Resident Education in Free Clinics: An Internal Medicine Continuity Clinic Experience

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ABSTRACT

Background Most internal medicine (IM) residency programs provide ambulatory training in academic medical centers. Community-based ambulatory training has been suggested to improve ambulatory and primary care education. Free clinics offer another potential training setting, but there have been few reports about the experience of IM residents in free clinics.

Objective We assessed the feasibility and acceptability of inclusion of an ambulatory rotation in a free clinic and IM residency curriculum and the advantages of the free clinic setting over the traditional ambulatory clinic model.

Methods In 2010, the University of Chicago Internal Medicine Residency Program partnered with a free clinic in order to establish a community-based continuity clinic experience. To assess the feasibility of this innovation, 16 residents were surveyed 9 months after implementation of the clinic to determine satisfaction, perceived preparation to address common medical conditions, and attitudes toward the underserved care population. A subset of these responses was compared to responses from residents in the traditional clinic model.

Results Residents in the free clinic rotation were more satisfied and perceived they were more prepared to work in low-resource settings and reported similar levels of preparation regarding common outpatient conditions than residents in a traditional continuity clinic format. They reported increased future likelihood of working in an underserved clinic.

Conclusions Our exploratory study suggests free clinics may be an effective platform for community-based continuity clinic training.

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Introduction

Community-based ambulatory training has been suggested to improve primary care recruitment and ambulatory education in internal medicine (IM).[1–12] Currently, most IM programs provide ambulatory training in hospital-based continuity clinics,[13] and there are few studies exploring free clinics as potential community-based IM training settings or the outcomes of this type of community-based training.[14–16] Most published experiences thus far with community-based training have been in family medicine or with medical students.[16–23] Previous experiences have been positive, demonstrating improved culturally appropriate training in underserved populations, high resident satisfaction, and that trainees feel highly prepared for future practice.[14,15,20] Positive workforce implications have also been demonstrated with improved recruitment of high-quality residents and faculty to work in the health centers and graduates who are more likely to work in underserved settings.[21,22] The literature suggests working in a free clinic may help trainees develop an understanding of system-based practice[23] and makes IM residents more likely to choose general IM and practice in underserved settings.[15]

The University of Chicago IM residency program created a new ambulatory training experience in a community-based free clinic. Our aim was to describe our initial experience and outcomes with a community-based free continuity clinic to build evidence in support of training in free clinics as a feasible and valid training platform.

Methods

University of Chicago Community Ambulatory Training Model

In September 2010, the University of Chicago Internal Medicine Residency Program partnered with the nonprofit organization CommunityHealth (CH) to create an ambulatory training experience in a new free clinic in Englewood, IL, one of the most impoverished neighborhoods in Chicago.

We offered the clinic as a new continuity clinic experience for 16 resident volunteers, equally distributed among residency classes. The free clinic was open 2 afternoons a week, and residents were scheduled 1 afternoon a week according to American Council for Graduate Medical Education (ACGME) guidelines.[24] Residents established a continuity clinic panel and saw patients at the clinic for their 3 years of IM residency. Supervision was provided by a dedicated group of faculty preceptors in a 1:4 ratio, consistent with ACGME guidelines. Preceptors were provided by the Section of General Internal Medicine, the same pool of faculty for the main continuity clinic site, and faculty was compensated in the same manner as at the primary clinic site (each half day of resident precepting counted as a half day of direct patient care). Given the absence of patient revenues, the funds to support faculty time were an in-kind donation from the University of Chicago Department of Medicine. CH residents had a dedicated practice group that met monthly with preceptors for didactic sessions. Patients were scheduled by appointment only. Four to 6 continuity patients were booked per resident clinic session depending on their level of training.

CH clinic Englewood has a dedicated clinic manager, nurse, bilingual front desk coordinator, triage volunteers, laboratory with donated services, pharmacy room with free medications, and a remote licensed pharmacy for additional support. Residents are able to provide comprehensive care, including cancer screening, immunizations, laboratory testing, and medications. Specialty volunteers and several Chicago hospitals accept specialty referrals and provide advanced diagnostic testing. Dental care, social services, patient education and nutrition, and exercise classes are also available. Care is free of charge for those who qualify based on insurance status and low income. A registered nurse is present during business hours to address patient concerns and calls and contact physicians as needed for assistance. A nurse manages many patient needs between physician appointments; however, most tasks are managed when residents are present in the clinic. There is no after-hours care. CH residents took turns covering the after-hours pager for the primary resident clinic to gain experience with telephone medicine.

CH clinic Englewood is in the process of implementing an electronic medical record (EMR). Previously, the clinic's system score as measured by the American Board of Internal Medicine Practice Improvement Module Practice System Assessment was 52.75. This score is comparable to the national mean (53) for other IM residency continuity clinics and approximates a Patient-Centered Medical Home Level 2 designation.[13,25]

Assessment

In May 2011, all residents completed anonymous outpatient continuity clinic surveys. This survey has been used in the program for several years and is based on published ambulatory education survey data.[26] We assessed satisfaction, attitudes regarding training, and residents' preparation to take care of common outpatient conditions, using 5-point Likert scale questions ranging from strongly disagree to strongly agree.[26] Additional items pertaining to the CH experience were added for CH residents; these items were based on published studies of working with medically underserved patients and questions created by the authors.[27,28] Several questions had previously been piloted with a group of residents who had a separate elective experience at a federally qualified health center.

Descriptive statistics were examined using Stata version 11 software (StataCorp LP, College Station, TX). Chi-square, Fisher exact, and *t* tests were used as appropriate to compare CH resident responses to non-CH resident responses. No correction for multiple associations was made, and we did not perform power calculations as we could not adjust the numbers of residents in each clinic. The study received Institutional Review Board approval.

Results

In the first 6 months after the free clinic opened, CH residents had 345 patients and worked 1003 hours with sufficient encounters to meet ACGME guidelines.[9] The majority of the patients were African-American (81%), female (59%), and between the ages of 40 and 59 years old (52%). The patient no-show rate was approximately 16%, similar to the IM primary clinic site rate of 20%.

The postsurvey response rate was 94% (15 of 16) for CH residents and 87% (78 of 90) for non-CH residents. Overall, CH residents were more likely to be very satisfied

TABLE 1 **CommunityHealth (CH) and Non-CH Resident Continuity Clinic Training Satisfaction**

Category	No. of Non-CH Residents (%)[a]	No. of CH Residents (%)[b]	*P* Value
Overall satisfaction	7 (9)	10 (67)	< .001
Preceptor continuity	30 (38)	9 (60)	.12
Level of autonomy	67 (86)	15 (100)	.12
Clinic panel size	49 (63)	10 (67)	.78
Amount of supervision	60 (77)	14 (93)	.15
Social support	26 (33)	8 (53)	.14

[a] n = 78.
[b] n = 15.

with their continuity clinic training than non-CH residents (TABLE 1). CH residents and non-CH residents were equally satisfied with several aspects of their experience. CH residents, however, were less dissatisfied with the ability to focus on continuity clinic while on inpatient rotations (27% [4 of 15] vs. 67% [52 of 78]; $P < .01$). CH residents and non-CH residents reported no difference in how prepared they felt to treat several common outpatient conditions[26] (FIGURE).

CH residents demonstrated a high frequency of satisfaction across domains related to care of the underserved (TABLE 2). When asked about positive aspects of the experience, residents commented on exposure to underserved patients, ability to take care of new complaints with more autonomy from specialists, patient education and counseling programs, and strength of the care team. They described fulfillment from their involvement because of the service mission: "The patients are so grateful for the care that we provide. It's a joy to go there, and I look forward to it every week." They also described the impact they could make on patients' care as being positive and superior to other experiences.

The residents' main complaint regarding the CH experience was difficulty following up on studies, referrals, and care outside of the clinic because of the multihospital referral system. The residents also commented upon inefficient aspects of the clinic system, such as triage, medication refill process, paperwork for tests, and waiting times for referrals and studies.

Discussion

Our experience suggests educating residents in a community-based free clinic is a viable option for meeting IM continuity clinic requirements. CH residents were more satisfied than

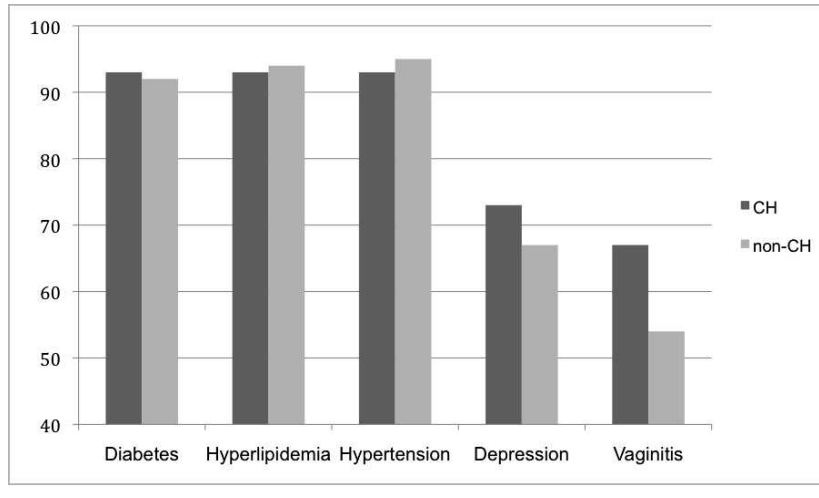

FIGURE **Residents' Self-Reports of Being Prepared to Treat Common Outpatient Conditions**

Percentages of CommunityHealth (CH) residents (n = 15) and non-CH residents (n = 78), respectively, who reported being prepared to treat diabetes (93% [14 of 15] vs. 92% [72 of 78]; $P = .89$), hyperlipidemia (93% [14 of 15] vs. 94% [73 of 78]), hypertension (93% [14 of 15] vs. 95% [74 of 78]; $P = .81$), depression (73% [11 of 15] vs. 67% [52 of 78]; $P = .61$), and vaginitis (67% [10 of 15] vs. 54% [42 of 78]; $P = .36$) were similar.

TABLE 2 **CommunityHealth (CH) Resident-Reported Training Outcomes**

Outcome	No. of Residents (n = 15)	% of Residents Reporting
Would choose to go to CH again	14	93
Would recommend CH to other residents	15	100
Satisfied with patient diversity	15	100
Satisfied with diversity of medical conditions	15	100
Satisfied with quality of teaching	15	100
Agree they are more prepared to work in a low resource setting	15	100
Agree they have a better understanding of health disparities	14	93
Agree they are more likely to work in a similar underserved clinic after working at CH	15	100
Agree they personally want to be involved in providing care for the medically needy during their career	15	100

residents in our traditional clinic model and perceived similar preparation to treat common outpatient conditions. Residents described a heightened understanding of health care disparities and desire to care for underserved populations. These findings are similar to those of previous studies examining the outcomes of community-based and free clinic training.

We hypothesized that CH residents would report higher levels of satisfaction than residents in our traditional model for several reasons. While the level of satisfaction at our traditional clinic site is similar to most academic IM resident clinics,[5,29,30] the CH site has more patient education services, nursing support outside of the clinic, and new patient complaints with less specialty interference. There also may be a greater sense of reward regarding the service mission.

Our study has multiple limitations. The results are based on resident self-reports and not higher level educational outcomes. While data suggest free clinics are a viable training option for selected residents, broader comparison of the free clinic versus traditional training sites cannot be made. CH residents see younger patients and less "complex" problems compared to those at the traditional site; we are uncertain how this may impact their future practice. Although our survey was based on previously published survey data, it was not validated, and we did not correct for multiple associations in our analysis. Thus, further longitudinal study and studies in other programs are necessary to fully examine the effects of free clinics on higher level educational outcomes. We plan to examine the quality of care provided at the clinic and track long-term resident educational outcomes.

Conclusion

IM resident education in properly structured free clinics is a feasible and valid training model and can be highly satisfying for selected residents.

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