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INNOVATION HIGHLIGHT

Working with Community Health Workers for Improved Clinical Care: Overview of Development and Outcomes of a Unique Project ECHO Series

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ABSTRACT

Problem: Maine has seen an influx of immigrants in recent years. Many of these people face numerous barriers to accessing health care. Community health workers (CHWs) are trusted liaisons who help bridge the gaps in care. However, they are newly embedded in the MaineHealth system, so education for care teams is needed.

Approach: Using coproduction, our team developed a unique Project ECHO (Extension for Community Healthcare Outcomes) series that centered community members and CHWs as subject matter experts. A community advisory board guided session development. Participants, interprofessional care team members across MaineHealth, completed questionnaires after each session to rate pre-session and post-session knowledge and confidence in working with CHWs on a Likert scale. Primary outcomes were changes in self-reported knowledge and confidence after the sessions.

Outcomes: A total of 19 sessions were held. The sessions were attended by a wide range of care team members in clinical and non-clinical roles. Applicability of information to participants was high at 4.3/5. The averages of self-reported knowledge and confidence both increased significantly ($P < .0001$) between the pre-session and post-session.

Next Steps: The Project ECHO format supported coproduction and was an effective way to increase knowledge and confidence about immigrant health and working with immigrant communities. Our unique Project ECHO focused on meeting the needs of recent immigrants in Maine, provided a successful educational model for care teams, and ensured that our team amplified the voices and actual needs of the community. The next steps include creating a collaborative community health ECHO with academic and clinical partners across the state with a similar evaluation.

Keywords: Immigrants, Health inequities, Health care team, Health education, Community health care

1. Problem

Over recent years, Maine has seen a growing number of people immigrating from the Democratic Republic of Congo, Angola, Iraq, Somalia, Burundi, Rwanda, and more than 25 other countries.[1] Maine is now home to a diverse community of more than 47 000 immigrants, known as "New Mainers."[2] In Portland, 7604 people are immigrants, comprising 11.2% of the city's population.[3] With such a range of cultures and prior health care experiences represented, immigrants may feel that approaching the US health system is intimidating and complicated. Myriad barriers exist, including immigration status,

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health insurance, transportation, language, and more. Improving health equity requires working to reduce these barriers and improving cultural competence of all care team members.

Community health workers (CHWs) are a valuable resource to do just that. They are trusted community liaisons who help bridge the gap between the health care system and patients' reality.[4] Although CHWs work with a variety of populations with different social determinants of health and countries of origin, CHWs have the same underlying goals. CHWs improve the health care experience of patients and their access to medical and social support, but integrating patients into a health care system is not straightforward. A common challenge is creating clarity about the roles of CHWs.[5] For CHWs to be effective and supported, their role must be understood by providers and other health care workers.[6] In addition, all stakeholders should be involved in implementing workflows that include CHWs to foster widespread awareness and understanding.[6] Although community-based organizations (CBOs) in the Portland, Maine area have a long history of working with CHWs, institutional awareness of CBOs and the role of CHWs is lacking in medical systems. Our program created content to provide this education to clinical and non-clinical care team members across all levels of the MaineHealth organization that had minimal-to-no previous experience with CHWs.

We used the Project ECHO (Extension for Community Healthcare Outcomes) model[7] to provide education, create connections, and bring awareness to the essential role of CHWs. This validated educational model presents a structured, interactive forum for delivering specialty education and training virtually.[7] Based on the "multiplier effect," one expert can develop more than 20 local experts. We adapted this model to a community health–focused project, highlighting CHWs and CBOs as the experts. This paper describes a unique version of Project ECHO titled "Working with Community Health Workers for Improved Clinical Care." Rather than disseminating purely clinical knowledge, this program promotes communication between health care workers, public health professionals, Maine's immigrant communities, CHWs, and other stakeholders. The CHW Project ECHO series aims to involve voices from immigrant communities in educating care teams by sharing their experiences with the health care system. Ultimately, we hope that by fostering understanding of the challenges faced by people in immigrant communities, as well as the role and scope of CHW work, we can provide more culturally appropriate care.

2. Approach

Our primary aim through this unique Project ECHO series was to improve the cultural competency of interprofessional care teams by centering CHWs as experts. The Project ECHO model involves 1 or 2 specialists who educate local providers and staff involved in patient care by combining brief didactics, case-based learning, and discussion.[7] Although the didactic presenters are typically experts in clinical specialties, due to the knowledge gaps present and greater demands of immigrant and community health, our team centered CHWs as the subject matter experts in our Project ECHO: Working with CHWs for Improved Clinical Care.

The Project ECHO planning team engaged in coproduction, meaning involvement of stakeholders in all phases of development, implementation, analysis, and review to determine clear goals for the series.[8] A community advisory group consisting of representatives from local immigrant communities, CBOs, CHWs, advocacy groups, and other organizations involved in the care of recent immigrants coproduced the series with the Project ECHO planning team. Through regular meetings, a list of community-developed topics was created, with learning objectives and questions for each. Topics ranged from introductory topics, such as "immigration status," to complex topics, such as "early intervention for children of immigrants" (Table 1). Because the goal was to improve recent immigrant health experiences, a wide range of audience members were invited, including administrative and clinical personnel, students, and policy makers. The process of session development was iterative. We returned to our stakeholder group with feedback from prior sessions and requests for topics. This approach ensured a coproduced process and project, requiring the input of both community and health system members. Following the established structure from the national Project ECHO, monthly sessions were scheduled. Each session consisted of a sequential series: a 15-minute didactic, a 10-minute discussion, a 10-minute case presentation related to the didactic, and a final 15-minute discussion. At each session, different community experts, CBOs, and CHWs spoke to educate care team members. Many presenters had never presented to such a varied, interprofessional audience in this setting. As such, each presenter required guided practice with members of the core Project ECHO team at MaineHealth to prepare for the official session. In the Project ECHO sessions, a facilitator (generally a preventive medicine fellow)

Table 1. Topics from project ECHO: working with CHWs for improved clinical care.

Session	Topic
2021–2022	Immigrant status and associated stress
	How language barriers affect care
	Access to information
	Social support and resources
	System literacy
	Cultural context: how lived experience affects care
	Food insecurity in immigrant populations
	Getting there: transportation barriers to health in immigrant populations in Maine
	Strain, stress, and stigma: barriers to mental health in immigrant populations in Maine
	The role of the community health worker in Maine
2022–2023	Community engagement, cultural context, and immigration status
	Language barriers: community health workers and medical interpretation
	Collaboration and coproduction: connecting health systems and community care
	Addressing maternal, newborn, and child health concerns
	Early intervention
	Preventive health episode I: vaccination
	Aging out of place
	Stress and stigma - the context of mental health
	Preventive health episode II: routine health visits

Abbreviation: ECHO, Extension for community healthcare outcomes.

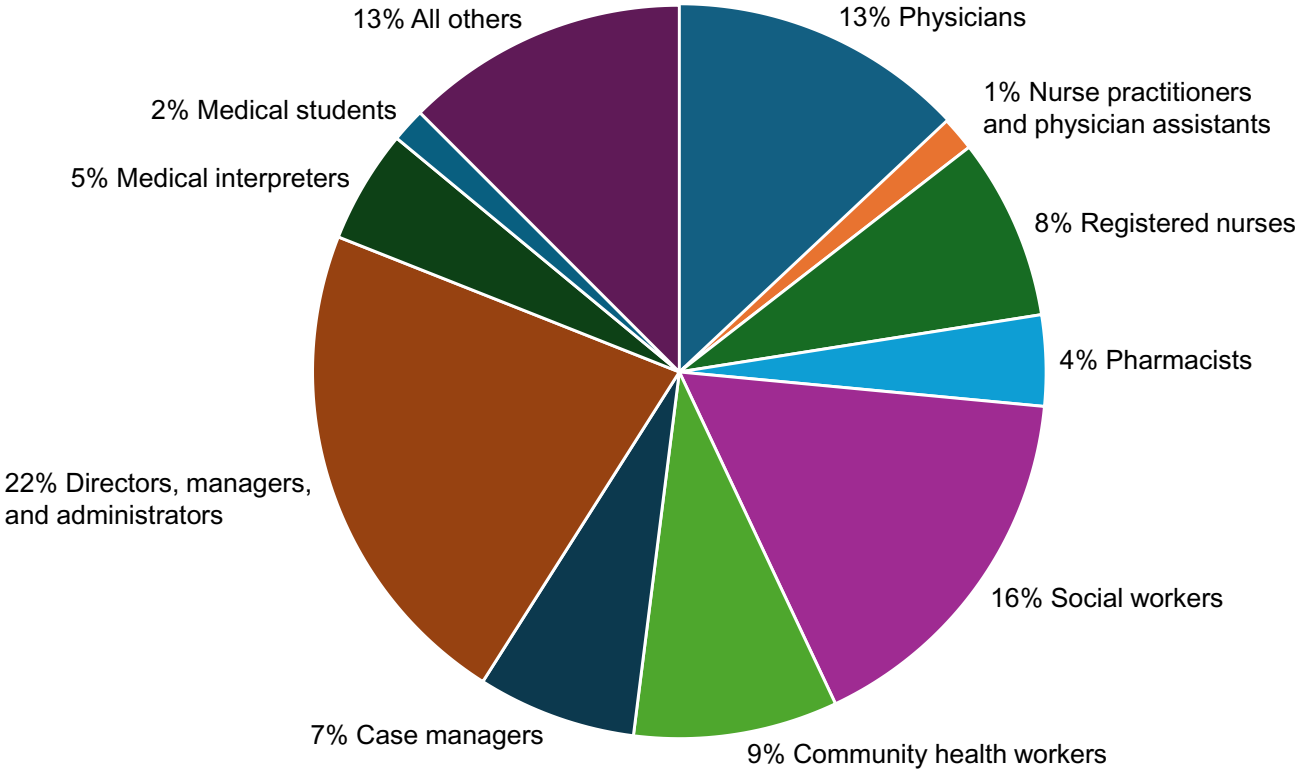

Fig. 1. Percentage of attendees by discipline, 2021–2023.

guided discussion between the attendees and community experts, ensuring constructive conversations within the time constraints. Participants were given with a list of key points after each session.

To track outcomes, attendees (Fig. 1) completed a survey after each ECHO session. Information collected included self-reported applicability of the topic to the respondent's work, pre-session and post-session knowledge about the topic, and confidence in using CHW resources. Applicability of content, knowledge, and confidence were assessed using Likert scales. A 4-point scale was used initially,

Table 2. Change in ECHO session Likert scores.

Survey results	Average	*P* value*
5-Point scale		
Change in knowledge	0.6	<.0001
Change in confidence	0.5	<.0001
4-Point scale		
Change in knowledge	0.3	<.0001
Change in confidence	0.4	<.0001

Abbreviation: ECHO, Extension for community healthcare outcomes.

* Wilcoxon signed-rank test.

but during the first year (February 2022), the MaineHealth Project ECHO Leadership changed all ECHO program scales to a 5-point scale based on participant feedback. Thus, analysis was performed on data from these 2 scales separately (Table 2). The survey also included write-in sections for feedback and suggestions for future topics. Example surveys are included in the Appendix. Basic descriptive data was collected in a web-based database, Smartsheet, organized by the MaineHealth Project ECHO team.

The statistical analysis included summary statistics of demographics of participants, specialty, practice location across the state (urban, rural, suburban), and evaluation response rates. Given the pre-session/post-session structure of Likert-scale surveys to gauge acquired knowledge during this educational format, analysis was completed using Wilcoxon signed-rank test. All analyses were completed using SAS OnDemand for Academics (SAS Institute, Inc.).

3. Outcomes

Two full years of Project ECHO: Working CHWs for Improved Clinical Care were completed in the 2021 to 2022 and 2022 to 2023 academic years. Attendees varied widely, with an average number of 40 per session, including physicians, nurse practitioners, physician assistants, social workers, case managers, office staff, interpreters, and researchers (Fig. 1). The information was overwhelmingly applicable to participants in the series. Respondents indicated that the information was applicable to their daily practice with an average of 3.4/4 (4 = all can be applied, n = 189) on the 4-point scale and 4.3/5 (5 = completely applicable, n = 250) on the 5-point scale.

We shifted the pre-session/post-session survey scale from a 4-point scale for the first 5 sessions of 2021 to a 5-point scale in 2022. As such, we conducted the analysis separately for each scale. In both cases, self-reported knowledge ($P < .0001$) and confidence ($P < .0001$) significantly increased from before to after the sessions (Table 2). Furthermore, the percentage of participants reporting the highest knowledge score (4 on the 4-point scale or 5 on the 5-point scale) increased from 15.3% to 28.2% after the intervention. As for post-intervention confidence, the participants reported the highest score increase from 14.6% to 23.5% (n = 439).

The write-in section for general comments was widely used, with 439 comments collected after 19 Project ECHO sessions. The comments helped to inform future session topics, uncover participants' perspectives working with CHWs and immigrant populations, and highlight participants' gratitude for the sessions.

4. Next Steps

Our Project ECHO series, "Working with Community Health Workers for Improved Clinical Care," adapts the validated structure of the University of New Mexico's Project ECHO to improve the care of recent immigrants.[7] For our care teams, the series increased understanding of barriers faced by immigrant communities and the role of CHWs and CBOs in improving patient care. After 2 years of monthly programming, this ECHO series has reached a wide audience of clinicians, administrators, office staff, researchers, educators, students, medical interpreters, managers, and others. Results from attendee surveys indicate that most attendees believe this information is highly relevant to their work. Also, our analysis of knowledge and confidence scale scores revealed significant increases in both metrics after the sessions. As such, this series provided necessary education on the myriad roles of CHWs and CBOs, while also significantly increasing participant knowledge and confidence in using CHW services.

This innovative educational model is vital, because CHWs and other culturally relevant community resources are crucial to ensuring equitable care for our New Mainer community. Growing evidence highlights the core roles of CHWs.[9] Such studies help to inform education of health care teams about the roles of CHWs, and our educational program brought this education into an interactive format. However, improved knowledge is only part of integrating CHWs into care teams. For teams to be most effective with CHWs, CHW services must be reimbursed to reflect the vital role of CHWs in care teams.

Our strategy of developing content through coproduction—all team members are involved in developing, implementing, analyzing, and reviewing a project—was effective. Working together with community members and CHWs, the intentional elevation of CHWs as the experts sharing the didactic material was widely perceived as a successful method to share this information.

Prior literature indicates that continual training is needed to successfully integrate CHWs into care teams (and thus into health systems).[6] Barriers can include initial confusion about the definition and purpose of a CHW, which eventually breeds conflict between staff members.[9] Other care team members may see CHWs as rivals to their own jobs or as unnecessary hires that offer little clinical benefit. Our intervention seeks to improve that process by reducing the initial confusion and promoting acceptance and value. By highlighting the value of CHWs from their perspective, as well as the community needs and efforts so far, we can reach diverse stakeholders that will benefit from CHWs. In this way, the educational process will help ensure further and more effective integration of CHWs into common health practice.

A limitation of our analysis is that attendees answered survey questions only after the session. Participants were asked to recall knowledge and confidence before the session, which could introduce recall bias and impact the interval change calculated afterward. Also, although we calculated a statistically significant difference between pre-session and post-session scores, we do not yet know if this difference translates to a clinical difference in the care of immigrant patients. Despite these limitations, this unique Project ECHO series provided useful, far-reaching education and highlighted important community voices.

In conclusion, our unique Project ECHO focused on meeting the needs of recent immigrants in Maine, provided a successful educational model for health care teams throughout the network, and ensured that our team amplified the voices and actual needs of the community. Our next steps include a qualitative analysis of participant feedback to further understand areas of strengths and shortcomings within our ECHO series. These comments have already been collected, and analysis will begin in the near future. We plan to continue improving this project to work toward health equity for our diverse community. Eventually, our goal is to propose a study that examines the impact of this intervention on clinical care, such as confidence in caring for immigrants or culturally appropriate dietary counseling. As the project was well-received and had positive results, we also plan to carry this work forward by coproducing another Project ECHO series for other populations that are disproportionally affected by barriers to care.

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