Toolkit for Integrating Community Health Workers in Schools

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ABOUT

This Toolkit describes one model to address child health inequities and to promote a culture of health by integrating community health workers into schools - originally for asthma, but broadened in scope over time. It may be of interest to those who are interested in tackling the profound inequities in their communities through integration of a novel model in schools.

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CLINICAL SCHOLARS

Support provided by Robert Wood Johnson Foundation

Executive Summary

Dare with us, to reimagine schools as a place for health and wellness.

Chronic health conditions, like asthma, are powerful drivers of child health inequities. While effective treatments for many of these conditions exist, and effective management approaches have been implemented, racial/ethnic and class inequities in prevalence, access to treatment, and health outcomes are complex, vexing and persistent. They are linked, in turn, to inequities in educational outcomes.

Reimagining Schools as a Place for Health and Wellness (Reimagine) is a Chicago-based team composed of clinicians, school health leaders, and social innovators committed to eliminating child health inequities and promoting a culture of health in schools. ***Our project represents a model for how to integrate trained, paid, supported and connected community health workers (CHWs) into schools to improve child health.*** This *Toolkit* explores how we have approached this project, what we have learned thus far about health policy, advocacy, program scaling, and sustainability of efforts to disrupt child health inequities by working in schools.

CHWs, both globally and locally, have been central to health promotion and disease prevention for decades. Effective CHW programs have been developed and tested in many areas, including diabetes and HIV management; diabetes prevention; breast, cervical and colorectal cancer screening navigation; immunization; and asthma management, among others.

Clinical and community-based settings have integrated CHWs with great success to facilitate appropriate use of medical care, conduct health education, and connect individuals/families to resources. For example, our partner, Sinai Urban Health Institute (SUHI), demonstrated profound reductions in emergency department visits and hospitalizations; and improved quality of life measures through a series of nine CHW-led asthma interventions.

Despite this, the integration of CHWs in schools is underexplored.

Reimagine, a unique intersectoral partnership between an academic medical center, the nation's third largest school district, and a community-based research institute within a safety-net health system, explores this gap. Guided by a diverse and experienced advisory group and collaborators, *Reimagine* placed CHWs in two Chicago Public Schools (CPS) located within communities characterized by high burdens of asthma - namely, a predominantly African-American neighborhood and a predominantly Latinx/Puerto Rican neighborhood. ***In the model, CHWs are intentionally integrated into the daily operations of the two schools, initially with a focus on asthma, but taking a broader view as the impacts of the COVID-19 pandemic became pervasive.***

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Intentional Planning

Key Considerations

What are the inequities/problem(s) we are trying to address? What do we seek to accomplish? How do we implement it? What is our rationale? Who is a part of the team to build success and what skills do they have? Who are our collaborators?

Key Skill Sets

Various team members had worked together at various time periods over the years. We knew we wanted to address health inequities in schools, overall, and needed to understand the overall programming needs and expertise for the project. These include:

- Policy
- Programming
- Community health
- School health

- Clinical experience and education
- Training/Professional development
- Evaluation and research

Project Team

Tarrah DeClemente, MPH, RDN: Registered Dietitian; Executive Director, Office of Student Health and Wellness, Chicago Public Schools

Jeannine Cheatham, MS, APRN: Advanced Practice Nurse in Pediatric Pulmonary, University of Chicago

Anna Volerman, MD: Associate Professor of Medicine and Pediatrics, University of Chicago

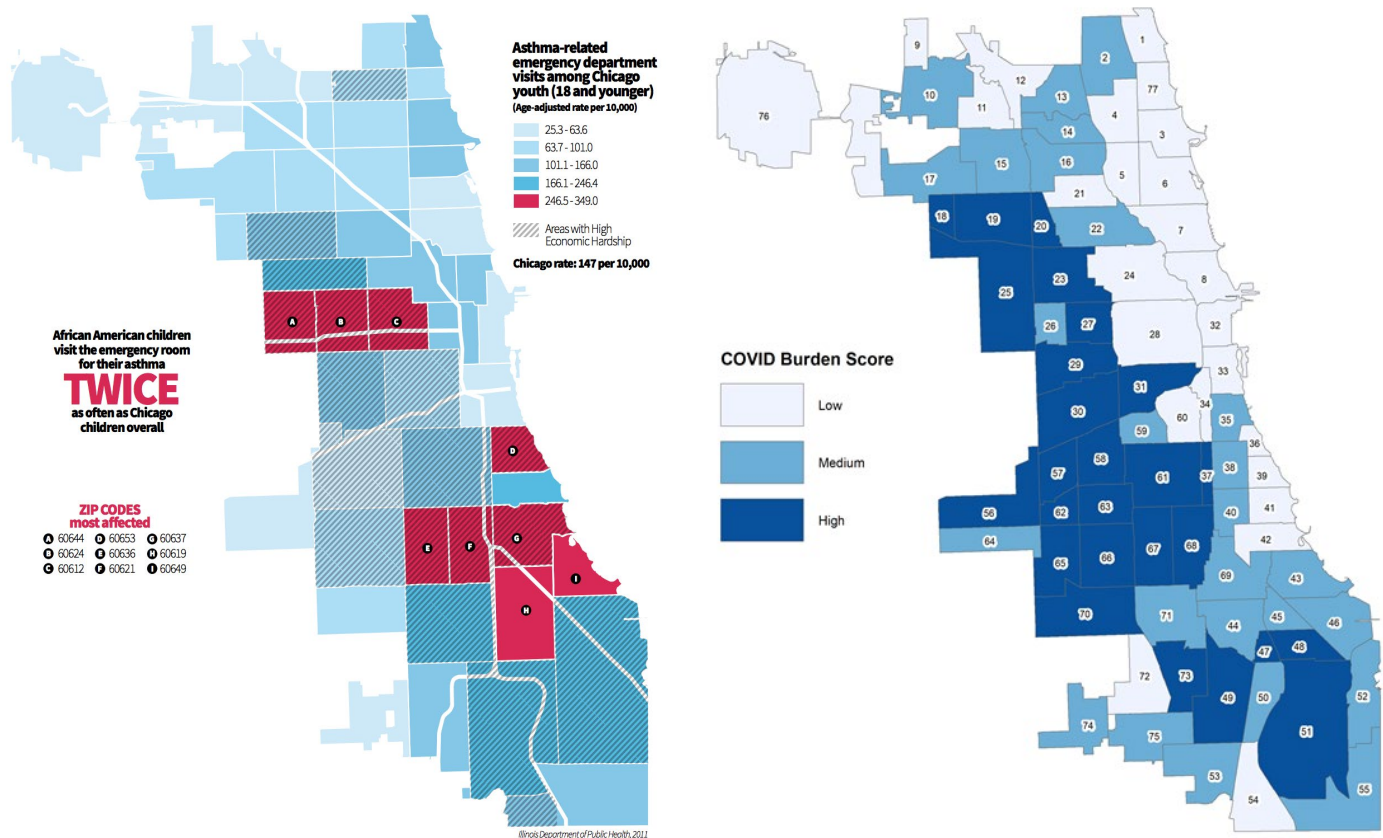**Kenneth Fox, MD:** Pediatrician; Chief Health Officer, Chicago Public Schools (2016-2022)

Stacy Ignoffo, MSW: Social Worker; Executive Director of Community Health Innovations, Sinai Urban Health Institute

Why Asthma?

Asthma is the number one chronic condition in children affecting 1 in 12 U.S. children; and one that is manageable through proper medical management, education, and avoidance of environmental triggers. Poor symptom control leads to disparities on multiple levels, including poor academic outcomes. In Chicago, the health and social inequities between communities are striking and complex, and we could have chosen any range of health conditions to test this model. We chose asthma because of the easy accessibility and starkness of the data in Chicago; and because of previous experience among team members with working on asthma. Data shown on the next page depicts how African American children living on Chicago's South and West sides visit the emergency department for their asthma twice as often as Chicago's children overall. These are broadly the same Chicago areas that are the most vulnerable to the impacts of the COVID-19 pandemic. The profound impacts of COVID-19 to our project and target communities, and our response, are further described.

Asthma-related emergency department visits among Chicago youth (18 and younger)
(Age-adjusted rate per 10,000)

- 25.3 - 63.6
- 63.7 - 101.0
- 101.1 - 166.0
- 166.1 - 246.4
- 246.5 - 349.0

Areas with High Economic Hardship

Chicago rate: 147 per 10,000

African American children visit the emergency room for their asthma **TWICE** as often as Chicago children overall

ZIP CODES most affected
- Ⓐ 60644 Ⓓ 60653 Ⓖ 60637
- Ⓑ 60624 Ⓔ 60636 Ⓗ 60619
- Ⓒ 60612 Ⓕ 60621 Ⓘ 60649

Illinois Department of Public Health, 2011

COVID Burden Score
- Low
- Medium
- High

Why Community Health Workers (CHWs)?

CHWs are community-based, trusted local liaisons who utilize their extensive training to promote a culture of health through health promotion, prevention, and disease management, and serve as connectors between the community and complex systems (including health care and social services). Systematic reviews of CHW-led interventions have shown positive associations between CHW interventions and childhood immunization, infectious diseases, improving TB treatment outcomes, breastfeeding promotion and reducing childhood morbidity and mortality when compared to usual care (Cochrane reviews). Further, the Community Preventive Services Task Force recommends engaging CHWs in diabetes management, diabetes prevention, cardiovascular disease prevention and in screening for breast, cervical and colorectal cancers (www.thecommunityguide.org). Numerous studies have shown the effectiveness of CHW-led asthma management programs.

Since 2000, Sinai Urban Health Institute has implemented and evaluated a series of nine comprehensive CHW-led interventions to decrease asthma-related morbidity and improve the quality of life of inner-city children and adults with asthma and their families. Evaluation findings demonstrate **70-80% reductions in emergency department visits and hospitalizations** and improvements in Quality of Life scores that are statistically and clinically significant across the programs. Cost savings have been substantial, ranging from **$2.33 to $7.79 per dollar spent.**
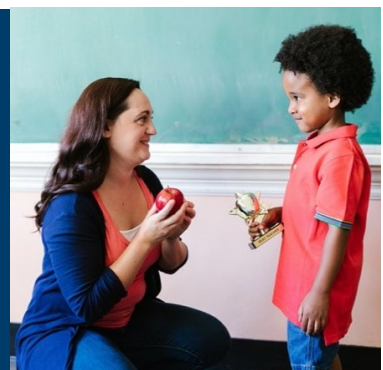
How a **Community Health Worker** helps children with asthma during and outside of school:

Outreach

Make sure all the needed forms are completed so school staff also know the best ways to help the child too. These forms include:

- Asthma Action Plan
- Medication forms
- Self-administration and Self-carry form

Help families get the supplies they need to take care of their child's asthma (like medications, spacers, storage containers)

Support the use of spacers with inhalers. These simple devices help get the medicines to the right place in the body so they work best.

Navigation

Help children and families understand asthma policies in school such as use of medications in school and afterschool programs, Individualized Education Plan (IEP) and 504 Plan, and Asthma Action Plan

Health Programs

School Policies

Connect children and families to asthma resources and general health and wellness programs and supports like health care providers, health insurance (for example, Medicaid), and health-related community organizations

Education

Work with school nurse and staff to educate school staff, teachers, and afterschool program staff on asthma

Help children and families learn about asthma

Visit families individually if they'd like in order to support or advice on how best to take care of asthma there

Make sure that child's Asthma Action Plan is up-to-date and school is aware of any updates

Advocacy

Support families in the IEP and 504 plan process

Advocate for personally customized student plans for in- school use of asthma medications and spacers that fit a student's specific needs

Serve as a connector between families, schools, and communities

504 plan
IEP
medications

A Community Health Worker is a:

Trusted, local person
Someone who sees and understands what the people in a specific place want and need to lead healthy, full lives

Trained connector
Someone to bridge people and health-related resources and systems (to improve access to health care, insurance, food, housing, transportation)

Communicator
Someone who finds and amplifies health messages in plain language that reduce risks and promote and protect health

Partner
Someone who "walks with people" until the job is done to help them solve their health problems faster and better than they could on their own

Community Health Workers help build and strengthen healthy schools.

Why do this?

BECAUSE:
- Healthy students are better learners
- Students learn better in healthy schools

Chicago
Community Health Workers operate all across the globe and in Chicago to promote and protect health.

NOW THEY WORK WITHIN CHICAGO PUBLIC SCHOOLS, TOO.

CPS Community Health Workers link students and families to

People • Places • Things
that promote and protect health among students in schools.

Examples of connections CHWs can make are between students/families and:

CHWs
STUDENTS FAMILIES — HEALTHCARE SUPPORT

- Help with applications for health insurance, nutrition support programs (ie, Food Stamps)
- CPS Office of Student Health & Wellness
- School Based Health Centers
- Mobile Care Providers
- Health Systems (doctors, nurses, and other health specialists in clinics, community health centers, hospitals)

- Insurers who coordinate care (aka Managed Care Organizations)
- COVID vaccination providers and events
- CPS COVID-19 Contact Tracing
- Community-Based Organizations
- Dental, Vision, Hearing, OT/PT services
- Healthy CPS Hotline (773-553-KIDS)
- Chicago Department of Public Health
- School Wellness Teams (groups that work in schools to support a "culture of health")

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reimagine is a project supporting schools as a place for improving the health of Chicago's children through the integration of community health workers.

Why Schools?

First, Chicago's schools have long been recognized as symbolic and social hubs of many communities. The COVID-19 pandemic illuminated other significant operational and health-related functions of schools in compelling ways, which is further described in the *Toolkit*. Given that children spend more than half of their waking hours (and over 1,000 hours per year) in school, that Chicago's schools are the social hubs of many communities, and that Chicago Public Schools (CPS) has a commitment to eliminating health-related barriers to learning through Healthy CPS and other initiatives, this project seemed like a logical approach with a high chance of success.

Healthy CPS is an Office of Student Health and Wellness initiative that seeks to eliminate health-related barriers by providing schools with guidance and support to adhere to state and district health and wellness policies. Healthy CPS encourages collaboration in creating a sustainable school culture of health and wellness and advocates for meaningful inclusion of staff, students, parents and caregivers, and community voice in school efforts.

Second, school-based asthma programs improve knowledge, self-efficacy, and health outcomes. However, these programs have historically been transient, grant-dependent, delivered exclusively by external partners, not scalable in a district of 330,000 students in 600+ schools, and essentially unsustainable. Integrating CHWs into schools builds on what is known about what works, and does so in scalable, more sustainable ways.

Third, the weight of scientific evidence shows that school nurses play a critical role in the success of health programs in schools, and that they are integral to care assessment and delivery in schools and to connecting children to larger systems of care. Their work has a powerful positive impact on child health outcomes, and in turn on educational outcomes. Despite this, only about half of US schools have a full-time school nurse, contrary to national recommendations. An important focus of *Reimagine* has been to develop innovative and effective ways to build partnerships between school nurses and CHWs. CPS School Nurses are involved in shaping the vision of how CHWs can work in schools, and data from school nurses will inform further efforts to integrate CHWs into schools. In sum, the *Reimagine* CHW Model has been built in ways mindful of existing, valuable district assets and enriched by meaningful collaboration between partners who have earned each other's trust.

Funding

This project was funded by the Robert Wood Johnson Foundation Clinical Scholars program, which served as a catalyst to bring three institutions together to bring the idea to life. Importantly, these three large institutions represent three different sectors, and were leveraged for personnel effort, salary and additional project resources and expertise. This approach helps ensure intersectoral collaboration, mutual benefit, and program sustainability. Further, such collaborative work not only accomplishes change for the targeted schools but also catalyzes change in each of the institutions and sectors. School leaders became more adept at partnering with health services scholars and experts in the CHW workforce to "move the needle" on health and educational inequities. Academics learned new, more flexible ways to engage complex bureaucracies to bring ideas and interventions to life in "real world" community settings in sustainable ways. A hospital's community health institute learned how to operate more powerfully in a new community setting (public schools) and how best to disseminate its own deep knowledge, insights and wisdom about CHWs among new audiences. In short, funding was used strategically to transform institutions in ways that accelerate the possibilities of sustainable, systemic change toward the shared mission - which is to promote child health equity and to help build a culture of health through work in schools.

Project work

Key Considerations

What staff do we need to lead/manage the project? What processes should we implement to keep the project moving forward? How should we engage the collaborators? What are the key steps toward moving the project forward? How do we evaluate and sustain the work?

Identify Program Leaders and Processes

Reimagine leaders found it important to create an infrastructure for the team's work together *(Appendix A)*, including determining the meeting cadence and structure as well as creating a document organization and sharing strategy – in our case, Google docs. We also deliberately decided whether we would have in-person vs virtual meetings. *Reimagine* recruited and hired a project coordinator to help keep processes and timelines organized, convene meetings, develop agendas, and assist with data collection, analysis; and reporting and dissemination.

Engage Partners and Collaborators

The *Reimagine* team identified and engaged the following groups of collaborators which we identified as key to the planning, implementation and overall success of the project. Project leaders intentionally considered diversity in terms of demographics and roles. The table describes partners and collaborators, method of engagement, and purpose for their engagement.

PARTNERS	ENGAGEMENT	PURPOSE
CPS Children and Family Benefits Unit (CFBU) Staff	Ongoing meetings with *Reimagine* team	Maintain collaboration, identify challenges and solutions, provide perspective on the strategic direction of CFBU
Nursing leaders	Interviews, small group meetings and advisory group	Information about the development of the CHW model in schools, synergy between the school nurses and CHWs, perspectives on activities for CHWs to focus on in schools
SUHI's Community Advisory Committee	Presentation and discussion at their regular meeting time	Feedback/suggestions on the project's approach from the community perspective, considerations to keep in mind and others we should engage
Asthma experts	Advisory group	Landscape of asthma work in the schools, shared advice and learning, feedback on CHW model and evaluation plan
School staff from identified schools	Interviews *(Appendix B)*	Provide information for the development of the CHW model in schools
Researchers / Evaluators	Evaluation committee	Provide expertise and guidance on evaluation planning
Experienced CHWs	Interviews *(Appendix C)*	Information for the development of the CHW model and CHW training in schools
CPS School Nurses	Survey *(Appendix D)*	Information about work at CPS, areas of support, collaboration with CHWs

Identify Communities and Schools

With 600+ schools within CPS, *Reimagine* used these tactics for school selection *(Appendix E)*.

1. **Review demographic data combined with CPS "networks"**: CPS is organized into numerical "networks" which are outlined in the map on the left below. The map on the right highlights the primary race/ethnicity of students in these areas.

2. **Identify the networks** that fall in a primarily non-Hispanic black population and in a primarily Hispanic/Latinx population. We chose networks 8 and 11 because of these considerations, their proximity to each other, and limited work on asthma in these areas.

3. *Survey schools in the identified networks*: To further narrow the schools, we assessed the schools' experience working with CHWs, key qualities for CHWs from the schools' perspective and how the CHWs can best support the students. We also asked about activities related to asthma care in the school setting the CHWs would focus on and any challenges the schools foresee in integrating a CHW in their schools. Based on the survey responses, we chose two schools.

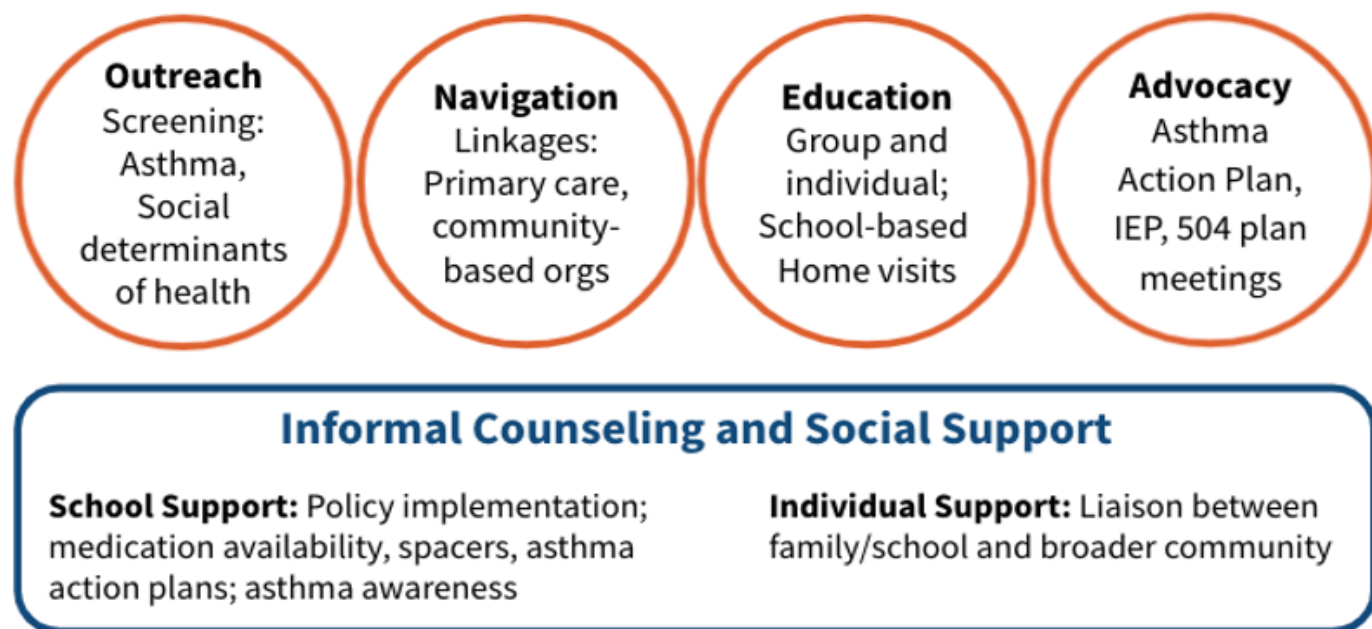## CPS Network Map and Primary Race/Ethnicity per Chicago Region
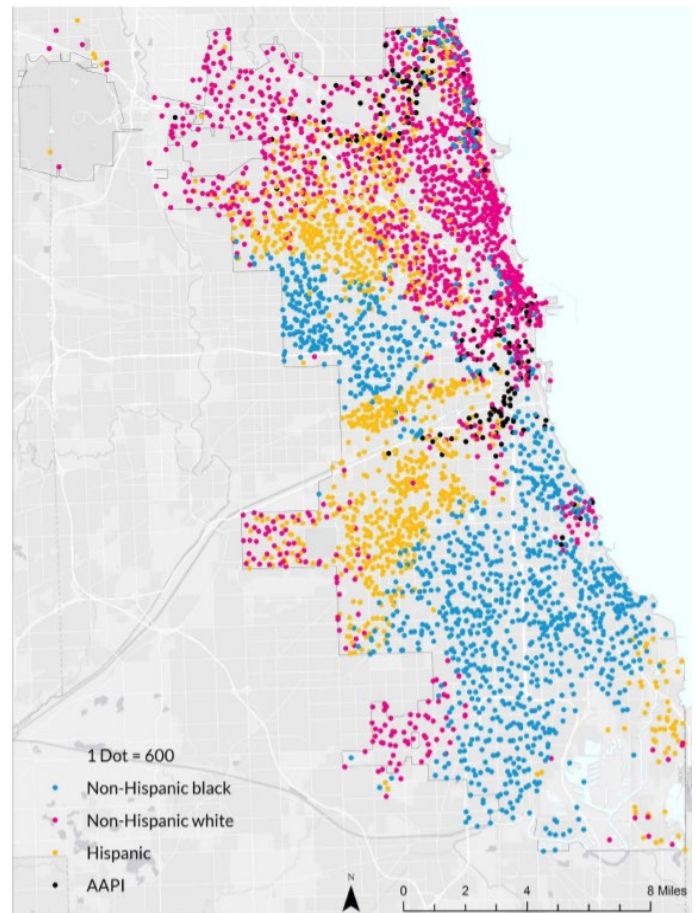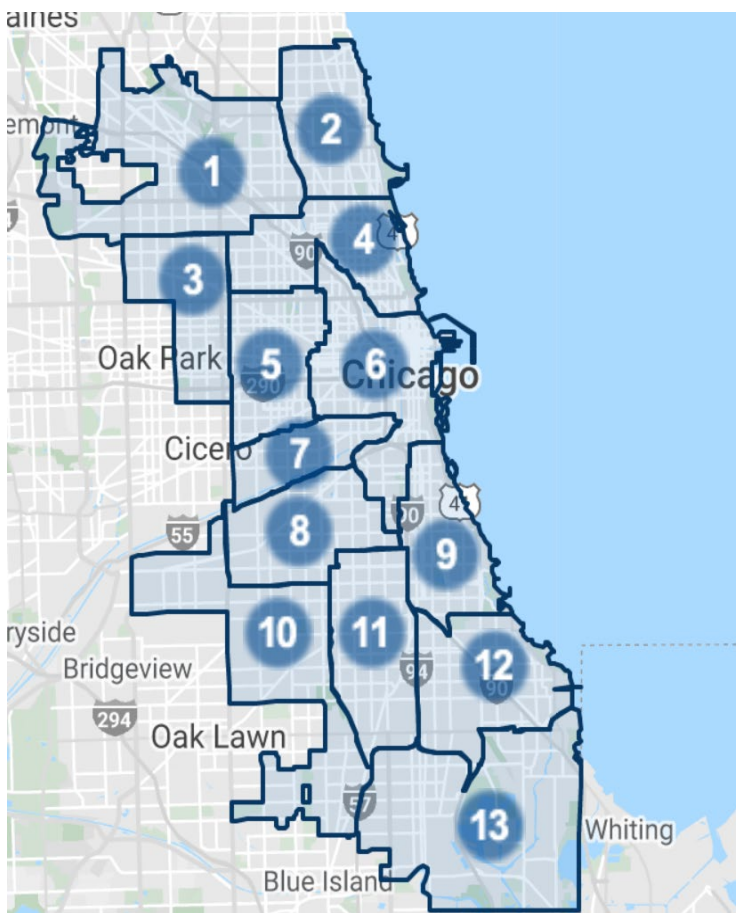
Create Roles and Approach to CHW Work

Reviewing the roles and competencies within CHW practice as defined by American Public Health Association and the CHW Core Consensus project, along with guidance from our key collaborators, we developed the following model for the CHW intervention in schools focused on asthma.

Reimagine's Community Health Worker In Schools Model

Community Health Worker Model

Outreach
Screening: Asthma, Social determinants of health

Navigation
Linkages: Primary care, community-based orgs

Education
Group and individual; School-based Home visits

Advocacy
Asthma Action Plan, IEP, 504 plan meetings

Informal Counseling and Social Support

School Support: Policy implementation; medication availability, spacers, asthma action plans; asthma awareness

Individual Support: Liaison between family/school and broader community

CHW Training

For CHW-related work, we recommend that projects work with an organization that has experience training CHWs, rather than developing its own training. For our project, SUHI comes with 20+ years of experience developing, implementing, evaluating and scaling CHW interventions in a variety of settings. SUHI's Center for CHW Research, Outcomes, and Workforce Development (suhicrowd.org) has trained over 1,700 CHWs locally, regionally and nationally; and has worked with 50+ diverse organizations including health systems, academic centers, community-based organizations, multi-institutional research projects, managed care organizations, and more.

CROWD's training model includes CHW core competency training *(Appendix F)*, along with specialization training (in this case, asthma) and ongoing support opportunities through learning collaboratives. For the asthma-specific module, Jeannine Cheatham, worked with SUHI's team of CHWs who specialize in asthma to update and develop the asthma-specific content.

Throughout the project, it became clear to the *Reimagine* team that a more holistic school-based training will be needed to fully prepare CHWs that work within schools and with schools. *Reimagine* engaged SUHI's learning development specialist to develop this training, based on the findings from CHW interviews.

Hire CHWs and Determine Supervision Model

CPS' Children and Family Benefits Unit (CFBU), provides families with social services support, including Medicaid and SNAP enrollment and utilization; and connects families to resources, such as free and low-cost food, healthcare, and emergency resources. With CPS' longer-term vision of broadening the CFBU workforce, it seemed logical to integrate the CHWs within this unit for supervision. In fact, we trained all of the CBFU staff to be CHWs in order to broaden their scope, skills, and set the department up for future community health work. The CHWs for integration in the two identified schools were CFBU staff.

Determine Avenues for Sustainability

At the start, sustainability was at the forefront of our planning for the project. Utilizing the expertise and partnerships among all of our organizations, we identified the following areas for sustainability and worked with collaborators; who collectively advocated effectively for these changes.

Community Health Worker Certification and Reimbursement

1. Explore whether your state has a CHW coalition and/or efforts organizations have taken to advocate for CHW certification and reimbursement.
2. Become active in local, state, national coalitions.
3. Connect with the National CHW Association.

In Illinois' case, this work began many years ago with the development of a CHW Advisory Board in 2015 to develop recommendations for standards and policies around CHWs in the state of Illinois. With over 10 years of advocacy work, Illinois recently passed Public Act 102-0004 to lead the way toward CHW certification and reimbursement in Illinois. This big success occurred during the span of the *Reimagine* project.

Free Care Policy Reversal

1. Explore how your school gets funding for health-related services.
2. Connect with Healthy Schools Campaign.
3. Determine whether your school district utilizes the Free Care Rule or can utilize the free care rule.

We learned about efforts to reverse the free care rule in Illinois and engaged with the policy experts around this effort. Fortunately, the Free Care Policy Reversal in Illinois also occurred during the span of the *Reimagine* project.

Evaluation and dissemination

Evaluation planning occurred at the beginning of the project, with the convening of an evaluation committee. Together, we developed a logic model *(Appendix A)*, outlining our inputs, activities; and short, medium and long-term outcomes. Planned evaluation focused on the following domains:

CHILD	FAMILY	SCHOOL	WORKFORCE

Due to challenges related to the COVID-19 pandemic, our evaluation activities focused on:

■ Staff interviews in chosen schools *(Appendix B)* to obtain insights on school asthma care, CHW integration in the schools and impact of COVID-19; and to tailor CHW integration to the schools.

■ CHW perspectives on school integration *(Appendix C)* to gain insights on how best to integrate CHWs in schools. Information will be used to develop a school-specific CHW training and interventions in the next phase of the project. Analysis in process.

■ School nurse survey *(Appendix D)* to learn about school nurse roles and insights on the roles of CHWs in the school setting. Distributed, waiting analysis.

Key Insights Obtained from CHW Integration

Expected CHW Roles – Health education, mental health support for school community, and community resource provision for children and families

Facilitating factors for CHW integration – School community's openness to change, intentional introduction of CHW as a staff member, and previously established programs

Barriers to CHW integration – Unclear delineation of CHW role, initial unappreciation of CHW role, and space limitations

Necessary CHW knowledge – Community factors that affect school culture, school culture, and asthma at school

CHW qualities for successful integration – Skills of effective communication, collaboration, and adaptability; and personality trains of openness, confidence, and desire to help

Reimagine has disseminated our ideas about the power and process of integrating community health workers in schools. Thus far these dissemination activities for broad audiences include a project slide deck, poster, infographics, animated video, and TED-style talk. We also engaged other scholars and clinicians at professional conferences by producing abstracts including:

■ Ignoffo, S, et al: "Reimagining Schools as a Place for Improving the Health of Chicago's Children," American Academy of Pediatrics Conference, Council on School Health, Abstract/Poster (Oct '21)

■ Ignoffo, S, et al: "Integrating Community Health Workers into Schools to Move Public Health Forward," Illinois Public Health Association, Abstract/Webinar (Oct '21)

■ Vaughen, S., et al: "A Model of Community Health Worker Integration into Schools: Community-based Participatory Research in Action," American Public Health Association Conference, Abstract accepted for poster presentation (Nov '22)

■ Volerman, A, et al: "The Impact of COVID-19 Pandemic on School-aged Children and Families in Chicago," American Academy of Pediatrics Conference, Abstract accepted for oral presentation, Council on School Health (Oct '22)

Challenges and successes

Though in-person learning was suspended in March 2020 for over a year within CPS, school buildings remained open during this period as nutrition centers (serving over 50 million meals/year) and distribution points for technology devices and other necessary equipment. When in-person learning halted, CPS' 34 school-based health centers suddenly disappeared. Vision, hearing, oral health services suspended. IEP-related nursing and other allied health services (PT, OT, Speech) were disrupted. Social, psychological and counseling services could no longer be delivered in the usual ways. The watchful eyes of teachers and other trained school professionals who are Mandated Reporters of abuse were profoundly challenged. In sum, access to nutrition and to essential health and social services declined in highly evident ways when public schools closed. As a result, hunger rose and child health (medical, mental, social/emotional, and developmental) deteriorated in ways that the public could see. Later, CPS became a critical site for widespread COVID-19 testing (producing over a million tests between January 2021-22) as well as COVID-19 vaccination (producing tens of thousands of doses to CPS staff, students and families).

> **The previously hidden yet inextricable link between schools, child and community health was suddenly made visible.**
>
> We think these profoundly important connections warrant practical solutions to strengthen and protect children and communities. The integration of CHWs into schools is merely a logical response to this challenge in a way that is fully alive to the social determinants of health.

Challenges

- **COVID-19 impact:** The original design of integrating CHW's into two schools was delayed due to the COVID-19 pandemic. Learning was transitioned to virtual learning, with school staff, students and caregivers experiencing significant adaptation challenges that required alternative plans. Overall, CPS students learned virtually from Spring 2020 through the 2020-2021 school year, making it very difficult to embed a CHW into a school that was not open for students to learn.

- **Multi-institutional navigation and coordination:** Three large institutions (Chicago Public Schools, Sinai Urban Health Institute and University of Chicago) all had coordinated efforts and staff on this project. Approval from research/IRB boards, lawyers, and contracts were needed at various stages. There were several timeline adjustments on the project due to these needed approvals. When we changed from our original focus on asthma, we needed to propose several amendments and additions in year two and three, which created delays and challenges to implementing the work we set out to do.

- **Institutional challenges outside project team's control:** During the three years of the project, there were several pivotal moments during which we needed to adapt and change plans due to unforeseeable circumstances. These include staff hired or engaged in the project changed roles, a 2019 CPS teacher's strike, two subsequent labor stoppages in 2021 and 2022 pushed back implementation of the project even further, and some staff who were training as CHW's were redeployed by the Office of Health and Student Wellness to meet the demands of COVID-19.

Successes

- **Developed a CHW Model in Schools:** During interviews and meetings, school staff had shared the importance of having clear, accessible tools to define and describe the role of the CHW and how their skills can best be used. In response, our team developed a CHW Model that can be adapted to place, integrate, strengthen, and highlight the role of the CHW in schools. Importantly,

this was developed with feedback from CHWs and school staff and nurses, who have a vested stake and interest in this work and model development.

- **Trained over 30 CPS staff in CHW Core Foundational Skills:** We hired two CHWs who were already employed by CPS's Office of Health and Wellness as health and social services coordinators. We trained over 30 CPS employees in CHW core skills training, asthma intensive training, and coaching on peer collaboration and other leadership tools. Their CHW-focused training was harnessed to address the immediate needs of the community and advocate for children and families, including COVID testing, tracing, vaccinations, district-wide training on pandemic health and safety protocols, and handling tens of thousands of calls and emails related to the pandemic; and more. Importantly, *Reimagine* is providing important insight into how to leverage these trained staff to broaden their work.

- **Collaborated on successful advocacy efforts:** We identified and supported efforts at the legislative/policy level that will directly impact the sustainability of the CHW roles.

- **Leveraged and provided insights into important shifts within CPS:** CPS has struggled with the problem of inadequate nursing staff, but has taken on the challenge of improving nurse staffing by investing in nursing leadership and doubling down on staff recruitment with the goal of having a full time nurse in every school every day by 2024. This commitment became a top priority in CPS' Office of Student Health and Wellness and its Chief Health Officer. Several key moves began at the top of the organizational chart at CPS; giving focus to building nursing within CPS. A nurse has become the district's Deputy Chief Health Officer, and nursing leadership was further strengthened with newly created positions including an Executive Director, a Director, and expansion from the historical three to now seven Nurse Managers. Over the past three years, the CPS Nursing workforce has increased from about 300 nurses in 2019 to over 500 in 2022.

- **Surveyed families about the impacts of COVID-19 on their daily lives:** We took the opportunity to understand more about how the pandemic has impacted the school communities in which we are working. We adapted the *Epidemic-Pandemic Impacts Inventory (EPII)* and distributed the survey to the two school communities.

- **Distributed asthma kits to families:** With virtual learning, *Reimagine* decided to distribute asthma kits to families with children who have asthma in the two school communities. Kits included a green cleaning kit (baking soda, vinegar, liquid soap, clean spray bottles, tea tree oil, lemon juice, olive oil, sponges, soft cloths); a spacer; bags for inhaler/spacer and asthma action plan storage, and cloth face masks.

Next Steps / Future Directions

1. Develop CHW specialty training focused on CHWs who work within and with schools

2. Monitor changes within CPS and inform transition to broadening the community health workforce

3. Train new staff within CPS' CFBU to be CHWs

4. Consider the pros and cons of centralizing the future CHW workforce within CPS Office of Student Health and Wellness versus working with individual schools or networks

5. Seek funding to study the impact of CHWs embedded in schools

6. Provide insights into the implementation of the Free Care Rule Reversal and Illinois' legislation paving the way for CHW certification and reimbursement

Lessons learned

CHWs as integrated connectors and "uncouplers" and the power of diverse leadership teams to guide them.

First, CHWs are **connectors**. When social networks are activated in this concerted way, enormous gains can be made for children and families. For example, by connecting students and families, CHWs strengthen access to:

- Public health insurance and food security through enrollment in Medicaid and Food Stamps

- A medical home to receive a regular source of high quality care that is comprehensive, coordinated, family-centered, and marked by continuity of care where health is monitored and medications are prescribed, adjusted and refilled in a timely way.

- Culturally & linguistically competent education and care

- COVID-19 vaccines and other necessary immunizations as well as education on avoidance of asthma triggers.

- Advocacy partners who are effective in protecting stable and safe housing.

- Education and support of school staff on how to help students with asthma take care of this chronic condition during the school day. In this way, district policies like Medication Self Carry and Administration, put in place by the Office of Student Health and Wellness, can have more meaningful everyday impact.

> **In short, CHWs through their role as network connectors actually uncouple complex chronic conditions from the social conditions that generate them and from the health and educational harming outcomes these chronic conditions can produce.**

Second, the *Reimagine* **CHW Model is scalable** because of legal and policy reforms we, along with partners, have advocated for. Once implemented, Illinois Public Act 102-0004 will set forth standards for CHW certification and reimbursement. Reversal of the "Free Care Rule," in the purview of the Centers for Medicare and Medicaid Services, now makes it possible for schools to receive reimbursement for health-related services provided to *all* Medicaid-enrolled students– rather than only to those with an Individualized Education Plan (IEP) which represents the special education instruction, supports and services a child needs to thrive in public PreK-12 schools.

Third, leadership and professional development matters–especially in solving large, complex adaptive leadership challenges within systems. Teams that invest in and promote professional development increase their power and strengthen adaptation, creativity and sustainability of novel ideas. Furthermore, relationships within and strengths of teams are countervailing forces against individual burnout in the larger pursuit of health equity. Making fundamental change in institutions in order to promote equity is hard work, long term–perhaps generational– work. But "bending the arc" toward justice becomes attainable when intersectoral teams are catalyzed to work in concerted ways.

Reimagine drove change within each of the sectors involved in the project as we learned to work together during protected, intentional and guided time together toward a common vision of building a culture of health in schools to promote child health equity. We set out on a leadership journey together and bonded as we learned and solved problems as a collective. Other lessons for our team:

- Leveraging each team member's expertise creates an equitable leadership team and centers the partnership on community strengths, co-learning, and stakeholder engagement.

- Adhering to the principles of power sharing and equitable partnerships helps teams navigate the challenges of collaboration between three large institutions.

- Early focus on sustainability helps address unexpected issues, build capacity, and boost advocacy.

- Adaptive leadership is a necessary skill for this complex environment in which we work and continue to work.

- It is important that all collaborators understand the roles and function of the community, and how important it is to maintain the "community essence" of the CHW.

Best Practices

First, invest in a careful, thorough stakeholder mapping and a "landscape analysis" of all the assets that could be available to help make the change you are looking for. A key insight we learned from studying leadership is that adaptive changes build on the past rather than try to erase it.

Do not forget the profound importance of humility. Engage the deliberate practice of listening actively to others in order to learn as you go. An important leadership lesson that resonated in many places and during many periods of our project and the fellowship that supported it was this: "Power shared is power amplified." Serve powerfully with humility.

Change and adaptation of your original problem is expected. Utilize the skills in the Clinical Scholars resources to help you with the pivots and adaptation individually and as a team. Get to know your stakeholders and create a team of advisors i.e. steering committee, mentors, scholar advisees, etc. that will help you to envision the focus of your project and know the influence or purpose you have created as a team.

If possible, early on in the journey of change, hire a project manager for your leadership team to help keep the work organized and on track. Managing the details of agendas, action plans, deadlines and follow up is a tough job that requires the patience of Job– yet it is essential to overall success. Also, make use of a Google Shared Drive (or equivalent) sorted by files that are easily accessible to all.

Protect your creative thinking and brainstorming time fiercely, relentlessly, and without apology. This investment is critical in getting to the best ideas for finding your way and making change– especially under conditions of uncertainty and where the stakes are high.

Appendix

Appendix A: Logic Model

(On next page)

Reimagining Schools as a Place for Improving the Health of Chicago's Children

Situation: Asthma affects one in 12 children and is linked to poor academic and health outcomes. Significant asthma disparities exist with Black and Hispanic youth disproportionately affected. Schools represent an important venue for providing critical resources to optimize asthma management and reduce disparities. Community health workers (CHWs) have been used successfully in clinical and community settings. Thus, a program that fully integrates CHWs in schools represents an innovative approach to promote a culture of health in schools.

Program goals: 1) To improve the health of children by developing, implementing, and evaluating a community health worker program that is integrated within school. 2) To hire and train community health workers to implement an asthma intervention at Chicago Public Schools elementary schools. 3) To address both individual and system level factors to support optimal asthma care.

Inputs

- REIMAGINE team of awesomeness!
- Academic-community partnership
- Chicago Public Schools (CPS) Children and Family Benefits Unit
- CHW Core Skills Training
- CHW Asthma Training
- CHW training on study procedures and data collection
- RWJF funding
- Clinical Scholars training and engagement activities
- Project manager/coordinator
- Evaluation consultants
- Student research assistants
- Key stakeholder partnerships (e.g. community organizations, government)
- Social capital

Outputs

Activities

Program
- CHW model development and adaptation
- Engagement with district and school leadership
- Steering committee meetings
- CHW hiring
- Adapted CHW training (virtual, school module)

CHW services and programming
- Asthma screening
- Delivery of asthma education for students, parents, school staff
- 504/IEP meetings
- School policy implementation (paperwork, medication)
- Home environment assessment
- Referrals
- Social determinants of health screening
- Phone calls with families
- In-person or virtual meetings with families
- Home visits
- CHWs and supervisor meetings

Research-related
- Direct observation of CHW activities
- CHW logging of activities and data collection

Participants

- CHWs
- CHW supervisor
- Elementary school students in Chicago's South and Southwest Side
- Parents
- School staff and nurses
- Teachers
- Principals
- Research assistants
- SUHI staff
- CPS Office of Student Health and Wellness
- University of Chicago
- Steering Committee

Outcomes -- Impact

Short

- Improved asthma knowledge among parents
- Improved asthma management knowledge among CHWs
- Improved CHW self-efficacy
- Increased cultural competency among CHWs
- Increased acceptance of CHW model among school staff and leadership
- Increased number of asthma screening in schools

Medium

- Improved inhaler technique among students
- Improved CHW skills (delivering services, collecting data, providing asthma education)
- Improved asthma control among students
- Increased number of students with access to rescue medication in school
- Increased number of students with asthma management plans
- Increased number of students with asthma discussed in 504/IEP
- Families obtain social and health resources through CHW referrals
- Increased knowledge of asthma policy among school leadership
- Change in policy for funding school-based health services

Long

- Decreased absenteeism related to asthma
- Increased adoption of CHW program across CPS schools
- Increased institutionalization of CHWs in CPS (Long term funding, formal evaluation process, program goals and objectives)
- Healthcare utilization (specify outcomes)
- Decreased asthma disparities among children in CPS

Assumptions

School leadership supports the program and want CHWs to support asthma management at their schools.
CHWs are supported by their supervisors and will receive feedback on the quality of their work periodically.
CHWs have sufficient time to implement the intervention at the selected schools.

External Factors

CPS policies, Medicaid policies
Schools' and communities' needs
Schools' resources
Social and political environment in communities
COVID pandemic disruptions to CPS calendar, school attendance, and CHWs delivery of services.

Appendix B: School Stakeholder Interview Guide

Introduction

Thank you for speaking with me today. I am interested in learning more about your school and medical care in your school. I would like to hear your perspective on experiences with school-based asthma care and on how to integrate a community health worker in schools. It is important for you to know that there are NO right or wrong answers. I am really interested in your honest opinion.

This interview will be recorded so that we have an accurate record of your thoughts. The recording and the transcript will be used for research purposes only and will be kept confidential. Once the recording and transcripts are verified, any identifying information linking the recording to you will be removed. If at any point you feel like the questions are too sensitive, I can turn off the recorder during that portion of the question. You may also skip any questions you wish during the interview.

School Context

To begin, I would like to understand a bit more about your school.

1. *Vision/mission*
   o What is the vision or mission of your school?
     ▪ What are the main priorities?

2. *School culture*
   o How would you describe the culture of your school?
     ▪ By culture, I am referring to general beliefs, values, assumptions that people embrace.

3. *New ideas*
   o To what extent are new ideas embraced and used to make improvements at your school?
     ▪ Can you describe a recent example?

4. *Relationship between school and community*
   o What is the school's relationship with the greater community?
     ▪ How does the school interact with the community?
       ● Can you describe a recent example?
     ▪ What partnerships does the school have with local organizations?
       ● How have these changed due to Covid-19?

5. *Relationship between school and parents*
   o *What is the school's relationship with parents?*
     ▪ How does the school interact with parents to keep them informed?
       ● Can you describe a recent example?
     ▪ How have relationships with parents changed due to Covid-19?

Health and Wellness in School

Next, I would like to learn more about health and wellness in your school.

1. *Current programs*
   - How does your school currently support student health?
   - Which school staff are responsible for supporting health and wellness in your school?
     - Potential staff to ask about: school nurse, social worker, counselor, office clerk.
   - Does your school currently have any programs or initiatives to support student health?
     - Tell me more about these programs/initiatives.
       - When do you they occur? School day, after school, weekends.
       - Who leads these programs? Are there external organizations / partners?
       - What has been the impact of these programs
     - What makes these programs/initiatives successful?
     - What are the challenges faced by these programs/initiatives?
     - How did these programs adapt to serve the students and school community during remote learning in the spring?

2. *Challenges/needs*
   - What are the health issues that students at this school experience?
     - What do you see as the main issues related to student health?
     - What do you see as the main issues related to student mental health?
     - What do you see as the main issues related to student social-emotional well-being?
   - What are the challenges to supporting student health?
   - How might these challenges be addressed?
   - How might these challenges change or what new challenges might arise regarding student health and well-being during remote learning this fall?

Although there are many health and wellness programs that may be important for students at your school, we will be focusing primarily on asthma care this year. We are interested in learning more about asthma care in the school. We are looking for your honest insights. There are no right or wrong answers.

Asthma in School

1. *Asthma impact*
   - How does asthma impact your school community?
     - How does asthma impact <u>affected students</u> in your school community?
       - How does students' asthma impact their attendance in school?
       - How does students' asthma impact their engagement in school?

- How does students' asthma impact their participation in recess or gym/physical education?
  - How does students' asthma impact their social interactions? (bullying, teasing, ostracization, etc.)
  - How does asthma impact the <u>work of teachers at your school?</u>
    - How does asthma impact the classroom environment?
  - How does asthma impact the <u>work of different staff</u> at your school? (principal, school nurses, social worker/case managers, office clerks, counselors, physical education teachers, coaches, after school program staff, etc.)
  - How does asthma impact your school's <u>overall educational goals or priorities</u>?
    - How does asthma care fit into the main priorities or goals of your school?

2. *Asthma management*
   - Tell me about what asthma care currently looks like at your school.
   - Who is involved in asthma care? What is their role/how are they involved in asthma care?
     - Tell me about the role of <u>school nurses</u> in asthma care.
     - How are <u>teachers</u> involved in asthma care at your school?
     - Tell me about the role of <u>office clerks</u> in asthma care at your school.
     - How are <u>social workers/case managers</u> involved in asthma care at your school?
     - Tell me about others (e.g. security guards, teacher assistants) who are involved in asthma care and their role.

To understand more about what asthma care looks like at your school, I am going to ask specifically about different elements of comprehensive asthma care. We recognize that many schools may not have all of these components and we would like to hear about specific ways your school may support these aspects of asthma care.

(parentheses indicate that specific stakeholders who will be asked these questions)
   - How does your school identify students with asthma?
     - (Principals, School Nurses, Case Managers)
     - Who is involved with asthma screening?
     - Are there currently or has there been asthma screening in the school?
       - If yes, tell me more about the asthma screening.
   - What kinds of <u>education</u> does your school provide for students, parents, or staff related to asthma symptoms and asthma care?
     - (Principals, School Nurses, Teachers, Other Staff)
     - Who is involved with providing asthma education at your school?
   - What kinds of <u>policies and procedures</u> does your school have related to asthma?

- ▪ (All stakeholders)
- ▪ Who is involved in reviewing and upholding these policies and procedures?
- ▪ How are these policies enacted in your school?
- o Tell me about how your school <u>manages medications</u> (e.g. inhalers, nebulizers) for students with asthma.
  - ▪ (School Nurses, Office Clerks, Teachers)
  - ▪ Who is involved in medication management at school?
  - ▪ Who administers the medications to students?
  - ▪ When are medications administered to students? (e.g. designated times, anytime, in emergencies)
  - ▪ Are students able to independently carry and administer their medications?
    - ● If yes, tell me about self-carry and administration at your school.
- o How do your school health providers <u>communicate with parents/guardians</u> regarding a child's asthma?
  - ▪ (Teachers, Case Managers, Social Workers, Office Clerks, School Nurses)
  - ▪ Who is involved in communicating with parents/guardians about a child's asthma care?
  - ▪ What information is communicated to parents/guardians about a child's asthma care?
  - ▪ How often and in what situations are parents/guardians contacted or informed about a child's asthma care?
- o Tell me about any <u>communication between school health providers and other</u> <u>medical providers</u> related to asthma care.
  - ▪ (School Nurses)
  - ▪ Who is involved in communicating with other medical providers regarding a child's asthma care?
  - ▪ For which children is this communication done?
  - ▪ What information is communicated?
- o Are there any <u>special initiatives</u> related to asthma care at your school (programs run by outside organizations, home visits, etc.) at your school?
  - ▪ (Principals, School Nurses, Case Managers, Social Workers)
  - ▪ Who is involved – specific programs and people (e.g. children, parents, staff) in these initiatives?
  - ▪ How long have they been in existence?
  - ▪ What services are provide and to whom?
  - ▪ What has been the impact of these programs in your school?
- o Are there <u>other specific aspects</u> of asthma care that your school supports?
  - ▪ (All stakeholders)

- *Asthma successes*
    - What has your school done well in caring for students with asthma?
    - How and why have these activities been successful?
- *Asthma challenges*
    - What are the challenges associated with asthma care at your school? How do they impact asthma management?
    - What do you think is necessary to overcome these challenges?
- *Asthma improvements*
    - In an ideal world, what would you like asthma care at your school to look like?
    - What specific improvements would you like to see related to asthma care at your school?
        - Are there any potential barriers to implementing these specific improvements?
        - What would be the number one improvement needed to better care for students with asthma?
        - Why?

CHW Introduction

We are currently developing a program to integrate a community health worker in schools.

To ensure we are on the same page, the term community health workers is defined as a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy.

While community health workers can help support overall health, the pilot program will focus on asthma.

CHW and Asthma

1. *CHW and asthma management*
    - How might a CHW be integrated into your school to support asthma care?
        - What would this support look like with school in-person? What would this support look like during remote learning?
    - How might they support (list each activity):
        - identification of students with asthma / screening
        - parent education
        - teacher education
        - communication with parents
        - communications between health providers

- social services referrals
- medication management
- allergen management
- other
  - Of the different ways CHWs can help support asthma management, which do you think is the most important in your school?
    - Why do you think that?

2. *CHW and school partners*
   - Who will the CHW work with most closely in your school?
   - Who will the CHW need to partner with outside of your school?

3. *CHW and school/community knowledge*
   - What does the CHW need to know about your school to support asthma care at your school?
   - What does the CHW need to know about the local community to support asthma care at your school?

CHW and Health and Wellness in School Integration

Though this pilot program is focused on asthma, we are hoping to develop a model of a school based CHW program that can be expanded and modified based on each school's specific needs. Therefore, the last portion of this interview has questions focusing on integrating a community health worker into schools to support student health in general.

1. *CHW and general health*
   - *In the beginning of this interview, we talked briefly about the overall health and wellness in your school.*
   - How might a school based CHW support the health and wellness of students?
     - What areas/topics/issues should they focus on? Why these topics?
     - What specific tasks would you like to see the CHW undertake?
     - How might the activities change at different times of a year?
     - How might the activities change with remote learning?

2. *CHW and school characteristics*
   - What would a successful school-CHW relationship   look like?
     - What would this relationship look like during remote learning?
   - Who should the CHW work with within your school?
   - What type of relationship would you like a CHW to have with each of the following individuals at your school? *List each role separately.*
     - administrators
     - teachers
     - students

- school nurses
  - other school staff (office clerk, security, etc)
  - parents
- o What qualities should a CHW have to be successful in forming and nurturing those relationships?

3. *CHW integration challenges.*

   o What challenges might arise when embedding a CHW into your school?
   - Why do you think this will be a challenge?
   - How might the CHW overcome this challenge?

Conclusion

- We have talked about a lot of things. Is there anything you would like to add?

Thank you for taking the time to talk today! We appreciate your honest feedback. This will help us better understand student health and school based asthma care programs as we continue to develop our CHW program.

Appendix C: CHW Perspectives Interview Guide

INTRODUCTION

Hello. My name is _____ and I am a research project coordinator/research assistant at University of Chicago. The purpose of this study is to gather perspectives on integrating community health workers (CHWs) in schools to inform a new program.

We are asking you to participate in an interview because of your experience as a CHW. If you agree to participate, we will ask questions about your experiences as a CHW and how to best integrate CHWs in schools. The interview will take 30-45 minutes. The interview will be audio recorded to make sure we accurately capture what you say. Any information that can identify you individually will be removed. No personal information will be shared. Please remember there are no right or wrong answers to any questions. We want to know what you think.

Participation in this study is optional. Your choice to participate will not affect your relationship with Sinai Urban Health Institute, Chicago Public Schools, or University of Chicago. There is no penalty for choosing not to participate. Your answers will help us to develop this program and prepare for integrating CHWs into schools. There is a chance that I may ask you a question that makes you uncomfortable. You may choose not to answer any questions if you do not wish to.

If you complete the interview, you are eligible to receive a $50 gift card. We will provide you a link to a survey to fill in your contact information. This information will not be linked to your responses from the interview.

If I do not answer your questions or treat you with respect, you may contact my supervisor Dr. Volerman at 773-702-5905. You may also contact the University of Chicago Institutional Review Board at 773-702-6505.

Would you like to proceed with the interview?

Do you have any questions before we start?

During the interview, please avoid sharing identifying information. If you do share identifying information, it will be removed in the transcript before we analyze the information.

<IF AGREES TO PROCEED, PRESS RECORD>

INTERVIEW QUESTIONS

Experience

To begin, I would like to understand more about your work as a CHW.

1. *Background*

   o How long have you served as a CHW?

   o Tell us about your current position as a CHW.

      ▪ What type of organization do you currently work for? (health system, school, public health, etc)

      ▪ Where / in what type of organization do you currently provide CHW services? (clinic, hospital, school, community center, etc)

      ▪ What populations do you currently work with? Which demographics, neighborhoods, or health conditions do you provide services for?

- o Have you had a CHW position before this one? If yes:
    - ▪ What type of organization(s) have you worked for in the past? (health system, school, public health, etc)
    - ▪ Where / in what type of organization(s) have you previously provided CHW services? (clinic, hospital, school, community center, etc)
    - ▪ What populations have you worked with in the past? Which demographics, neighborhoods, or health conditions did you provide services for?

2. *Responsibilities*
    - o What are your responsibilities as a CHW?
        - ▪ What needs are you addressing with the populations or neighborhoods you serve?
        - ▪ How do you address the needs of the community(ies) or population(s) you serve?
        - ▪ What programs or activities do you carry out / implement to address the needs of the community(ies) or population(s) you serve?
    - o Tell me about a typical day or week.
        - ▪ What does your day-to-day work look like?
        - ▪ What are your weekly responsibilities or tasks?
        - ▪ How does this work change? (week to week, month to month, seasons, etc)
    - o Who do you typically collaborate with? Think about collaborations within your organization and outside of your organization.
        - ▪ How did you build relationships with them?
    - o How do you collaborate with the team that you work with to deliver CHW services? (for example, nurses, educators, etc)
        - ▪ Tell me specific parts of your work each day or week when you collaborate with the team.
        - ▪ What helps make the team most effective?
    - o What materials do you use to do your work?
    - o What materials do you need to do your work but do not currently have?
        - ▪ Is there anything you need to do your job better that you don't have access to? If yes, what?
    - o How do you track and record/document your work progress?
        - ▪ What information do you collect to measure your work progress?
        - ▪ How do you use the information you collect for individual clients?
        - ▪ How is the information that you collect utilized for the overall project/program you support? How does your organization use the information overall?

3. *Relationships*
    - o How do you interact with the following?

- Individual clients
- Community
- Team members (e.g., clinical staff, administrators, other CHWs)
- Local organizations

o How did you establish relationships at the start of the project or at the time you started working in your current role?

- With your team
- With individual clients
- With community

o How have these relationships developed over time?

- What has helped you develop these relationships?

4. *Preparation*

o What prepared you for your role as a CHW?

- What training(s) did you complete?
- What information did you need about your work and community before beginning as a CHW?
- Did you have any prior experience that prepared you to serve as a CHW?

o When you first started in this CHW role, what was most helpful for you?

- Why / how did this prove helpful?

o What actions did you take when you first started?

- How did these affect your work?

5. *Effectiveness*

o What has made you effective as a CHW?

- What qualities have been essential for you to be effective as a CHW? Why?
- What skills have been essential for you to be effective as a CHW? Why?
- How have these contributed to your effectiveness?

o What helps you perform your responsibilities as a CHW?

o What qualities have been important for you

- *[List examples of potential responsibilities below, if participant doesn't answer question]*
  - Provide health education to community members
  - Connect community members to resources
  - Collaborate with coworkers
  - Work with local organizations

6. *Challenges/needs*

o What challenges do you face in your role as a CHW? (in current role or prior role)

- How have these challenges changed or evolved over your time in this role?
    - What challenges did you face when you first started?
    - What challenges do you face now?
- How have you addressed such challenges?

CHW integration

We are developing a program to integrate a community health worker in schools to help build a culture of health within schools and address the health needs of students. I would like to hear your insight on how a CHW can be successfully integrated in schools to support care.

1. *Overall role*
    - What role(s) do you think a CHW could play in a school?
    - What would success look like for a CHW serving a school community?
        - How would you assess success?

2. *Focus on health in schools*
    - How can a CHW support a culture of health / healthy environment in school?
        - What actions should a CHW take to support a culture of health in schools?
        - Who should the CHW work with to support a culture of health in schools?
    - How can a CHW support students with chronic health conditions?
        - What actions should a CHW take to support students with chronic health conditions?
        - Who should the CHW work with to support students with chronic health conditions?
    - How can the CHW work with / partner with the school nurse to support a culture of health?

3. *Integration of CHW in school*
    - How can a CHW be most effectively integrated into a school?
        - What actions would it be important for the CHW to take?
        - What actions would it be important for others on the team to take? (like school admin, nurses, etc)
        - What actions would be important to undertake when the CHW is first starting?
    - What should a CHW prioritize in the beginning to successfully integrate into the school?
        - Over time, how should the priorities of the CHW change?
    - How would you know if a CHW has effectively integrated into a school?
        - What are early metrics of successful integration?
    - How should a CHW prepare for supporting a school community?
        - What training(s) should a CHW complete before supporting a school community?
        - What information should a CHW be given about the school and school community before they begin supporting a school?

- What prior experience should a CHW have to prepare them to support a school?

4. *Relationship*
   - What would a successful school-CHW relationship look like?
   - What qualities should a CHW have to be successful in forming and nurturing their relationship with a school community?
   - What actions should a CHW take to develop the relationship with the school community?
   - What would a successful relationship between the CHW and school nurse look like?

5. *Monitoring*
   - How should the work of a CHW in the school be tracked?
   - How can the administrative project team and/or evaluation team get feedback from the CHW most effectively?

6. *Challenges*
   - What challenges may arise when integrating a CHW into a school?
     - How might these challenges be overcome?
     - How might a CHW prevent or overcome these challenges?

7. Insights
   - What should a CHW know before beginning their role in the school?
   - What advice would you give to someone beginning a new position as a CHW within a school?

Conclusion

Thank you for all you have shared so far. We just have a few questions before we wrap up.

- We have talked about a lot of things. Is there anything you would like to add before we turn off the recording?

[STOP AUDIO OR VIDEO RECORDING, WRITE DOWN ANSWER TO NEXT QUESTION]

- I have now turned off the recording – one last question: Are there other CHWs that you would recommend us interviewing?   [RECORD NAME + CONTACT INFORMATION]

Thank you for taking the time to talk today! We appreciate your insights which will help us refine our CHW program.

Appendix D: Nurse Survey

(On next page)

We are interested in learning about your role in school nursing at Chicago Public Schools (CPS) that will inform a program that aims to implement community health workers (CHWs) in Chicago schools to support a culture of health and school nurses.

As such, we are asking you to complete this brief survey. The survey asks you about your work at CPS, areas of support, and collaborations with CHWs. The survey will take about 15 minutes to complete. All information provided will be anonymous. Results will only be shared in aggregate. Your participation is optional. All individuals who complete the survey will have the option to receive a $10 Target e-gift card. You will be re-directed to another form to input your email address for the gift card, and this information will be stored separately from your survey responses.

By clicking "Next Page", you are consenting to participate in the study.

Please direct any questions or comments to Anna Volerman at avolerman@uchicago.edu.

Click "Next Page" to proceed to the survey.

What is your current role at Chicago Public Schools (CPS)?

○ Licensed practical nurse (LPN)
○ Health service nurse (HSN)
○ Certified school nurse (CSN)
○ Nurse manager
○ Other _____

How long have you worked in healthcare?

○ Less than 1 year
○ 1 year or more, but less than 3 years
○ 3 years or more, but less than 5 years
○ 5 years or more, but less than 10 years
○ 10 years or more, but less than 20 years
○ 20 years or more

How long have you worked for CPS?

○ Less than 1 year
○ 1 year or more, but less than 3 years
○ 3 years or more, but less than 5 years
○ 5 years or more, but less than 10 years
○ 10 years or more, but less than 20 years
○ 20 years or more

Do you currently work full time or part time in CPS?

○ Full time
○ Part time

In which region of CPS do you provide nursing services?

○ North
○ Central
○ South

What network(s) do you serve? Select all that apply.

☐ Network 1
☐ Network 2
☐ Network 3
☐ Network 4
☐ Network 5
☐ Network 6
☐ Network 7
☐ Network 8
☐ Network 9
☐ Network 10
☐ Network 11
☐ Network 12
☐ Network 13
☐ Network 14
☐ Network 15
☐ Network 16
☐ Network 17
☐ I'm not sure

In how many schools do you currently provide nursing services?

_____

Do you typically travel between schools during the school day?

○ Yes
○ No

Approximately how many hours do you spend in each school per week?

_____

Has your school assignment stayed the same over the past two years?

○ Yes
○ No
○ Not applicable

Please explain how your assignment changed.

During an average week, what percentage of your time do you devote to the following tasks? Use numbers 0-100. Total should add up to 100.

Providing care to students

_____

Completing documentation and paperwork

_____

Conducting quality improvement

_____

Participating in staff meetings

_____

Connecting with parents

_____

Coordinating with staff

_____

Participating in IEP meetings

_____

Other tasks

Please specify task(s) and percentage(s).

_____

What chronic health condition(s) do you care for among students? Select all that apply.

☐ Asthma
☐ Attention deficit hyperactivity disorder
☐ Diabetes mellitus
☐ Epilepsy / seizures
☐ Food allergies
☐ Heart disease
☐ Mental health
☐ Sickle cell
☐ Other(s) _____

How do you support care for each chronic health condition? (Select all that apply)

☐ Provide direct care
☐ Store and administer medication
☐ Provide case management
☐ Other _____

What challenge(s) do you face in supporting care for chronic health conditions?

What do you need to better support care among students with these chronic health conditions? (Select all that apply)

☐ Internal/external partnerships
☐ Support in care coordination
☐ Training - please specify chronic health condition(s) or skill(s) _____
☐ Continued education (certifications)
☐ Guidelines - please specify chronic health condition(s) _____
☐ Policy changes - please specify _____
☐ Database changes
☐ Other - please specify _____

Please indicate your agreement with the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There is sufficient staffing to support student health in schools.	○	○	○	○	○
I have sufficient time to deliver medical care to students.	○	○	○	○	○
Schools have sufficient health services to support student health.	○	○	○	○	○
Schools have sufficient resources to help nursing staff support student health.	○	○	○	○	○
School/district expectations of your role as a nurse are feasible.	○	○	○	○	○

What are two main challenges you face in your role?

What do you wish you had more time to do in your role?

Which activity(ies) do you need support for in your work?

What resources do you need to better support your work in schools?

A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.

A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy. (APHA)

Have you worked with a community health worker before?

○ Yes
○ No

In what setting did you work in with a community health worker?

○ Clinic or Federally Qualified Health Center (FQHC)
○ Community-based organization
○ School
○ Other _____

What were the main responsibilities of the community health worker?

How did you work or partner with the community health worker?

Please indicate your agreement with the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Schools would benefit from having a community health worker to support student health.	○	○	○	○	○
School nurses would benefit from partnering with a community health worker to support their work.	○	○	○	○	○

In what areas can a community health worker provide support for student health in Chicago schools?

Why may a community health worker not be beneficial for supporting student health in Chicago schools?

In what ways can a community health worker support your work? Consider specific ways to partner or responsibilities that they can take on to support your work.

Why may a community health worker not be beneficial for supporting your work?

What gender do you identify as?

○ Male
○ Female
○ Non-binary
○ Other _____
○ Prefer not to respond

What is your race/ethnicity? Select all that apply.

☐ American Indian/Alaska Native
☐ Asian
☐ Black/African American
☐ Hispanic/Latino
☐ Native Hawaiian/Pacific Islander
☐ White
☐ Other _____
☐ Prefer not to respond

Are you bilingual?

○ Yes
○ No

What languages are you fluent in? Select all that apply.

☐ Arabic
☐ Chinese (simplified)
☐ English
☐ Filipino
☐ Polish
☐ Spanish
☐ Ukrainian
☐ Urdu
☐ Vietnamese
☐ Other

What is your highest degree?

○ Diploma
○ Associates
○ Bachelors
○ Masters
○ Doctorate
○ Other _____

Are you certified as a school nurse? Select all that apply.

☐ No school nurse certification
☐ State certified as school nurse
☐ Nationally Certified School Nurse (NCSN)
☐ Other school nurse certification

We are interested in further understanding how a community health worker may be able to support your work as a nurse in addressing the students' health needs. Would you like to further participate in an interview to share more insights?

◯ Yes
◯ No

Appendix E: School Selection Questionnaire

(On next page)

Community Health Workers in Schools

We are developing a program for community health workers to be integrated in schools. If you are interested in having a community health worker at your school, please complete the following questions to allow us to learn more about how a community health worker could be integrated in your school. The information provided will not affect other staffing or resources at your school.

The term community health worker is defined as "a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy." (American Public Health Association, 2014)

1) *Please rate your level of agreement with the following statement:*

#	Strongly Disagree#	Disagree#	Neither Agree nor Disagree#	Agree#	Strongly Agree
I am interested in integrating a community health worker in my school to help support the health of students.	1#	2#	3#	4#	5

2) Have you previously worked with community health workers (either in or outside of schools)?
   ☐ Yes
   ☐ No

   2a) <u>If yes</u>, in what capacity? Briefly describe your experience. What went well? What challenges occurred?

3) In your school, with which school staff members would a community health worker primarily collaborate? Check all that apply.
   ☐ Nurse
   ☐ Secretary/Office clerk
   ☐ Counselor
   ☐ Social worker
   ☐ Case manager
   ☐ Teachers
   ☐ Other, please specify: _____

4) What knowledge, skills, and qualities would a community health worker need to be optimally integrated in your school?

5) How could a community health worker best support health and well-being among students in your school?

#

#

6) While community health workers can help support overall health, the pilot program will start by focusing on asthma among students. The following questions ask about potential activities of a community health worker in the care of children with asthma at your school.

Please rate your agreement with the statements that complete the following sentence:

It would be helpful for a school embedded community health worker to…

#	Strongly Disagree#	Disagree#	Neither Agree nor Disagree#	Agree#	Strongly Agree
Conduct screenings to identify students with asthma	1#	2#	3#	4#	5
Ensure asthma medication is available in the school	1#	2#	3#	4#	5
Ensure adherence to the school district's asthma protocol	1#	2#	3#	4#	5
Educate teachers and staff about asthma	1#	2#	3#	4#	5
Educate affected students about asthma	1#	2#	3#	4#	5
Educate all students about asthma	1	2	3	4	5
Educate parents about asthma	1#	2#	3#	4#	5
Work individually with students with asthma who have high levels of absenteeism	1#	2#	3#	4#	5
Communicate with healthcare professionals about students' asthma	1	2	3	4	5

7) What is the most important way(s) a community health worker could support asthma care for your students?

8) What challenges or barriers may arise with integrating a community health worker in your school to support asthma care?

9) Please provide any additional information that is relevant to this program.

#

#

Appendix F: CHW Core Skills Training Outline

(On next page)

Community Health Worker Core Skills Training Overview

Sinai Urban Health Institute's **C**enter for CHW **R**esearch, **O**utcomes and **W**orkforce **D**evelopment (CROWD) offers a 40-hour community health worker (CHW) Core Skills training developed by an experienced and multidisciplinary team of CHWs, CHW supervisors, and content experts. Topics align with the nationally recognized CHW Core Consensus (C3) Project (www.C3project.org). In addition to training its own staff, CROWD has trained CHWs from more than 50 organizations throughout Illinois and the Midwest. CROWD uses the gold standard popular education model to conduct trainings. The reliance on active participation from both teachers and learners brings forth knowledge from all participants which enhances engagement, understanding, and provides relevant on-the-job application.

TRAINING MODULE	MODULE CONTENT
Introduction to Community Health & Community Health Workers	• Basics of community health • CHW definition • CHW history • CHW titles and settings • CHW roles
Social Determinants of Health & Advocacy	• Introduction to social determinants of health • Introduction to chronic diseases • Introduction to health disparities • Introduction to advocacy
Principles of Community Health Work	• CHW scope of practice • Ethics and limits of confidentiality • HIPAA • Establishing and maintaining professional boundaries
Cultural Humility	• Definition of cultural humility • Cultural humility tips and tools • Dimensions of cultural humility • Practicing cultural humility in the workplace • Adaptability in the workplace
Health Outreach	• Definition and purpose of health outreach • Levels of outreach and outreach methods • How to approach clients • How to handle rejection • Documenting outreach
System Navigation	• Barriers to health and social system navigation • Steps and tips for successful system navigation • Working with high need clients
Adverse Childhood Experiences (ACEs)	• ACEs and their impact on health • Impact of toxic stress on brain development • How to help build resilience in yourself and your clients • How ACEs relate to CHW work
Social Support	• Social support and social isolation • Social stress • Four types of social support • Ways to provide social support to clients

TRAINING MODULE	MODULE CONTENT
Home Visiting & Client Encounters	• Reasons for home visiting • Conducting a visit – before, during, and after • Challenges of home visiting and client encounters • Personal safety
Patient Self-Management	• Patient Self-Management Model by Corbin & Strauss • Definition and types of patient self-management • Barriers to self-management • Self-management support and tips
Communication Skills	• Importance of effective communication skills • How to build communication skills
Teaching Methods and Strategies	• Health literacy • Considerations for child, teenage, adult, and older adult learners • Teach-back method • Strategies for effective retention and engagement
Motivational Interviewing and Stages of Change	• When to use motivational interviewing • Assessing readiness to change • Four components of motivational interviewing • Motivational interviewing practice
Goal Setting	• Reasons for goal-setting • Essential components of goal-setting • S.M.A.R.T. goal practice • Setting goals in a collaborative and conversational manner
Collaborating with Medical Professionals	• Importance of CHWs' role on the medical team • How to prepare and be confident when communicating • Tips for communicating with medical professionals
Data Collection and Documentation	• Institutional Review Board • CHWs' role in research • Data collection and evaluation process • The do's and do not's of documentation • Client encounter documentation practice
Problem Solving	• Importance of problem solving • Problem solving steps and tips
Stress Management and ConflictResolution	• Stress management and self-care • Burnout Prevention • Understanding conflict and personal styles of conflict • Conflict resolution skills and tips
Presentation and Facilitation Skills	• Fear and public speaking • Tips for becoming a strong speaker • Tips for facilitating