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

Cohort:
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Location:
Chicago, Illinois

Focus Areas:
Disease Prevention & Health Promotion
Early Childhood
School-based Health Care

Wicked Problem Description

Asthma, the most common chronic childhood condition, has been linked to poor academic and health outcomes. Among the one in 12 affected United States (US) children, over half had an exacerbation in the past year, resulting in 13.4 million missed school days, 1 million emergency department (ED) visits, and 140,000 hospitalizations annually. Children with asthma also suffer in school attendance, readiness, and achievement. Significant disparities exist in pediatric asthma. Black and Puerto Rican youth are 2-3 times more likely to have asthma than white children and have 2-5 times higher rates of hospitalization and ED visits, compared to whites. Studies suggest these disparities have changed little over the past decades, including in Chicago, due to numerous complex individual and systems-level factors, making disparities in childhood asthma and its management a “wicked problem.”

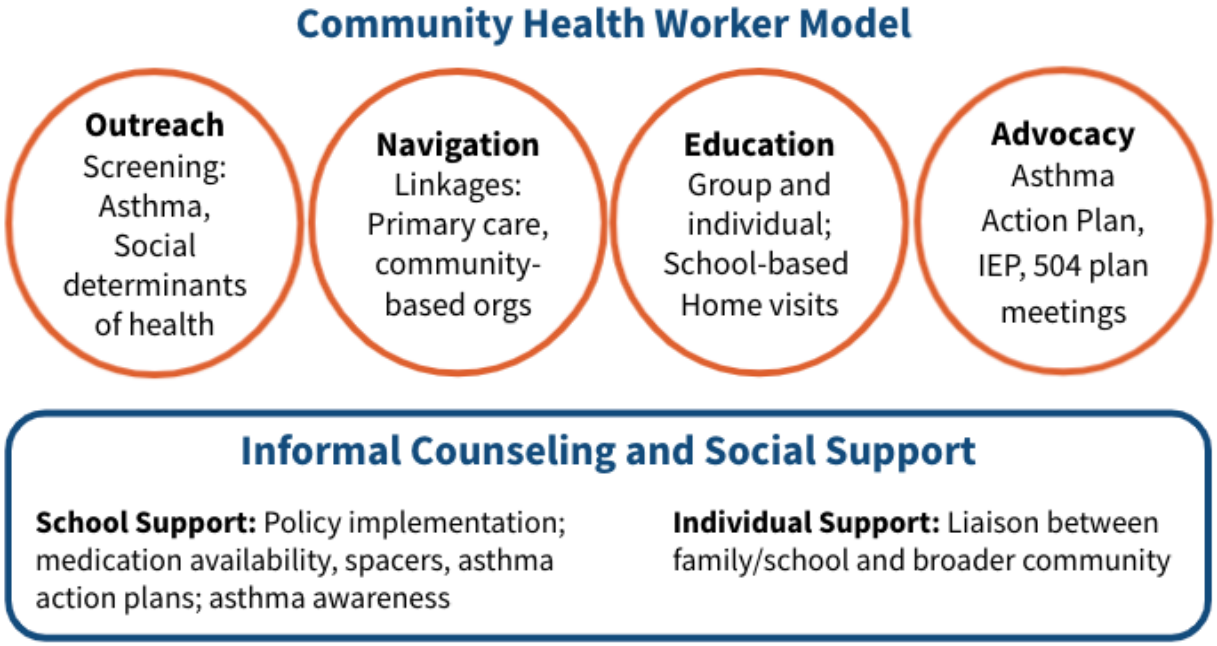
The school environment represents an important venue for providing resources and programs to optimize children’s health and wellness. School-based asthma programs have been demonstrated to improve knowledge, self-efficacy, and at times health outcomes, but these programs are often transient and rely on grants and external organizations to deliver programs. School nurses have also played a critical role in delivering health programs and supporting systems of care in schools, demonstrating positive impact on health and educational outcomes. Despite this, currently, approximately half of US schools do not have a full-time school nurse, contrary to national recommendations. In Chicago, the large and diverse Chicago Public School (CPS) district employs ~300 staff nurses (and contracts with about 250 “agency” nurses) for

over 361,000 students in 640 schools across 800 buildings. The result is that each CPS nurse is assigned to 3-5 schools and is present at each school less than one day per week. This insufficient school nursing ratio and the structural problem of funding for school nursing are important barriers to chronic illness care.

Project Strategies

To address the wicked problem of asthma disparities, in the context of significant school nurse shortages, our team will create an innovative and scalable model that integrates CHWs in school settings. While our long-term vision is to apply the school based CHW model to support children broadly, we will first integrate CHWs into the schools by focusing on asthma care. In this way, we will develop, test, and refine this care model to optimize its feasibility for use deployed to address a high prevalence and high morbidity chronic condition among children.

Our team, with input from a diverse Steering Committee, will develop a model to integrate CHWs in two Chicago Public Schools (CPS) located within neighborhoods characterized by high burdens of asthma, namely African American and Hispanic/Puerto Rican communities. The CHWs, hired by CPS and trained by Sinai Urban Health Institute, will be integrated into the daily lives and operations of these two schools. CHWs will focus on six areas: outreach, navigation, education, advocacy, informal counseling, and social support, as shown in this model.:



The CHW will serve as a connector between the school leaders, nurses, and families. Given the broader impact of the COVID-19 pandemic and recognition of the need to address multiple chronic conditions and social needs that impact health and education, we will focus more broadly than one particular disease. In order to do this effectively, we will refine the model for integrating community health workers in schools. We plan to interview experienced community health workers to understand their perspectives on how CHWs could be integrated in schools, resources needed for CHWs to start their community health work, and tools that facilitate CHWs being most effective. We also plan to engage the nursing team at CPS to further refine the plans for CHW integration in schools with the goal of creating a model with the school nurse as the anchor. Also, we will integrate CHWs in the schools, with the exact structure and function informed by

experienced CHW input as well as CPS leadership and staff input. We will interview CPS staff who completed the CHW core skill training to understand how they integrated this training in their day-to-day work which will inform the integration. CHWs will conduct individualized health education, screening for adverse social determinants of health (e.g., access to primary care, health insurance, housing, utilities, transportation), referrals to care and services, and follow-up. In total, we expect CHWs will reach 200 children, provide individualized outreach to 50 families, and support 100 teachers/staff in a year.

Outcomes

Anticipated **short-term outcomes** include development and refinement of CHW model in school's integration of CHW into schools; increase in education provided to children and families; increase in resources accessed by families; and increased acceptance of CHW model among school staff and leadership.
Anticipated **intermediate outcomes** include improvements in school attendance for children; sustained identification of students with chronic conditions; improved disease control and self-efficacy; improved CHW skills and self-efficacy; and increased knowledge of health policy among school leadership.
Anticipated **long-term outcomes** include development of a model for schools for utilizing and integrating CHWs within a larger health team at school, expansion of model to various disease states, and sustainability plans for incorporating CHWs in the school setting.

Timeline

Year One will focus on infrastructure and model development, including forming the steering committee, developing the model, creating processes and protocols, identifying participating schools, obtaining regulatory approvals, and identifying evaluation metrics and tools.
Year Two will focus on hiring and training CHWs, engaging school stakeholders in refining model, identifying avenues for sustainability, and advocating for relevant policy. Evaluation will also begin in year two in terms of need assessment.
Year Three will focus on refining the model based on experienced CHWs and nursing input, examining the impact of CHW training on school staff, pilot of integrating CHWs in schools and evaluation of impact on students and families. In addition, it will include sustainability planning and dissemination.

Partnerships - (including community partnerships, extended team members, etc.)

Beyond the Clinical Scholars team, the project extends partnership among our organizations - Sinai Urban Health Institute, University of Chicago, and Chicago Public Schools - to conduct research and implement innovative strategies for addressing the health challenges among our families and communities. Our steering committee will include partnerships with parents, clinicians, local school staff, lung health advocacy organizations, and community-based organizations serving the schools with which we are working.

Evaluation Strategies

We will evaluate the impact of the CHW in schools' program on the individual and school level using the RE-AIM framework, often applied to public health interventions. Our evaluation will focus on the program's reach and efficacy, along with the process of adoption, implementation, and maintenance. For each step, necessary resources, facilitators, and barriers will be assessed. Data will be gathered about participation, processes, and adaptations made at each school during CHW integration in the schools and upon refinement. Additionally, we will assess workforce development outcomes to determine the impact of the CHW training and role on the individual CHWs. Data will be collected from: schools' databases of academic and health records; children, parents, teachers, staff, nurses, and administrators through surveys and interviews; and detailed CHW records of their activities and services provided.

Process evaluation includes tracking: integration of the CHW in the schools, # of management plans in school, # of students receiving individualized health education, # of parents and staff educated on health topics, # of students with medications available at school, # of families receiving screening for social determinants of health, # of referrals, and # of home visits. Outcome evaluation will include tracking school attendance, identification of students with chronic conditions, disease control, quality of life, as well as parent and staff self-efficacy.

CHW workforce development evaluation includes measuring: knowledge of CHW core functions and asthma management; skills and capacity; self-efficacy; work engagement; and the acceptability of the CHW among school stakeholders.

RE-AIM Framework	Measures	Methods
Reach	-Children and families reached -Teachers and staff reached	-Attendance and participation -Logs of contacts/services made by CHWs
Efficacy	-School attendance -Disease specific metrics -Knowledge -Chronic disease care and management practices in school	-School records of attendance -Asthma control -Surveys -Interviews of CHWs, nurses, and school administrators
Adoption	-Facilitators and barriers -Resources needed, costs of program	-Surveys of children, parents, teachers, staff -Interviews of CHWs, nurses, and school administrators
Implementation	-Implementation process, climate, and adaptations made	-Surveys / interviews as above
Maintenance	-Resources, barriers	-Surveys / interviews as above

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