenting Model and Evidence Basis

The following peer reviewed literature describes the results of the HUB model

Lucas, B. (2018). Improved Birth Outcomes through Health Plan and Community Hub Partnership. PresentationAmerican College of Obstetricians and Gynocologists May 2019

Redding, M., Hoornbeek, J., Zeigler, B. P., Kelly, M., Redding, S., Falletta, L., … Bruckman, D. (2018). Risk Reduction Research Initiative: A National Community–Academic Framework to Improve Health and Social Outcomes. *Population Health Management*, *00*(00), pop.2018.0099. https://doi.org/10.1089/pop.2018.0099

Redding, S., Conrey, E., Porter, K., Paulson, J., Hughes, K., & Redding, M. (2015). Pathways Community Care Coordination in Low Birth Weight Prevention. *Maternal and Child Health Journal*, *19*(3), 643–650. https://doi.org/10.1007/s10995-014-1554-4

Zeigler, B. P., Carter, E. L., Redding, S. A., Leath, B. A., & Russell, C. (2015). *Care Coordination: Formalization of Pathways for Standardization and Certification Report for Project: Health System Modeling and Simulation: Coordinated Care Example*. Retrieved from https://static1.squarespace.com/static/596d61e446c3c47ac186fbe4/t/5973ff5b46c3c431eb572de0/1500774236348/Journal+-+Zeigler+Article+Care+Coordination+Formalization+of+Pathways.pdf

Zeigler, B. P., Redding, S., Leath, B. A., Carter, E. L., & Russell, C. (2016). Guiding Principles for Data Architecture to Support the Pathways Community HUB Model. *EGEMs (Generating Evidence & Methods to Improve Patient Outcomes)*, *4*(1), 1. https://doi.org/10.13063/2327-9214.1182

Zeigler, B. P., Traoré, M. K. (Mamadou K., Zacharewicz, G., & Duboz, R. (2018). *Value-based learning healthcare systems : integrative modeling and simulation*. The Institution of Engineering and Technology.

Centers for Medicaid Services

The HUB model is published within their evidence-based, value-based care grouping (Centers for Medicare & Medicaid Services, 2018)

Agency for Healthcare Quality and Research (AHRQ)

More than 10 publications all with reference to and based on evidence-based programming. The AHRQ Pathways Community HUB Manual specifically discusses the HUB Model as an evidence-based approach (*Pathways Community HUB Manual*, 2016)**.** Page 9 **- "**These national standards help ensure quality and fidelity to the evidence-based HUB model of care coordination, as well as improved outcomes, reduced costs, and increased equity."

Recognition by State and National Health and Health Policy initiatives

- Centers for Medicare & Medicaid Innovation – The evidence and research findings of the Pathways Community HUB Model in Michigan substantially informed the next stage of CMMI funding (NEJM, Alley, Asomugha, Conway, & Sanghavi, 2016)
- Kaiser Permanente – Recognizes the Pathways Community HUB model as evidence-based and has implemented a pilot initiative based on Ohio's model (Kaiser Permanente)
- Centers for Disease Control & Prevention – Participated in specific research in a LBW project in Richland County, Ohio and in a separate project in Toledo, Ohio (CDC, 2017; S. Redding et al., 2015). CDC has funded a recent HUB initiative in Wisconsin.
- Academy Health with support from the Robert Wood Johnson Foundation (Academy Health, 2018)
- The Georgia Health Policy Center – Co-Leader in the national Pathways Community HUB Certification Program.
- Communities Joined in Action – participated in the development of the National Pathways Community HUB Certification. Many webinars, conference proceedings and related research events.
- The Ohio Department of Health (ODH) and related health policy partners (HPIO, 2017; PlanningCouncil, 2012). ODH - though the Help Me Grow and Moms and Babies First program in Richland County - has been a critical collaborator and supporter of the HUB model. The HUB model serves as the integrating infrastructure for MCH programming as well as care coordination for adults in Richland County, Ohio.
- Voices for Ohio's Children – Multiple publications and related events ("Medicaid Braided Funding," 2013)
- The Ohio Academy of Pediatrics – Substantial collaboration and support via CATCH and risk factor screening and CHW education.

Ongoing Evidence and Quality Evaluation of Evidence

Ohio Commission on Minority Health – Reviews ongoing data and performance metrics for certified Ohio HUBs which includes a comprehensive evaluation of the success and lack of success in mitigating specific risk factors.

The National Risk Reduction Research Network has formed as a collaboration of HUBs as well as the Georgia Health Policy Center, Akron Children's Hospital and Kent State University. Multiple research papers are in production with the effort and research aims documented (M. Redding et al., 2018)

Managed Care Organizations – As the HUB model requires fifty percent of all dollars tied to confirmed outcomes, every invoice is an outcome statement that is reviewed in detail by MCO plan representatives. HUBs report monthly quality related reports to both the plans and their own networks of CHW programs.

The Ohio Department of Health – HUBs that participate in Help Me Grow and Moms and Babies First programming must also meet the quality and performance requirements of those programs. HUBs have demonstrated the ability to positively collaborate with ODH programming which could be expanded in multiple counties.

Replication

The national certification of HUBs funded by the Kresge Foundation has allowed this open source model to grow and develop nationally while maintaining a high level of fidelity. There are more than 35 HUBs nationally in various stages of development. Each HUB represents a regionally organized network of agencies with the central organizing HUB serving to direct quality, assure non-duplication, secure contracting, and conduct evaluation and participatory research. The well-established Toledo HUB has more than 23 local community-based organizations and 45 related CHWs. Smaller HUBs may have three to six local community-based organizations and ten to fifteen CHWs. Following the pilot of the first HUBs completed through funding by the Kresge Foundation, Ohio Medicaid has begun to require HUBs working with MCOs to attain the fidelity required by the certification standards. Multi state MCOs have also developed this requirement.

Certification has allowed PCHI to continue to improve the model based on evaluation and research results for distribution of identified improvements across a national network. To achieve certification, a HUB is required to use the most up-to-date Pathways and related items.

Certification is conducted initially with an onsite detailed review by PCHI assessors, and then repeated at two years with a desk audit followed by a repeated on-site review at four years. The original HUBs are now in their four-year onsite review period. Certification has been a critical component in achieving fidelity, expanding the CQI program and developing a strategy to expand research and evaluation.

As reported above, and within AHRQ publications, the HUB model has focused on maternal child health. It is now utilized in all age groups and within the areas of chronic disease, opioid addition, children with school performance issues, HIV, victims of human trafficking, unemployment, and others.

Section II: Practice Implementation

Internal Capacity

The HUB represents a network of contracted separate agencies within the community. The Pathways Community HUB (HUB) serves as the “care traffic control” or central resource for the network providing training, information technology support, quality improvement, network meetings, invoicing, and many other services. The care coordination agencies (CCAs) hire and support the CHWs. There may be 2 to more than 30 care coordination agencies across a HUB network.

Internal Capacity by Category

- HUB – Typically 2 or more full time personnel
    - The HUB Executive Director is responsible for the operation of the entire network.
    - Quality Improvement personnel – One or more individuals responsible for tracking the specific clients, their Pathway based outcomes, the quality reports and related quality improvement tools, meetings, and policy development. They

may also provide clinical supervision to the CCA agencies that do not have a supervisor.
    - Referral tracking, data collection monitoring, invoice preparation, and related functions.
    - HUBs may hire or contract out for additional resources including invoice preparation, information technology, legal services, evaluation, and research.

- CCAs – HUBs can have from 2 to 30 or more CCAs. These can represent a variety of agencies spanning local non-profits, housing resource providers, behavioral health centers, clinics, churches, and others. The CCAs may have many other employees working on projects separate from the HUB initiative. They may provide a separate service such as housing, food, or medical care. The hiring and support of CHWs providing HUB model care coordination though a contract with the HUB brings their agency into the HUB network. CCA HUB related staffing includes:
    - CHWs (CHWs) – CHWs represent the most central intervention resource, reaching out to those most at risk to enroll them into the HUB and providing comprehensive risk assessments, and assigning Pathways to track risk mitigation success.
    - CHW Supervisors – National certification standards require that each risk assessment and Pathway completed by the CHW must be signed off by their supervisor. As CHWs in the HUB model are serving the most medically and socially at-risk clients in the community, a teamwork approach to client management with experienced supervisors as part of that team is critical. CCAs that do not employ enough CHWs to make having a supervisor practical can receive supervision from their local HUB.

Collaboration/Partners

At Risk Community Collaboration

The HUB's most important partner is the community served. HUBs have developed benefiting from many years of work with CHWs (CHWs). CHWs are individuals who are hired from the communities identified to be most at-risk for poor health outcomes. CHWs are trained to provide support, advocacy, and education to their community members at risk. In the late 1990s it was the CHWs who taught the model developers that social determinant factors such as housing and food in addition to medical care access were critical if our intent was to improve birth outcomes. The concept of Pathways grew out of initial understanding of the importance of addressing the social determinants and the need to demonstrate accountability in addressing them. The standard Pathways and their related subcategories address all identified risk factors that CHWs were encountering in their work with high risk pregnant women and their families. In addition, the CHWs recognized that just working with the pregnant woman was not enough; her family and related household members needed to have their risks identified and addressed too. The interlinking of risk factors among household members experiencing depression, chronic disease control, and substance use, resulting in impacts to current and future outcomes for infants and children, is now well recognized (Braveman P. 2014) and integral to the HUB model. (See 20 Standard Pathways)

Collaboration Across HUB Partners in the Region

Consistent with the principles and standards of the model, HUBs represent a collaboration bound with financial contracts across care coordination agencies in the community. These represent community agencies that can otherwise both compete and duplicate services in providing home visiting and care coordination. This transition from siloed programming to an organized team of

agencies can be transformative. HUBs are also charged with collaborating with medical, social and behavioral health providers of intervention services. As HUB networks utilize Pathways to assure that individuals are connecting to evidence based and best practice interventions, HUBs have a key role in working with the intervention/service providers across health and social services to address barriers and to identify gaps in quality and availability of services. Finished Incomplete Pathways can be reported for the entire HUB service region to provide numeric measures at a population level of risk factors that are most difficult to address. HUBs working with local health and social service providers can be critical advocates for the community served and provide specific data highlighting areas needed for greater infrastructure and related service interventions.

National Collaboration

The HUB model was chosen as one of the first models to be studied under the Agency for Healthcare Research and Quality's (AHRQ's) Innovation Exchange. AHRQ established a learning collaborative to explore innovations and tools that improve care quality and reduce disparities. The Community Care Coordination Learning Network (CCCLN) brought together 16 programs nationally to build out the HUB model. Several publications were produced by AHRQ to outline the HUB model and provide guidance to communities considering implementing the approach. (See Pathways Community HUB Manual and Connecting Those at Risk to Care)

At the conclusion of the four-year CCCLN, the group recommended that the model move forward to establish clear standards for communities looking to implement the HUB approach. The Kresge Foundation funded a three-year initiative to build prerequisites and standards for certification of the HUB model in collaboration with the Community Health Access Project, the Georgia Health Policy Center, Communities Joined in Action, and Westat. The Pathways Community HUB Certification Program (PCHCP) was developed and tested, and now certification is available to communities at the Pathways Community HUB Institute (PCHI) website. (https://pchi-hub.com) More than 35 community HUB networks in 8 states have either achieved certification or are working towards obtaining it. Certification is required to document fidelity in providing the evidence-based Pathways Community HUB model.

PCHI is also working in collaboration with multiple entities to support further research and evaluation of the model and the specific risk factors and combinations of risk factors the model works to address. The Risk Reduction Research Network (RRRN) involving PCHI, the Georgia Health Policy Center, Kent State University, Communities Joined in Action, and partnering HUBs nationally has developed and published their research aims (Redding M. 2018). The RRRN has been actively producing policy and peer reviewed literature over the past 2 years. The RRRN welcomes additional research and evaluation partners and related collaborations.

Practice Cost

Building your HUB Budget and Budget Narrative.

In building a budget for a Pathways Community HUB there is a range of budget amounts and strategies based on local need, regional cost of living, information technology platform chosen, training strategies selected from the marketplace, and scale and outcome focus of the HUB.

This approach to building a budget is focused on the work needed to reach national Pathways Community HUB Certification. There are a variety of options that can be implemented to accomplish the budget categories provided.

Here are sample budget formats and categories for both the HUB and CCA entities. More budgeting details and budget tables are also below.

Broad View of HUB Budgeting

Stages of Development

- **Pre-Implementation**–Startup funding is critical to first design your local program. When established, the HUB represents the central coordinating agency in a network of contracted separate agencies to provide community-based care coordination. The HUB serves as the "care traffic control" or central resource for the network. To get started, funding is required to support the HUB staffing, resources, and related internal and external technical support to:
  - ❖ Complete contracts with the CCAs providing the care coordination,
  - ❖ Establish policies and procedures,
  - ❖ Provide CHW and staff training,
  - ❖ Establish resources and procedures for data collection and reporting, and
  - ❖ Establish and implement funding contracts.

  The HUB team spends a significant amount of time reaching out to the participating CCAs and collaborating service provider agencies, establishing the workflows, referral process, documentation, and related relationships needed for the HUB network to operate effectively.
- **Implementation -** The HUB model reaches sustainability though successful performance within pay for outcomes financing. The CHWs and staff should not be expected to perform at the efficiency and volume needed to be sustained with pay for performance funding at the beginning. A graduated approach towards pay for performance funding is recommended. The workforce should start fully supported based on process based and capacity considerations. This less accountable funding is recommended to decrease while funding based on pay for outcomes increases, to reach full pay for performance sustainability over a 12 to 18-month time period.
- **Ongoing Sustainability –** HUB pay for performance contracts are most commonly provided through MCOs. There have also been pay for outcomes funding contracts established with public health, social services and grant related funding. United Way and other sources of support are utilized to support other components of the overall budget.

Primary Budget Items by Category

Staff and salaries represent the largest budget item - The HUB model represents a network of agencies with a centrally coordinating HUB. Staffing support requirements for consideration include:

- The HUB – including an Executive Director and 2 or more supporting staff. External consulting resources for evaluation and research should be factored into the budget.
- Each engaged care coordination agency (2 to as many as 30 agencies) within the community network each with budgetary support of one or more CHWs and supervisors. Small HUBs may have a total of 3-4 CCAs and 8-10 CHWs and large HUBs with 10-20 CCAs and 40 or more CHWs. Supervision of CHWs can be provided by the CCA or can be provided by the HUB.

Training and data collection and management resources – CHWs and supervisors require the greatest resource allocation for training. The CHW training requirements within the HUB model are listed as an organized set of curriculum components. PCHI does not provide CHW certification. The certification process for HUBs does include confirmation that the CHWs have received a minimum of the basic curriculum items required by the HUB model. CHWs with existing training through local resources receive credit for past curriculum areas completed and can receive focused training for the curriculum items they need. It is optimal that CHW supervisors receive the CHW training as well as specific supervisor training. There are several resources available that can provide the CHW training. PCHI can assist in programs developing their own train the trainer approaches to meet these requirements moving forward. *The cost for complete CHW training can range depending on the selected training provider from $1,200- $4,000 per CHW.* In communities with existing CHW training programs, PCHI can assist in reconciling the existing training with any additional curriculum components needed to allow the HUB work to build from existing community infrastructure.

All HUB staff must receive basic training on Pathways, related tools, and the Pathways Community HUB model. This training is typically less than two hours and can be accomplished through local or subcontracted resources. Training videos and materials are available at www.pchi-hub.com.

Specialized training in database reporting, quality improvement, billing, and research related components can be beneficial and are available as well. There are several strategies available for data collection and related IT resources. This can be a significant expense and is an important consideration to assure effective management of clients, tracking of data, research and invoicing. The PCHI core data set and data model can be used as a beginning resource.

Technical Assistance - Though not required, technical support from PCHI is recommended in the initial strategic design, implementation, and first 6-12 months of quality and outcome tracking as outlined below. The time and materials cost for this can vary from $20,000 to $60,000 depending on the focus area, scope, and specific needs of the initiative. There are other marketplace providers of technical assistance for HUB development related to funding, IT development, and other components of the model. PCHI is developing a listing of these service providers and their supportive products, when consistent with the national model, for posting on the PCHI web resource directory.

Incentives – In developing the HUB network it can be very beneficial to provide a startup CCA incentives to support their investment of time, training, technology, and other components that they will need to accomplish as part of the pre-implementation and implementation. CCA requirements for infrastructure of trained CHWs, data collection tools, etc. should all be considered in developing this line item. *Startup incentives per CCA agency range from $10,000 to $40,000 and should be paid based on specific benchmarks of progress including training their CHWs, establishing data collection resources, etc.*

Incentives are also very relevant for individual CHWs related to Pathways production performance measurements, documentation and other related quality benchmarks. There are a variety of performance incentive structures for CHWs available through PCHI. Monitoring and reporting performance on a monthly basis combined with payment for improved performance have demonstrated improvement in the quality of documentation, increased number of clients served, and the number of risk mitigation outcomes (Pathways) accomplished per unit of time. *Incentive programs have ranged in expense from providing $50 gift cards to $4,000 or more in additional payments to CHWs per year, above their living wage (and higher) salary and benefits, for*

documented outstanding performance. As the model is based on contracts that pay for the same outcomes that are incentivized, the high performing CHWs accomplish income for the program that more than pays for the incentives.

Budget Development Table			
Activity/Item	**Brief Description**	**Quantity**	**Total**
Technical HUB Support Design, implementation and quality improvement	Working with the community leadership charged with developing the HUB[1]	A 4-12-month period of consultation	$20,000- $60,000
Data Collection	HUB models can work on both paper and a variety of information technology resources. The size of the HUB and the selection of the market resources available determine price.	All staff in HUB network ranging from10-50 individuals	$5,000 to $60,000 or more depending on the resource selected. Annual fees may apply
CHW Training, Supervisor Training and all HUB Training	CHWs, Supervisors and all staff Pathways training[2]	CHWs $1,500-$4,000 each	$6,000-$60,000 Range based on training source and # of CHWs (i.e. up to 20)
		Supervisors $1,500-$3,000 each	$1,500-$6,000 or more
		All staff Pathway Training < $50 each	$300-$1,500

1. Strategic design to define the specific service population, outcome goals, methodologies for measuring outcomes, network collaboration approaches and sustainability in addition to other critical design, training, documentation and related implementation components.
2. There is a national certification relevant curriculum for CHWs. Multiple resources are available to meet curriculum requirements including train the trainer approaches for your community. Supervisors are recommended to receive similar training as well as specific supervisor training. All HUB personnel are to receive Pathways Community HUB related training.

Staffing Considerations for Budgeting – Network (HUB and Care Coordination Agencies)			
Activity/Item	**Brief Description**	**Quantity**	**Total**
HUB Related Personnel and Office Expense	Minimum of 2.5 FTE equivalents including the HUB Executive Director and staff providing the quality, tracking, education, and contracting for the network. Subcontracts are often needed for related services i.e. invoice preparation, information technology, legal services, evaluation, and research.	2.5 FTEs plus office expenses Subcontracts for supportive services	Per local cost of living, contracting and employment expense
National PCHI Certification	The national certification provided by PCHI involves review of all national standards of model fidelity though electronic, phone and onsite communication. National certification is required by some states and third-party funders. Evidence based recognition is based on certification status.	On site comprehensive review for initial certification and every 4 years. A desk top review is conducted 2 years following the initial certification.	Sliding scale based on review type and size of HUB network. Certification fees posted on pchi-hub.com.
Care Coordination Agency CHW, Supervisor and Infrastructure Expense	The HUB has multiple CCAs each with CHWs providing the outreach to clients.	4-60 total CHWs across all CCAs in HUB with one or more CHW supervisors (1 FTE supervisor needed for every 4-5 FTE CHWs)	Per local cost of living and related employment expense. The supervisors can be hired by the CCA or the HUB
Incentives for Care Coordination Agencies and CHWs	Incentives to support Care Coordination Agencies in joining the HUB network Incentives for CHWs accomplishing high performance	Based on number of CCAs joining HUB Various plans available for CHWs	$10,000-$40,000 per CCA CHW incentive from gift cards to more than $4,000 additional income per year per CHW for outstanding performance.

Practice Timeline

Practice Timeline				
Phase	**Description of Activity**	**Date/Timeframe**	**# of hours needed to complete/ oversee activity**	**Person(s) Responsible**
Planning/ Pre-implementation	Strategic Design	4-6 Months	2-3 weeks total consulting time. Near full time for local HUB Leadership.	HUB Director, core implementation team (4-12 local representatives) and consultants
	Multiple subcomponents fit within the strategic design structure (resources at www.pchi-hub.com)			
Implementation	Launch	1-2 weeks	HUB and CCA Staff fully deployed	HUB Staff and Consultants
	Intensive Monitoring Period	6-12 months	1-2 weeks consulting time	HUB Staff and Consultants
	Preparation of initial quality monitoring reports	Ongoing	Often ½ of FTE assigned or more.	Quality improvement and invoicing personnel.
Sustainability	Strengthening of initial funding contracts and outcome performance with expansion to new focus issues and populations.	Ongoing focus	Primary focus of full time HUB Staff	HUB Staff with support from PCHI and National Network of HUBs
	Quality Improvement evaluation and research	Ongoing focus	From several hours per month to a fulltime position	HUB staff focused on quality and performance. Representatives from CCAs to participate.

Resources Provided

Visit the Resources page at www.pchi-hub.com

Lessons Learned

Engagement of Collaborators
Engage a diverse array of collaborators early in the development of your HUB and ask for their help in designing and developing the initiative. The sense of ownership and engagement increases the earlier in the process that this can occur. Representatives from multiple layers of the community and state infrastructure from community members, agencies, local leaders, and policy makers, to state level payers and policy makers are critical and potentially very helpful in beginning and sustaining your initiative. Relationships with individuals representing both leadership and operational level staff in policy, funding, and community initiatives are critical to your HUB's development.

Care Coordination Agency Support
CCAs often represent small community-based organizations that have been challenged to connect to sustainable funding and have often been left out of major streams of funding support. These organizations often have the community and culturally connected staff with the trust and relationship skills needed to accomplish the behavior change outcomes integral to the HUB model. Start and continue with as much support for these essential partner agencies as possible. Startup incentives are important to help overcome collaboration barriers and willingness to engage in this very accountable and outcome driven model.

Have mechanisms to hear the guidance of CHWs.
Supervisors going on some home visits with clients, CHWs participating in key meetings, and policy strategies for CHW concerns to be heard are examples of mechanisms to receive the insight and wisdom of CHWs. Advancing CHWs through the levels of your initiative is important. The HUB network meetings of CHWs across the CCAs (recommended at least monthly) can be a great place to ask for insight. You will also find that this an important event to invite policy leaders, funders, and others to present information and ask questions. This gathering will allow them to see your HUB's engagement and CHW representation of the community.

Quality Improvement is critical.
Being accountable for the work of a network of agencies and their CHWs is challenging. Developing reporting, cross checks, and multiple approaches to assuring quality and accountability is essential. This must also be balanced with an approach that includes substantial encouragement, positive reinforcement, and emotional support for a workforce that is reaching out and intensely engaging the most at-risk families in your community.

Continuous Quality Improvement (CQI) is a requirement of the national standards for HUB Certification. As the HUB model is a pay for outcomes approach, every invoice represents a component of CQI. When a HUB presents an invoice for one month of service to individuals enrolled in a MCO, they are presenting for payment the specific Pathways (confirmed risk

mitigation) outcomes as the most important line item on the invoice. As part of the process, each completed Pathway is confirmed by the CHW, their supervisor, and the invoicing specialist at the HUB as well as the invoicing specialist at the MCO. For example, when a Medical Home Pathway is documented as completed by a CHW, their supervisor confirms that the individual who started the Pathway with no medical home has been confirmed to have attended their first medical home visit through calling the client or the clinic. The MCO quite often will confirm this though examining if there was an actual claim or charge for that client's visit. CQI focused on improving outcomes is integral to the program and payment approach of the model.

Here is an example of CQI and the utility of tracking Pathways in improving quality. In one of our rural programs in Knox County, Ohio we observed through examining a sampling of our Pregnancy Pathways that it was taking an average of two months for an enrolled expectant mother without insurance to show up and attend her first prenatal visit. This timing measure of Pathway completion has been useful in many other quality improvement approaches. We examined the situation further to find that none of the obstetricians in the county would see these individuals until they were confirmed to have insurance. In addition, the agency responsible for providing confirmation of insurance would not provide this unless a medical provider confirmed the individual was pregnant. This was a situation that had been going on for several years. The HUB Program Director in Knox County met with the local health department, and the health department's physician agreed to sign the confirmation of pregnancy based on a positive urine pregnancy test. Following this intervention with the CHWs sending their clients to the health department for testing, the wait time to begin prenatal care went from 2 months to less than 2 weeks.

Toledo, Mansfield, and other HUBs have identified issues in attaining housing, especially for expectant mothers, and are developing community level responses to address this issue. HUBs examining the "Finished Incomplete" Pathways can be very valuable for population level improvements.

The Pathways Community HUB model is early in its development and would benefit substantially from your community's leadership in identifying quality improvement opportunities that can improve your initiative and HUBs nationally. We encourage you to become involved in national research and evaluation efforts. There are multiple focus groups, committees, and leadership opportunities for you to become engaged with. There is much to discover and share in our team effort to address health and social disparity.

Next Steps

Next steps are as follows:

1. Complete the launch and utilization of the latest data items, data definitions, assessment and management strategies within multiple paper and participating electronic support tool resources used by HUBs nationally.
2. Strengthen and further develop the national Care Coordination Learning Network of HUBs.
3. Foster and participate in specific research related to risk factors themselves as outlined in our Population Health article and related aims (Redding M. 2018).

4. Work to collaborate and inform national pay for performance development. The current medical pay for outcomes strategies does not yet include social determinant outcome events. Achieving greater collaboration and a whole person approach to payment reform, supported by research, seems critical.
5. Finding strategies to work as a collaborative partner with as many health and social service initiatives as possible, aiming towards overall medical and social wellness, and the achievement of health equity.

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