



Implementation of an Education Empowerment Team to Promote Education-Focused Conversations in a Student-Run Free Clinic: A Reproducible Model

Shannon M Jager^{1*}; Emily A Hentz, MD^{1*}; MacKenzie L Pairitz^{1*}; Shae N Jansen, MD^{1*}; Javier Sevilla-Martir, MD^{1,2}

¹Indiana University School of Medicine, Indianapolis, Indiana, USA

²Department of Family Medicine, Indiana University School of Medicine, Indianapolis, Indiana, USA

*These authors contributed equally

Corresponding Author: Shae Jansen, MD; email: shjansen@iu.edu

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Abstract

Lack of time dedicated to patient education is a barrier to motivational, empathetic conversations in the setting of high patient volume at the Indiana University Student Outreach Clinic (IUSOC). The Education Empowerment Team (EET) was created to: (1) empower patients through educational conversations and (2) empower a cohort of graduate and health professional students to grow in the skills of motivational interviewing (MI) and patient education. The purpose of this study is to detail the EET implementation model and evaluate the successes and barriers encountered by team members during its first three months of implementation. Fifteen EET members were selected and completed three training sessions. A survey was dispersed to members of the EET after three months of implementation. Thematic analysis of the team's qualitative perception of their role, as well as quantitative evaluation of encountered barriers and training session utilization was completed. McNemar's test was implemented to determine significance. EET members found the MI pre-clinical training to be most utilized ($p=0.02$) and requested a second, 'refresher' MI training later in the year, as well as role-play training scenarios. Members found the public setting of EET encounters to be the largest barrier to effective patient-volunteer relationships. The EET was successfully implemented at the IUSOC from January to March 2020 when COVID-19 restrictions forced clinic closure. The shortened duration of the EET was the largest limitation of the study; yet, the reproducible EET implementation model serves as an effective starting point for the implementation of education-focused teams at student-run free clinics. Future steps involve modifying the EET model, expanding interdisciplinary heterogeneity of the team, and evaluating the impact of EET on patient health outcomes objectively by disease progress and subjectively by patients' assessments.

Introduction

Patient education aims to improve health outcomes through interactive learning processes that incorporate patients' values into psychoeducation, motivational discussions, and provision of knowledge. Patient education is essential in managing chronic health conditions which require multidimensional approaches of care.¹ According to the World Health Organization, 68.0% of deaths worldwide are caused by chronic

health conditions, which fall into four major categories: cardiovascular diseases, diabetes, chronic respiratory conditions, and cancer.^{1,2} There are 4,707 Cochrane Database of Systematic Reviews publications discussing patient education, including reviews indicating that culturally appropriate diabetes education can improve health outcomes and that motivational strategies increase adherence to blood pressure management.^{3,4} Despite the known importance of patient education, there is limited data on how pa-

tient education can best be offered in student-run medical clinics. There are currently over 100 student-run medical clinics in the United States operating in conjunction with medical schools.⁵ These clinics are vital safety nets for underserved populations and can provide quality care and education. However, student run clinics face significant barriers in providing high quality care, such as high staff turnover, volunteer inexperience, and time constraints. These barriers are detrimental to critical components of care, including patient education and intentionality with setting health care goals.^{6,7} There must be a continuous effort to assess and improve the quality of care provided by these clinics.⁸

The Indiana University Student Outreach Clinic

Indiana University Student Outreach Clinic (IUSOC) is a student-run clinic in Indianapolis, Indiana. Ten clinic partners (Dental, Law, Medicine, Nursing, Occupational Therapy, Pharmacy, Physician Assistant, Physical Therapy, Social Work, and an undergraduate health partnerships group – VIDA) collaboratively provide patient care. The IUSOC serves underinsured and uninsured patients in the near eastside of Indianapolis. Specifically, 64.2% of the patient population is uninsured. Additionally, 34.0% of individuals who live in the clinic zip code did not graduate high school and 53.8% are unemployed. The IUSOC cared for 727 patients in 2019 (average of 24 encounters per clinic day) and 246 patients in 2020 (average of 31 encounters per clinic day) before closure due to the COVID-19 pandemic. The IUSOC provides primary care management for many patients with common conditions amenable to motivational interviewing (MI) techniques, including 249 patients with hypertension and 131 patients with diabetes.

Identifying a Need for Improved Education Conversations

Managing patients' chronic conditions requires longitudinal care and lifestyle modifications. However, time constraints at the clinic restrict conversations with patients, promoting non-comprehensive dialogue and potentially

contributing to poor health management and unempathetic patient relationships.

Preliminary unsatisfactory attempts made at the IUSOC to fulfill the need for patient-focused education ultimately led to the development of the Education Empowerment Team (EET). These efforts began as an "education volunteer" position for which volunteers from any clinic partner could serve on a week-to-week basis after a brief on-site training. This position, implemented in January 2019, presented various barriers and challenges, such as the following:

- education volunteers possessed varying levels of medical knowledge and clinical experience
- weekly on-site trainings required clinic managers to be comfortable training the education volunteer and to find time for training implementation
- new clinic volunteers struggled to navigate clinic logistics
- each clinic partner utilizes a separate volunteer sign-up system, making interprofessional volunteering difficult

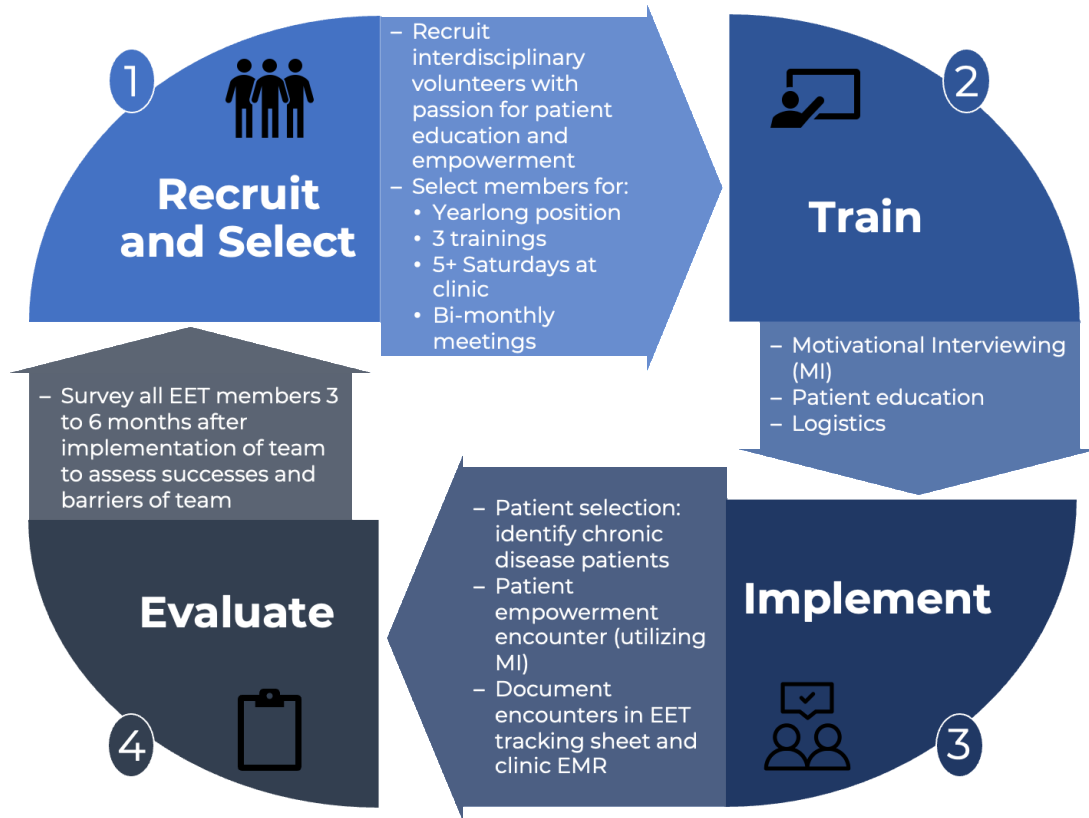
These challenges with the original "education volunteer" position led to the development and implementation of the EET.

The EET aims to address critical components of care including an improvement in patient education,⁶ intentionality to set health care goals,⁷ and an increase in student understanding of patients' conditions.⁹ Overall, the goal of this team is to improve patient health outcomes via: (1) empowering, educating, and encouraging patients in their health journeys, and (2) empowering a cohort of interdisciplinary graduate and health professional students to grow in skills of MI and patient education through this longitudinal volunteer role. This report aims to detail the implementation model of this team and evaluate the successes and barriers encountered by team members during its first three months of implementation.

Education Empowerment Team Creation

Creation of the EET included four major components detailed in Figure 1: recruitment and se-

Figure 1: Creation of the Education Empowerment Team (EET)



Model of the four major components in EET creation: recruitment and selection, training, implementation, and evaluation. The goal of the evaluation process was to identify barriers to effective patient-volunteer relationships and make adjustments to the EET implementation model and curriculum to further improve patient care and empowerment.

lection, training, implementation, and evaluation.

Recruitment and Selection

The Education Co-Chairs on the IUSOC medical executive board implemented the EET in January 2020. Recruitment of team members was initiated via an email application sent to all clinic volunteers from every clinic partner. The application outlined five requirements (Figure 2).

EET volunteer applications were submitted by 21 students. While the original intention was to receive applications from a wide variety of clinic partners, the first cycle of applications represented only the Medicine and Physician Assistant partnerships. The one applicant from the Physician Assistant cohort was selected, along with 14 applicants from the Medicine cohort, for a total of 15 team members.

Training

Members were trained in three sessions (seven

hours total) on MI, patient education, and logistics. The MI training was facilitated by a member of the Motivational Interviewing Network of Trainers (MINT), an international non-profit organization dedicated to improving the quality of behavioral counseling. MI training topics are outlined in Table 1.

The patient education training session reviewed the pathophysiological basics of diabetes and hypertension and provided techniques for implementing patient education. The logistics training session focused on clinic and EET logistics, including documenting encounters in the EET tracking sheet and clinic electronic medical record (EMR), navigating clinic flow, and establishing intra-cohort communication.

Implementation

After completing training, one EET member was present at clinic weekly to engage with patients individually in conversations surrounding

Figure 2. Education Empowerment Team (EET) application description and requirements



IU Student Outreach Clinic

2020 Education Empowerment Team Application



Email to Education Co-Chair, Shae Jansen (Shae's email was here) by Sunday, October 13th at 11:59pm.

Role Description:

The Education Empowerment Team will be 10-15 students who work with the Education Co-Chairs. The goal of this team is to empathize with, empower, and educate our neighbors. The team will be trained in motivational interviewing, patient education, and other helpful skills to create relationships and walk alongside our neighbors in conversations about their health.

Requirements:

1. Enthusiasm for spending time with our neighbors at clinic
2. Year-long commitment to position (Jan 2020-Dec 2020)
3. Attend 3 training sessions – motivational interviewing, patient education, logistics (1-3 hours each)
4. Bi-monthly meetings with Education Empowerment Team and the Education Co-Chairs
5. Volunteer as Education Empowerment volunteer at least 5 Saturdays during the 2020 year

Application introduction and requirements for EET member candidates. The accompanying QR code links to the full application for more detailed information.

Table 1. Motivational Interviewing (MI) training

Topic	Description
Stages of Change Theory	How to identify and educate patients during each stage (pre-contemplation, contemplation, preparation, action, maintenance, and relapse).
Reflective Listening	A skill that demonstrates empathy by listening and restating what the patient is saying.
MI Core Values	Partnership, acceptance, compassion, evocation, and affirmation.
Conversation Strategies	For example, asking permission before advice-giving.

Table 1 describes the main MI topics covered during the training session by a Motivational Interviewing Network of Trainers member

their health. The team utilized a template to maintain the EMR and intra-cohort tracking documentation to follow patient goals longitudinally (Figure 3). The “education notes” in the EMR foster inter-partner collaboration surrounding education development and goal progress. The intra-cohort communication includes a HIPAA-compliant Microsoft Excel sheet that documents longi-

tudinal assessments and progress. A collection of resources for supplementing conversations was compiled into a Resources Binder. Resources include graphics about chronic diseases like diabetes and hypertension, a culture-specific nutrition counseling guide, and conversation guides for frequently discussed topics.

Evaluation

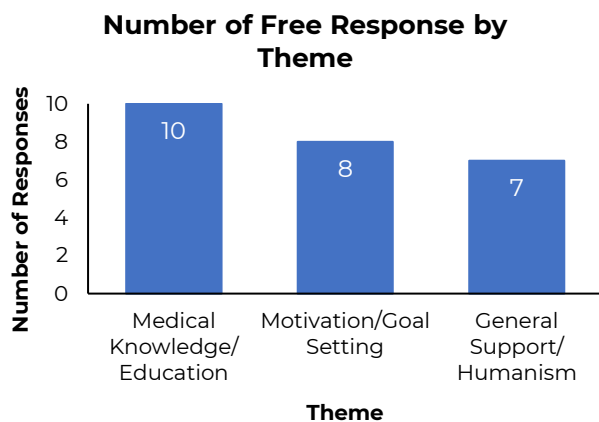
After three months of implementation, an electronic GoogleForms (Version 0.8, Google, Mountain View, CA) survey was distributed via email to EET members to evaluate perceptions of their role and gather feedback regarding preparedness, successes, and barriers of the team. A reminder email and text message were sent to each individual a week after initial survey distribution. This voluntary, anonymous survey addressed qualitative and quantitative data. Qualitative data included multiple choice and free response questions about the EET role, training sessions, and team resources. To evaluate the utility of training sessions, respondents were permitted to select which training session(s) they utilized

Figure 3. Education Empowerment Team (EET) encounter documentation template

Template	EET Member Reflection Template
<p>*Date of encounter: *Did we meet old goals?: *What are the new goals?: 1. 2. *Reasons to change stated by patient: *Importance (1-10)? *Confidence (1-10)? *Return visit, did these numbers change?: -What helped most?: -What were your neighbor's barriers to achieving last visit's goal(s) (knowledge, transport, financial, motivation, social support, etc): *Topics discussed: *Did you hand out BP/BG log? *Did neighbor bring back a BP/BG log? *Relevant lab values: A1C: BP: *Approx. length of conversation: *Additional pt info (meds, relevant hx, etc): *Education volunteer:</p>	<p>*What were your knowledge gaps or other barriers?: *What resources did you use?:</p>

EET Encounter template which highlights MI principles and focuses on goal setting and barriers. Team members also document their own knowledge gaps and barriers (right column) in the intra-cohort Microsoft Excel sheet.
 BP: blood pressure; BG: blood glucose; pt: patient; hx: history

Figure 4. Responses to “How would you describe your role as an EET member?” (n=13)



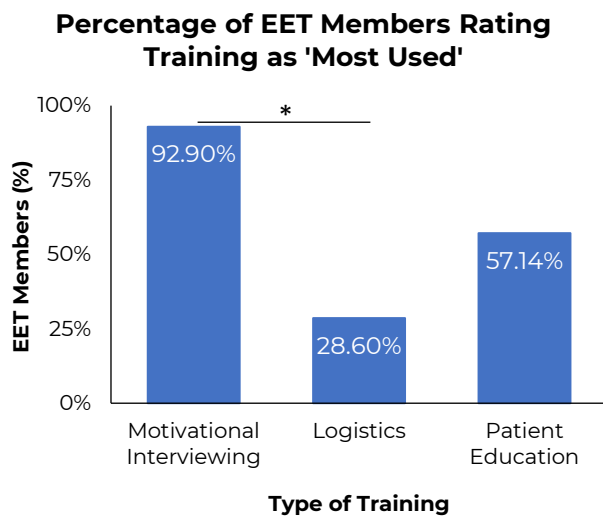
Thematic analysis of the free response answers. One response (“EET Team Member”) was excluded due to incorrect interpretation of the question.
 EET: Education Empowerment Team

most during patient encounters. Quantitative data included a Likert scale addressing barriers to building relationships with patients and observed gaps in knowledge and skills.

Statistics

A thematic analysis of survey responses and descriptive statistics were performed using Microsoft Excel analysis tools. To determine significance in the utility of the training sessions, a pairwise comparison among the three sessions was completed using the McNemar’s test for paired proportions, comparing two session types at a time. Statistical analyses were performed using MedCalc for Mac, version 19.4 (MedCalc Software, Ostend, Belgium) and Microsoft Excel (Microsoft Office 365 2021, Version 16.48, Microsoft Corporation, Redmond, WA) with an alpha-level of $p \leq 0.05$ used for statistical significance.

Figure 5. Utilization of Education Empowerment Team (EET) training sessions (n=14)



The percentage of EET members who reported that they consistently used each respective team training session. Note: respondents were permitted to select more than one training session.

*denotes a significant difference compared to the logistics training session using McNemar's pairwise proportions test.

Results

Survey responses were collected from 14 of the 15 EET members (n=14).

Thematic Perceptions of Role:

EET members were asked to summarize their perceived role with free responses, which ultimately aligned with three themes: medical knowledge/education, motivation/goal setting, and general support/humanism (Figure 4). Commonly used words in the free response answers included 'health,' 'patients,' 'neighbors,' 'support,' 'goal,' 'motivation,' 'questions,' and 'journey'.

Included are two of the free response answers incorporating all three themes:

Member 1: "To be a support for patients, answer their questions as well as helping them understand and set goals to improve their health."

Member 2: "My job is to help explain medical terminology, motivate change, and support the neighbors who visit the clinic."

These quotes highlight EET members' perceived role.

Training

EET members selected the training sessions used most frequently in their role: 13 members (92.90%) selected the MI training session, 4 (28.60%) selected the logistical training, and 8 (57.14%) selected the patient education session (Figure 5). The McNemar's pairwise analysis highlighted a significant difference between reported utilization of the MI and logistics sessions ($p=0.02$). There was no significant difference between utilization of MI and patient education sessions ($p=0.06$), nor patient education and logistics sessions ($p=0.29$).

Suggestions for training improvements included the following:

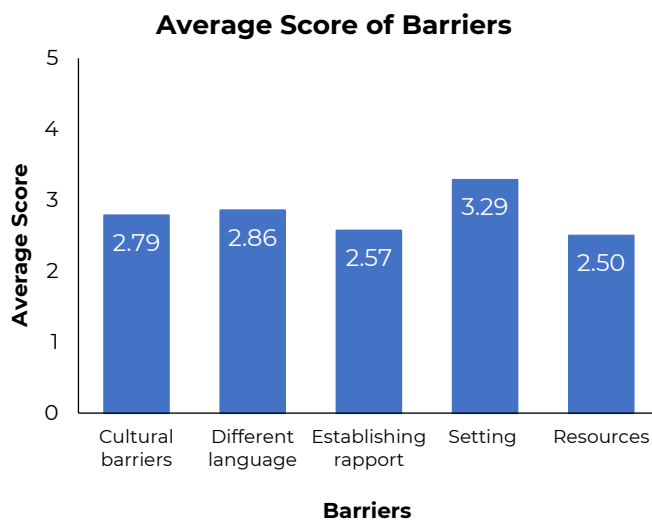
- supplementary training in EMR documentation (suggested by three EET members)
- role-play training between an EET member and standardized patient actor (three members)
- in-depth training about goal-setting for common chronic diseases (four members)
- recurrent MI training to refresh and refine skills (three members)
- opportunity to shadow an already trained EET member prior to independently fulfilling the role (one member)
- periodic EET meetings to discuss successful strategies (one member)

Barriers

Barriers to effective and meaningful patient encounters included: cultural, language, establishing rapport, setting (i.e., location and environment of patient encounters), and resource barriers. Barriers were ranked from encountered very rarely (1) to very often (5). Setting was reported as the most frequent barrier, followed by language, culture, establishing rapport, and finally, resource barriers (Figure 6). There was no significant difference in reported frequency of barriers ($p=0.21$).

Members commented that a quieter and more private space would improve relationship building. Several members noted that a lack of

Figure 6. Barriers to effectively building relationships with patients (n=14)



Average responses (on a Likert scale 1-5) of how frequently barriers to effective relationship-building during EET conversations were encountered. Setting includes loud noises and location at clinic.

Table 2. Suggested additional resources

Resources
Pictures/diagrams to supplement EET explanations of diagnoses and treatments
List of healthy food substitutions
Detailed, low budget diet outline (including breakfast, lunch, and dinner)
List of at home exercises
Information about infertility
Community resources for domestic violence
Blood pressure logs
Blood glucose logs
Reference guide with example goals for each chronic disease commonly seen in clinic

EET member suggestions for additional resources present in the Resources Binder used during EET conversations.

continuity between the patient and EET member interfered with establishing rapport. Additionally, several members suggested pairing patients with EET members who have knowledge of the patient’s language and culture to foster more effective patient-volunteer relationships.

Resources

A common sentiment regarding resources was that lack of familiarity with the Resources Binder limited its use. Some members provided handouts to every patient encountered, while others never provided handouts. Suggestions for ways to expand the Resources Binder are included in Table 2.

Other Improvements

Emphasizing the role of the EET in clinic to non-EET clinic volunteers was suggested to improve team visibility and utilization. Another suggestion was to have two EET members at clinic in order to serve more patients.

Discussion

High patient volume coupled with the complex logistics required to maintain clinic function can interfere with meaningful, empathetic conversations between patients and volunteers at student-run free clinics. Patients may leave with unanswered questions, unaddressed fears, and uncertainty about the management and progression of their diagnoses. Patients may never receive education as to why their personal interest and effort in health management is important, depriving them of an opportunity to become empowered in their health care. The IUSOC addressed this shortcoming by creating the reproducible EET model, consisting of an interprofessional application and selection process; training in MI, patient education, and logistics; implementation into clinic flow; and subsequent evaluation of the team.

After several months of implementation, survey results from EET members provided direction for improvement. In summary, member descriptions of the EET role exemplified the focus on personalized dialogue with patients to empower health management journeys. The MI training session was highly valued and could be considered as an option available to all clinic volunteers in the future. Additional training requests included in-clinic shadowing sessions of current EET members and role-playing scenarios. Members reported that the greatest barrier to effective patient-volunteer relationships was the lack of private settings for patient encounters. Gen-

eral improvements suggested by members included expanding patient education resources and providing the opportunity for two, instead of one, EET members to be present at clinic.

The multi-session trainings, succinct resources available for EET utilization at clinic, and implementation of two members present each week supports the multidisciplinary team composition. This collaborative approach allows members to develop knowledge outside their scope alongside their peers and under guidance of faculty.

Future Direction and Recommendations for Similar Initiatives

This study serves as a reference for the implementation of EETs at student-run free clinics, as there is currently little literature on the implementation and effect of EETs on patient health outcomes. When the clinic reopens post-COVID-19, the implementation model will be adjusted based on survey results. Adjustment of pre-clinical training sessions will include:

1. initiating a role-play training session with example patient encounters
2. adding an optional shadowing training session in clinic
3. adding a second MI training later in the year

The responsibility of educating clinic volunteers about the EET will be added to the duties of the Education Co-Chairs, and members will be better trained to confidently integrate into clinic flow. The presence of two EET members at clinic will be encouraged. A specific location in clinic for EET patient encounters will be designated, eradicating the barrier of suboptimal conversation settings. The Resources Binder will be expanded based on member recommendations and reviewed during the Logistics Training. Lastly, the recruitment process will be augmented to improve the multidisciplinary character of the EET by communicating with the Education Chair of each individual partner to encourage interest among their respective volunteers. The EET role consolidates expertise and scope of practice from many IUSOC clinic partners, especially Nursing, which emphasizes preventative health screenings, and Social Work, which utilizes MI tech-

niques in clinic conversations regularly. By prioritizing a heterogeneous cohort in future years, the team will optimally incorporate interdisciplinary expertise which will benefit clinic patients and create a more educational, holistic experience for EET members.

With each subsequent cohort of EET members, the same survey process utilized in this study will be repeated with new and returning (or previous) EET members. Statistical analysis will be performed to compare new survey results against these original results. At this time, surveys may also be made available to patients in order to assess their perspectives of the EET. As the EET's duration at clinic increases and individualized goal-setting and health outcomes are measured longitudinally, research about the objective effect of the EET on patient health outcomes will be initiated. These subsequent analyses will evaluate both the team members' and the patients' perspectives of the team, in addition to objective disease state progress.

Limitations

There were several limitations to this study, the largest being COVID-19 restrictions forcing clinic closure three months after EET implementation. While this reduced the data collected during the first year of EET implementation, it permitted early data collection allowing for timely revisions of the program structure.

EET members included medical students in all four years of medical education and one physician assistant student, but the survey responses were anonymous and not stratified based on program education-type or education-level. This may have led to some of the variability observed in responses. The original implementation plan was created for a multidisciplinary EET. With applications only received from two partner programs, the study is limited in its evaluation of effective implementation for future volunteers from the IUSOC's other eight provider partners. While the composition of this data primarily represents the experience of those in the Medicine partnership, this group will likely comprise a significant proportion of future teams, ensuring these results retain their future applications. In subsequent application cycles, stronger recruit-

ing efforts will be focused on creating heterogeneous representation in the EET.

Additionally, the small sample size of 15 total volunteers limits available data. However, to prioritize the quality of the EET experience and ensure adequate opportunities for volunteering during the once weekly frequency of clinic, it is not anticipated that the EET will expand to more than 20 members. Multiple years of future data collection will support a more robust evaluation of program development.

Conclusion

With little research available on the effect of education-focused teams at student-run clinics, this study attempts to provide a reproducible model for the implementation of an EET at student-run free clinics, as well as an initial report of member-provided improvement recommendations. The long-term impact of the EET has not yet been quantified, but the hope is that this engagement in individualized, educational, and empowering conversations with patients will lead to more empathetic and trusting patient-volunteer relationships and better health management outcomes.

Disclosures

The authors have no conflicts of interest to disclose.

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