2024, Volume 56, Issue 7, 409-413, e-ISSN 1938-3800

Family Medicine

ORIGINAL ARTICLE

Teaching Population Panel Management: A Patient Outreach Activity in a Family Medicine Clerkship

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HOW TO CITE: de la Cruz MSD, Cymring B, Padgaonkar P, Langley JK. Teaching Population Panel Management: A Patient Outreach Activity in a Family Medicine Clerkship. *Fam Med.* 2024;56(7):409-413. doi: 10.22454/FamMed.2024.579841

PUBLISHED: 28 May 2024

KEYWORDS: population health, quality improvement, social determinants of health, undergraduate medical education

ABSTRACT

Background and Objectives: The delivery of population health education in medical school can be challenging. We developed a patient outreach activity for third-year students to teach them the role of population panel management in primary care.

Methods: The family medicine undergraduate medical education and population health teams collaborated to develop an educational patient outreach toolkit. After an orientation, family medicine clerkship students were assigned to call patients on their faculty adviser's patient panel to discuss care gaps and identify barriers and potential strategies to improve care. After the experience, students completed reflection questions, which we analyzed.

Results: From February to August 2022, 82 third-year medical students participated in the patient outreach activity during their 6-week clerkship. Of the 1,235 total attempted calls, 24% of the patients scheduled their appointments afterward. After analyzing the reflective student feedback, we identified six main takeaways, which focused on the importance of population health, the identification of barriers to care, positive and negative feelings that students experienced when making calls, student self-identified areas of growth, and the fragmentation/inefficiency of the health care system.

Conclusions: An opportunity exists to continue to teach students about how to communicate with patients about their health and how to address and improve social determinants of health. This curricular activity can be a step toward efforts to align population health and clinical practice and a way for medical students to add value by educating patients.

INTRODUCTION

Medical schools and national organizations recognize the importance of incorporating population health into the curricula.[1-4] A prior US study identified a significant variety in the structure and content of population health curricula within allopathic medical schools, ranging from preclinical modules to longitudinal curricula involving didactics, service-learning projects, problem- and team-based learning activities, patient navigation logs, and quality improvement projects.[1] Panel management is a specific population health tool that involves identifying care gaps and then providing outreach follow-up so that patients can address their care.[5] To teach the application of population health skills, some institutions have included immersion experiences for first- and second-year medical students, community assessments, and home visits during the family medicine clerkship.[6,7]

From the student perspective, ongoing challenges to population health curricula include a lack of perceived relevance to medical practice, misconceptions about population health, and insufficient contact with role models.[4] A core clerkship, a required clinical experience, can be a natural place to incorporate a population health curriculum,[4] and embedding the curriculum in this setting can facilitate hands-on opportunities to apply population health tools to practice.

Recognizing this need for integration of population management into clinical practice, we developed a pilot patient outreach activity for third-year medical students to teach them the principles of population panel management in health care delivery. Here we describe the development, implementation, and evaluation of a patient outreach activity for a family medicine clerkship at one institution.

METHODS

Development

The undergraduate medical education (UME) and population health teams collaborated to develop an educational

patient outreach toolkit, which included information about panel management, team-based care, chronic disease management guidelines, preventive care, cancer screening and shared decision-making, motivational interviewing, and community resources. The toolkit's table of contents is shown in Appendix A. Information was collated from various guidelines, including those from the US Preventive Services Task Force, American Diabetes Association, and American Heart Association/American College of Cardiology; and content was reviewed and approved by the UME and population health teams. The educational toolkit also included handouts that reviewed the workflow for the activity, documentation of calls in the electronic medical record (EMR), and scripts/templates to use during the calls. Students were instructed that this toolkit could be used as a resource and how to access it online. The teams also determined the schedule of activities, including an orientation, and the logistics of the outreach sessions.

Implementation

From February to August 2022, 82 family medicine clerkship students at a private, urban medical school participated in this pilot patient outreach activity. Students first learned about this activity during their orientation to the clerkship, where learning objectives were reviewed, including (a) learn about population health management and its role in primary care, (b) navigate the EMR to monitor health maintenance or chronic care gaps, (c) engage patients in order to address gaps and improve their health care, and (d) assess patients' barriers to care and brainstorm potential solutions. Our population health specialist then provided students with an orientation, which included an overview of population health in primary care, team-based care, and use of the EMR in panel management. The role of the population health specialist, who has an education doctorate, is embedded in our primary care practice; this individual oversees panel management initiatives and determines which patients need outreach. The population health specialist is colocated in the largest primary care office in the department and works in collaboration with the clinicians who are also precepting the medical students.

Students were assigned two patient outreach sessions during their 6-week rotation—one in the beginning of the rotation and one toward the end. Each outreach session was scheduled for 2 hours. These sessions took place in the population health office, located within the family medicine clinic, under the supervision of the population health specialist. Students were asked to bring a laptop, and they were taught how to set up a Doximity account on their phone to call patients from a concealed phone number. Each student in the clerkship also is assigned a faculty adviser, who is a primary care physician. Students were assigned a list of patients to call per session from their faculty adviser's patient panel. During these calls, students were asked to address care gaps in preventive care with the patients, provide education on the purpose of the tests, identify barriers to care, and brainstorm possible solutions.

The patients for each block were selected based on the metric focus determined by the population health team for that month, such as cancer screenings, diabetic testing, or statin implementation. The population health specialist chose the patients in alignment with other health system efforts as well as coordinated with national health awareness months; for example, February is American Heart Month, so patients with a diagnosis of hypertension were chosen for outreach. The population health specialist reviewed patient charts in the EMR with students to demonstrate where to find a patient's active care gaps, and students were encouraged to discuss any relevant care gap with patients. Students were given access to a centralized Excel (Microsoft Corp) spreadsheet to record the outcomes of the outreach calls.

At the end of each session, students were given six reflection questions. They were required to answer two of them after each of their assigned sessions; so each student answered four different questions in total. Questions included:

1. Why do you think population health is important for you as a future physician?
2. What were 2 to 3 barriers to care that you identified in your calls?
3. How could we improve these barriers for our patients?
4. Reflect on an interesting or inspiring conversation you had with a patient.
5. What was something you learned about yourself during these conversations?
6. What was something you learned or something that surprised you about our health care system?

Students had to email their reflection assignments to an assigned faculty member, who collected all answers in a centralized document. During the last week of the rotation, that faculty member held a 1-hour debrief, where students shared their reflections on this activity. During those sessions, students discussed patients' barriers to care and potential solutions, the impact and importance of a team-based approach to patient management, and how they might apply population health tools to their future practice. Students also were asked for their feedback on the activity, which helped shape the curriculum to improve the learner experience.

Evaluation

The possible outcomes of the calls were monitored and recorded by our population health specialist. We focused on a 3-month window in which patients could schedule their appointment. Because students do not have access to the scheduling system, patients would receive a follow-up call from a scheduling specialist to make an appointment.

For the feedback analysis, the investigators reviewed the reflection responses to come up with overarching concepts and primary takeaways. The four investigators divided the responses into two subsets and divided themselves into two pairs. Each investigator pair first independently read their subset of transcripts and identified a list of constructs. Any information obtained from the debrief session was not included. After multiple drafts and meetings to address areas of discrep-

ancy, the four investigators identified major and minor elements, and achieved consensus on the final feedback concepts.

The study was determined exempt by the Thomas Jefferson University Institutional Review Board.

RESULTS

From February 2022 to August 2022, 82 third-year family medicine clerkship students participated in the patient outreach activity during their 6-week clerkship. Previous demographic data from this student population show that students were predominantly female (51.03%), White (59.53%), and under 26 years old (75.37%).[8]

During the outreach sessions, students made 1,235 total attempted calls. On average, each student made 15.9 calls, including leaving 6.4 voicemails, speaking with 3.5 patients who agreed to schedule an appointment, and speaking with 1.2 patients who declined to make an appointment. The number of phone calls made by each student ranged from 2 to 42. Voicemails ranged from 0 to 17, and speaking with patients ranged from 0 to 11. A positive outcome was defined as a patient scheduling an appointment within 3 months of the call; a total of 24% patients scheduled their appointment within this time frame. See Table 1 for a summary of outcomes of the patient calls.

After analysis of their reflection prompts, we identified six main takeaways: (1) Population health is important to improve patient outcomes on a larger scale; (2) patients identified several barriers to care to addressing their health; (3) positive feelings were associated with connecting over a call for patient and student; (4) students described negative feelings associated with phone calls; (5) students identified opportunities for further educational growth; and 6) students realized how our health care system is fragmented/inefficient (Appendix Table A).

Takeaway 1: Population health is important to improve patient outcomes on a larger scale.

Thirty-seven students related that a major benefit of population health was the ability to use tools to address preventive care and chronic disease. Twenty-seven students also felt that population health helps us to understand and address social determinants of health (SDOH) and health disparities that patients face. Eleven students expressed that population health also helps in coordinating care and emphasizes teamwork, as well as using data to decrease costs and to improve resource utilization.

Takeaway 2: Patients identified several barriers to care in addressing their health.

When asked about barriers to care, students reflected that the largest category that patients reported included SDOH. Students identified that many patients did not understand the purpose of the screening/test or had challenges with transportation. Other barriers included a lack of insurance, drug costs, access to a phone/computer, and inability to take off work to get tests done. Some patients reported that they had a language barrier or that they did not want to participate in the screening for cultural reasons. Another commonly cited barrier was difficulty or uncertainty in procedure scheduling as well as lack of time to complete the tests. A smaller number of patients reported that they had negative feelings about the test, such as fear of getting a bad result, or did not feel it was important to get done.

Takeaway 3: Positive feelings were associated with connecting over a call for patient and student.

Thirty-one students wrote about being surprised by how many patients were grateful to receive a call or were willing to get the screening done. Twelve students felt happy about educating and empowering patients to improve their health, and a few students described a newfound interest in preventive medicine/primary care.

Takeaway 4: Students described negative feelings associated with the phone calls.

Nine students reported having negative feelings associated with the outreach calls due to challenges in building rapport over the phone compared to in person, or disappointment in being limited to voicemail. A similar number of students reported feeling like a "telemarketer" and did not enjoy having to make cold calls to patients. A few students reported feeling shy during the calls or nervous about having to use the interpreter line.

Takeaway 5: Students identified opportunities for further educational growth.

After having this experience, 10 students identified that they needed to work on educating about cancer screenings in simpler terms. Four students reflected on the importance of being able to clearly communicate follow-up plans with patients, and a couple of students noted that they had difficulty with ending conversations or described a desire to be more efficient with their interactions.

Takeaway 6: Students realized how our health care system is fragmented/inefficient.

After this activity, six students reflected about the challenges of coordinating care across many specialists, different health systems, or EMRs. Some students related that during transitions of care, patients may have difficulty with making follow-up appointments.

DISCUSSION

Our findings suggest that a patient outreach activity can be useful for teaching students about the practical application of population health in a primary care setting. Regarding patient care, we believe that having 24% of patients schedule an appointment to address a care gap to be successful. For the students, many felt empowered that patients were grateful for these calls; and for some students, the calls highlighted a career interest in preventive medicine. However, some students also identified being nervous with using an interpreter over the phone and recognized the challenges with interacting

TABLE 1. Summary of Patient Outreach Calls February 2022–August 2022 (N=1,235)

Outcome of student outreach	n (%)
Patient already up-to-date and no outreach needed	117 (9.0)
Student spoke with patient and patient scheduled appointment within 3 months	119 (10.0)
Student spoke with patient and patient did not schedule appointment	150 (12.0)
Student left voicemail and patient scheduled appointment within 3 months	172 (14.0)
Student left voicemail and patient did not set up appointment	307 (38.0)
Patient declined conversation with student	99 (8.0)
Patient had chosen different PCP/practice	26 (2)
Patient unable to be contacted (phone number no longer in service, voicemail not set up, etc)	245 (20)

Abbreviation: PCP, primary care physician

over the phone compared to in person. Importantly, students self-identified areas of growth, including being able to educate about preventive screenings in simple terms, learning more information about care gaps to provide to patients, communicating clearly about follow-up plans, and becoming more efficient with conversations. Students are expected to learn these skills through their encounters with patients in their clerkship, but this project shows the value of having a dedicated curricular component to address this learning. While our clerkship curriculum teaches students to identify the social determinants, we can continue to work on and improve teaching strategies and skills.

This project is an example of a novel way for students to add value through medical education. In March 2016, during the American Medical Association's Accelerating Change in Medical Education Consortium, 16 small groups met to discuss how to enhance value-added medical education. In their discussions, they identified innovative ways for students to participate in educational settings.[9] Based on our curricular project, the roles the students assumed for their phone discussions with patients could be viewed as patient navigators/health coaches, quality improvement team extenders, or population health managers. Furthermore, learners who participated in a previously developed interprofessional panel management curriculum in the Veteran Administration primary care clinics reported increased knowledge and confidence in panel management.[10] The curriculum we developed could be expanded and used with other interprofessional learners or trainees.

LIMITATIONS

First, this analysis was done at a single institution, which limits the generalizability of our findings. Second, the participating students were in their family medicine clerkship, thus resulting in selection bias. Also, the timing of the clerkship possibly may have affected their receptiveness to the patient outreach. Third, the patients receiving outreach were established patients at the practice who may be more engaged in their care than nonestablished patients. Fourth, this partnership between population health and UME teams, along with learner feedback, iteratively shaped the curriculum; patients and other members of the health care team were not involved in the development of this activity. Fifth, we were not able to assess patient-centered outcomes in this project, but that could be included in a future study. Finally, the main takeaways we identified were driven and shaped by the reflection topics we provided to the students. After this initial pilot, a more theory-driven qualitative analysis could be conducted.

CONCLUSIONS

While our institution currently has a required quality improvement and health disparities curriculum in the family medicine clerkship,[8,11] this project highlighted that an opportunity still exists to teach students about how to communicate with patients about their health, particularly related to managing chronic disease and preventive care. As a next step, we also need to educate students about how to address social determinants of health, because these posed the largest barrier that patients identified in following up on their care gaps. We also must continue to educate students about the challenges of systems and health care delivery, particularly given the push for increased telehealth and artificial intelligence driven care for a variety of types of communities. The lessons we learned from this project can inform future curricular efforts to align population health and clinical practice.

Financial Support

This work was funded by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) as part of a Primary Care Medicine and Dentistry Clinician Educator Career Development Awards Program, Grant Number K02HP30821. The views are those of the authors and do not necessarily represent the official views of, nor are an endorsement of HRSA, HHS, or the US government.

Presentations

Portions of data from this program were presented at the 2023 Society of Teachers of Family Medicine Medical Student Education Conference (January 28, 2023; New Orleans, LA).

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