

The Neighborhood Health Exchange: Developing a Community Partnership in Residency

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Abstract

Background The current system of residency training focuses on the hospital setting, and resident exposure to the surrounding community is often limited. However, community interaction can play an important role in ambulatory training and in learning systems-based practice, a residency core competency. The goal of the Neighborhood Health Exchange was to develop a community partnership to provide internal medicine residents with an opportunity to interface with community members through a mutually beneficial educational experience.

Methods Internal medicine residents received training during their ambulatory block and participated in a voluntary field practicum designed to engage community members in discussions about their health. Community members participated in education sessions led by resident volunteers.

Results Resident volunteers completed a survey on their experiences. All residents stated that the opportunity to lead an exchange was very useful to their overall

residency training. Eight exchanges were held with a total of 61 community participants, who completed a 3-question survey following the session. This survey asked about the level of material, the helpfulness of the exchanges, and opportunities for improvement. We received 46 completed surveys from community members: 91% stated that the material was presented “at the right level” and 93% stated that the presentations were somewhat or very helpful. Eighty percent gave positive and encouraging comments about the exchange.

Conclusion Effective community partnerships involve assessing needs of the stakeholders, anticipating leadership turnover, and adapting the Neighborhood Health Exchange model to different groups. Community outreach can also enhance internal medicine ambulatory training experience, provide residents with patient counseling opportunities, and offer a novel method to enhance resident understanding of systems-based practice, especially within the larger community in which their patients live.

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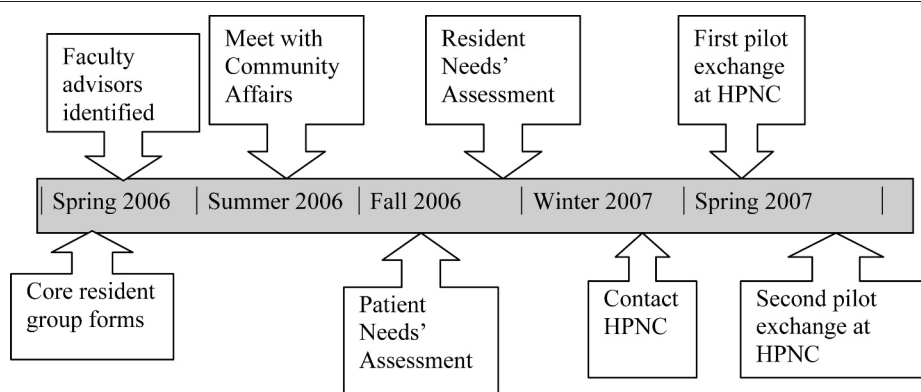


FIGURE 1 | PREIMPLEMENTATION TIMELINE

Introduction

The burden of chronic disease in the United States is increasing, with more than 60 million adults with hypertension and over 24 million adults with diabetes.^{1,2} Internal medicine (IM) residents must be prepared to educate patients about managing these diseases in the outpatient setting. In addition, an understanding of the surrounding community in which patients live is critical to enhancing systems-based practice, a core competency of residency training.³ Unfortunately, accomplishing this goal is especially challenging during IM residency because of hospital service obligations and inadequate time and support for outpatient rotations. Moreover, duty hour restrictions and the funding for graduate medical education provide strong disincentives for programs to offer community experiences not linked to hospital care.⁴ One way to improve ambulatory opportunities and resident education in chronic disease is to use the concept of service-learning to create a sustainable partnership with a community organization.

Service-learning is defined as a structured learning experience that combines community service with explicit learning objectives.⁵ Service-learning also emphasizes reciprocal learning and responds to a community's concerns. Over the last 20 years, academic institutions for health professions have incorporated service-learning into their curricula.⁵⁻⁷ However, few descriptions of such curricula currently exist for residents.

The purpose of this article is to introduce the Neighborhood Health Exchange (NHE), a model for creating and sustaining a community partnership that aims to expose IM resident physicians to the community in which they work while simultaneously fostering a reciprocal learning environment between residents and their patients.

Methods

Developing a Community Partnership: Preimplementation Work

The NHE was developed by a group of IM residents and designed as an educational intervention, targeted at both IM

residents and their clinic patients who predominantly live in the surrounding community. The goal was to provide a mutually beneficial partnership of teaching and learning. The NHE was designed as a primary patient educational intervention based on the widely used health belief model. This model addresses 4 principal components that are critical to effective patient educational interventions: (1) susceptibility to disease, (2) severity of disease, (3) benefits from behavior modification, and (4) barriers to behavior modification. The NHE residents and faculty advisors developed educational topics incorporating these concepts.⁸ FIGURES 1 and 2 present a description of our preimplementation work and a timeline of our progress, respectively.

Addressing Preimplementation Barriers

In designing the NHE, we anticipated several barriers to successful implementation. Given that residents have limited time and competing responsibilities, we recruited senior resident volunteers (postgraduate year [PGY]-2 and -3) to give educational exchanges during their ambulatory rotations. To help gain buy-in, we worked with the ambulatory chief resident to recruit volunteers. To assess resident comfort with patient counseling topics, we performed a baseline needs assessment, described in detail later. Based on these results, which illustrated a lack of comfort with diet counseling, we created a curriculum for residents to focus on patient counseling, specifically for diabetic and Dietary Approaches to Stop Hypertension (DASH) diets.

Initial Development

To maximize the program's chances of success, we formed a diverse team of members who were interested and experienced in community outreach. A group of 3 senior IM residents (B.F., T.B., J.W.T.) and 1 medicine-pediatrics resident (K.T.) formed the initial core team and identified and requested the participation of faculty members (V.M.A., M.S.). Because this was a resident-led initiative, the role of

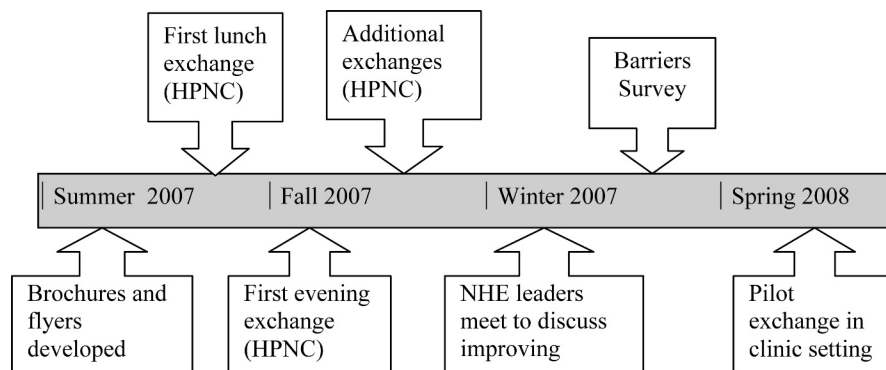


FIGURE 2 | IMPLEMENTATION TIMELINE

the faculty was predominantly advisory in nature. The NHE resident leaders met weekly with the faculty to plan the program, discuss obstacles, and establish how the program would be evaluated. Additionally, given the number of senior residents that would be graduating, we recruited junior residents at various levels (J.C., V.G.P., N.L.).

Collaborating With a Community Partner

To locate a community partner, we first met with the University of Chicago Medical Center Office of Community Affairs in the summer of 2006. Although they maintained a speaker's bureau for health experts to give talks at events, this approach was not feasible as busy residents were often not available on short notice for events. We needed to locate a willing community partner who had physical space and a preset schedule of events to facilitate exchanges. Resident schedule constraints required that we limit our search to organizations that fit these criteria and were close to the hospital. Through one of our faculty advisors (V.M.A.), we connected with the Hyde Park Neighborhood Club (HPNC), which was 4 blocks from the hospital. The HPNC functions as a community center that provides multigenerational recreational and special needs programming as well as gathering space for community groups. Initial meetings with the HPNC were conducted with their program coordinator to identify the programming and educational needs of the club's participants.

Phase I: Evaluation of Baseline Resident Comfort and Patient Knowledge

Residents' Needs Assessment

To assess resident knowledge of counseling for common chronic health conditions, we conducted a needs assessment of resident comfort and practice behaviors pertaining to patient education regarding common diseases (November 2006). The full results are reported elsewhere,⁹ but only a minority (28%) of residents had received prior education in patient self-management. Less than half of residents felt

comfortable with counseling patients regarding diabetic and DASH diets (49% and 46%, respectively). Lack of appropriate educational resources was an important barrier to residents.

Under the leadership of the ambulatory chief resident (T.B.) and NHE core leaders, we revised the PGY-2 ambulatory rotation curriculum by incorporating 2 hour-long seminars that were developed by a senior faculty advisor (M.S.) and focused on practical aspects of patient counseling (ie, basic components of DASH and diabetic diets). Slides and other visual aids were used in the seminars to demonstrate to the residents a more "hands-on" approach when counseling patients.

Patients' Needs Assessment

To assess patient needs, we surveyed a convenience sample of 25 patients who presented with an acute complaint at the University of Chicago Primary Care Group (UCPCG) Urgent Care Clinic (August 2006). This population was selected to gain baseline knowledge for our primary target group. Using open-ended questions, we asked patients to define (in their own terms) diabetes, hypertension, and cholesterol. For each condition, patients were also asked to describe how it affected their health and how they could prevent or treat it.

Phase II: Implementation of Health Exchanges

Pilot Exchanges

The HPNC was in need of educational programs during the lunch meal, "Golden Diners Lunch Bunch," sponsored by the Chicago Department on Aging, which provided an ideal opportunity to pilot our educational sessions and apply our counseling skills with a reliable audience. We piloted 2 exchanges during the spring of 2007. Although faculty advisors assisted in planning the exchanges, the NHE resident leaders (B.F., J.W.T., K.T., T.B.) conducted the sessions. The topics were "Top Ten Misconceptions about Health" and "Heart Health." The exchanges were hour-

TABLE NEIGHBORHOOD HEALTH EXCHANGE (NHE) PARTICIPATION (2007–2008)

Date	Session Type	No. of Participants	Resident Volunteers	NHE Leaders	Topic
8/2007	Lunch	14	0	2	DASH diet
8/2007	Evening	5	2	2	DASH diet
10/2007	Evening	3	1	2	Practical aspects of diabetes
11/ 2007	Lunch	15	2	0	Diabetic diet
2/2007	Lunch	9	0	2	Arthritis
12/ 2007	Evening	1	0	1	Managing arthritis
2/2008	Evening	0	0	1	Cancer screening
4/2008	Lunch	14	2	1	Cancer screening

Abbreviation: DASH, Dietary Approaches to Stop Hypertension.

long sessions with a short presentation by the resident, followed by sufficient time for a question-and-answer session. A hands-on approach was used when possible (eg, the use of food labels to understand sodium intake). During the exchanges, we received positive feedback and learned of the interests of the community members, including requests for additional topics such as arthritis. Encouraged by the success of our pilot exchanges and the connection with a community partner, we focused on 2 additional goals. First, we wanted to engage and incorporate the general IM residents (non-NHE leaders). Second, we wanted to create a venue that would also serve those patients who were not members of the Golden Diners Lunch Bunch but were cared for by our residents in the UCPCG.

Although our pilot exchanges provided a static population of seniors who were willing to listen to the residents and provide feedback and were attractive from a resident scheduling perspective, our educational efforts were not reaching the patients who we cared for in our own clinics. To improve outreach to our own patients, we worked with the HPNC to offer evening exchanges for our clinic patients. The HPNC was willing to provide space for sessions 6 times a year for patients who we would recruit from the resident clinics. Evening exchanges focused on heart health and diabetes self-care, and healthy snacks were provided. Resident clinic patients were recruited through brochures and flyers posted at UCPCG and through education of all residents regarding the option to refer a patient to an evening exchange. Residents on an ambulatory block were recruited to participate in and lead all exchanges.

Phase III: Evaluation of Exchanges

After each exchange, the community participants were asked to complete a 3-question survey that asked about the level of material, the helpfulness of the exchanges, and opportunities for improvement. Additional space was provided for comments. Similarly, resident volunteers

completed a 4-item questionnaire that addressed their level of preparedness for the exchange, their comfort with patient counseling, and the utility of the exchange in relation to their overall training.

To investigate patient barriers to attendance, a 6-item survey was distributed to a convenience sample of 45 patients in our urgent care clinic. The survey addressed the level of awareness regarding the NHE, barriers to attending an exchange, and the most convenient location and timing for the exchanges.

Results

Our initial needs assessment survey demonstrated poor understanding of chronic diseases by our patients. One respondent defined hypertension as a condition “when your exelerated [*sic*], high strung.” Another wrote, “I really don’t know what cholestrol can do to your body [*sic*].” Less than a third of respondents listed any downstream diseases from long-standing hypertension or diabetes.

Implementation of Exchanges

During the 2007–2008 year, 4 Golden Diner lunch sessions and 4 evening sessions (TABLE) were offered at the HPNC. The lunch sessions were attended by 9 to 15 community members per session. The participants were generally well-informed about their health. The Golden Diners were a lively bunch who had specific questions about how to improve their health (eg, “What is the effect of cinnamon on the prevention of diabetes?”). Attendance at the evening sessions was suboptimal, with only a few patients attending these sessions. However, patients who attended received one-on-one instruction on reading food labels and making healthy food choices.

Understanding the Differences in Attendance Between Day and Evening Exchanges

Forty-five patients in our urgent care clinic completed a survey regarding barriers to attendance. The results

demonstrated that the majority of patients (55%) were familiar with the NHE. Interestingly, most patients (72%) were interested in attending an exchange, and 42% stated that the hospital would be a good location for an exchange. Reasons for not attending a health exchange included not enough information about the exchanges, inconvenient times, and lack of interest. The most common reason for not attending was that the HPNC was too far from home or because of a lack of transportation (22%). Forty-seven percent of the patients stated that a convenient time would be between 11 AM and 1 PM, with the next most convenient time being late afternoon (38%).

With this information, we planned an early afternoon exchange at the UCPCG. The session was scheduled for 1 PM and focused on preventing the consequences of diabetes; a healthy lunch was provided free of charge. To alert patients, all patients who had primary care appointments within 2 hours of the session time were called and invited to attend. Five patients were in attendance. Five patients attended this afternoon session.

Evaluation of Exchanges

After each exchange, the community participants were asked to evaluate their experience. We received 46 completed surveys for the evening and afternoon sessions for a response rate of 75%. The vast majority (91%) of participants stated that the material was presented “at the right level.” When asked how helpful the presentations were, 93% of participants stated that the presentations were somewhat or very helpful. Of the 46 respondents, 37 made comments regarding the exchange, all of which were positive and encouraging. Six respondents provided ideas for topics of interest, including alternative medicine and the relationship between health and mood.

Resident volunteers evaluated the exchanges. The response rate for residents was 100% (7 of 7). All residents stated that the opportunity to lead an exchange was very useful to their overall residency training. Comments included:

I enjoyed speaking to this small group of patients about [the DASH diet]. I thought that their questions were helpful to each other, and I felt like they felt support by being together tackling this same problem of diet and nutrition.

Discussion

Our experience with the NHE demonstrates that initiating and executing a community partnership in a residency training program requires equal consideration of the needs of the community and anticipating barriers for resident participation. Although our decision to focus on diabetes and hypertension was drawn on the known burden of these diseases in our community, our patients also had a strong interest in arthritis and cancer screening. Adapting the format of outreach events, including time and location for

different populations, is important. Although residents enjoyed going to the HPNC, this setting did not work for many of the clinic patients seen at the University of Chicago; the hospital was more convenient instead.

We anticipated that sustainability would be an issue among IM resident leadership, and sustaining partnerships within communities is challenging. For example, when our main contact at the HPNC (director) changed in the spring (2008), we had to reconnect with the HPNC to introduce ourselves again and continue our exchanges. Finally, although resident volunteers led the sessions and were available to answer questions, an unexpected benefit to the exchanges was the opportunity to observe patients teaching other patients about the specified topic. Community partnerships can provide residents with patient counseling opportunities and offer a novel method to enhance resident understanding of systems-based practice, especially within the larger community in which their patients live.

A limitation of our study was the inability to measure resident or patient education outcomes. This may be an area of future research; ongoing efforts by our group have resulted in narrowing our focus to allow for ease of sustainability and measurement of improvement metrics, such as hospitalization rates or process measures.

Through our work with the NHE we gained a great deal of experience in developing, implementing, and evaluating this model of patient education. Sustainability was an issue, however, given the drop-off in attendance at later exchanges. Based on this information, we re-examined the topics of the NHE with our faculty advisors at end of academic year 2007–2008 to consider whether we could identify a chronic disease prevalent in the community for which education could be sustained and linked to improved patient outcomes.

Using the concepts of NHE, we launched the Chicago Breathe Project,¹⁰ a multi-institutional resident and community education program that partners with 2 community sites as well as offering resident education at 5 residency programs across Chicago. This program focuses on asthma, which is very prevalent on the South Side of Chicago. The rate of hospitalization for asthma in Chicago is almost double that of the national average,¹¹ but hospitalization rates for asthma on the South Side of Chicago are double those of Chicago's average.¹²

In summary, the NHE represents a model for developing a community partnership with a residency program. This can provide residents with patient counseling opportunities and a greater understanding of the surrounding community in which they practice. In turn, the residents' competence in systems-based practice could be deepened. Furthermore, the patients receiving the education are likely to find the material useful.

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