Spring 5-6-2023

Primary Care Management of Breast Cancer Screening

Katelyn Phillips

Lainey Brown
Southern Illinois University Edwardsville

Executive Summary

Introduction

This quality improvement project implemented an outreach program intervention to promote adherence of breast cancer screening at a large, busy primary care office in southern Illinois. The project goal was to provide an intuitive intervention in which the organization, providers, staff, and patients work together as a collaborative team to increase adherence to breast cancer screenings. At this facility, the providers referenced the EHR to assess for fulfilled mammography order for the patient but there was not an outreach system to ensure the patient has scheduled and adhered to the mammogram appointment. A need for change was identified by collaborating with the office provider, the project stakeholder, and determining the need for improvement in mammogram screening adherence according to the American Cancer Society guidelines. The project stakeholder was able to increase overall mammogram screening compliance and improve practice by keeping up to date with the most recent American Cancer Society guidelines. Data following the completion of the outreach program was collected and analyzed to determine that the intervention was overall effective. There were limitations within the organization due to the COVID-19 pandemic and staffing within the office.

Literature Review

Breast cancer remains the most prevalent cancer diagnosis and is the second leading cause of cancer death among women in the United States (DeSantis et al., 2019). Mammograms have been identified as effective screening tools that detect breast cancer in the early stage of diagnosis, before developing symptoms, and allow the possibility for cure (Go & Sandhu, 2021). The American Cancer Society guidelines recommend women initiate breast cancer screening with annual mammograms at age 40 (Oeffinger et al., 2015). Early surveillance and recognition of

breast cancer can help reduce mortality rates and must be consistently implemented within the primary care setting. In 2019, 76.4% of women nationwide aged 50-74 years had a mammogram within the past 2 years (Sabatino et al., 2021). According to Healthy People 2030, the target goal is 80.5% compliance with mammography (Office of Disease Prevention and Health Promotion, n.d.). Based on 2019 data, 4.1% of women did not complete their mammograms, indicating a need for improvement in the primary care setting.

There is a great need to enhance adherence and awareness of screening guidelines for breast cancer in the primary care setting (Lynn et al., 2017). The prevalence and mortality rates associated with breast cancer in women is astounding. Surveillance and early detection are one of many roles of a primary care provider (PCP). It is expected that a PCP order and make the patient aware of the screening guidelines to ensure they are providing best practice. A PCP is then also responsible for referring a patient for further investigation when screening tests are abnormal or unsatisfactory. Of the 85% of PCPs that reported communication with patients about cancer screening, 79% reported their patients following through with screening recommendations (Lynn et al., 2017). Smalls et al. (2019) describe the cancer-screening process as a cooperation between the organization, provider, and the patient. The different components of the collaborative process include recruitment, patient compliance of scheduling mammograms, and screening completion (Smalls et al., 2019).

Methods

The purpose of this quality improvement project was to identify women in the primary care setting with outstanding mammography screening orders and implement a more systematic outreach program to improve patient adherence. The goal of the outreach program was to (a) identify preceding and current strategies to increase compliance with timely breast cancer

screenings; (b) create telephone outreach intervention to notify individuals of unsatisfied outstanding screenings; (c) assist in scheduling mammogram appointments for patients in efforts to increase adherence; and (e) determine efficacy of the outreach program in increased mammography screening. The project was completed at a primary care office in an urban community in southern Illinois. There were two different primary care providers in this office. Our active stakeholders included the clinic's NP, project leader, and project faculty leader. Ideally, the clinic's medical assistants would consist of our passive stakeholders, however with COVID-19 repercussions, staffing was inadequate. Additional passive stakeholders included the clinic's population health nurse and site manager. Data was synthesized from a health maintenance function within the EHR and identified that of the 137 female patients between 40 to 70 years old, seventy-three patients were deemed "unsatisfied," meaning that the patients still had outstanding mammograms that they needed completed and sixty-four were considered "satisfied."

The outreach program was a telephone intervention in which the students contacted patients with "unsatisfied" mammogram orders to determine the dates and times that would work for a scheduled mammogram. The facility of patient's preference was contacted, and the mammogram appointment was scheduled. The patient was then notified of the scheduled mammogram time and date and any specific instructions the facility may have for them the day of the appointment. Patient data and demographics were synthesized from EHR in an Excel document. Patient ID, name, and demographics including most recent telephone number were populated with patient information transferred to the Excel sheet. It is important to note that only clinic staff and project team members accessed patient data to ensure that the HIPAA guidelines were followed. Deidentified patient information was synthesized and stored in an Excel

document for evaluation purposes and left at the clinic site. The telephone calls were conducted by the students multiple days per month. When accessing the health maintenance data to collect the patient sample, the students discovered patients with mammogram screenings managed at an outside facility, patients with completed mammograms that did not link over in the patient's chart, and one patient that was no longer a patient. The students collaborated with the office's population health nurse to discover a way to link the mammogram results with the order in the EHR to reflect patient compliance on the data report. IRB approval was obtained prior to project implementation.

Evaluation

The primary outcomes that were measured included effectiveness of identifying unfulfilled and/or overdue mammogram screenings, success in reaching patients to schedule the mammogram appointment, and patient adherence to completing the scheduled mammograms. The health maintenance function within the EHR was flawed in terms of synthesizing "unsatisfied" mammogram screenings. It included data for patients that were managed at an outside facility, patients that completed mammogram screenings but did not link to the order within the EHR, and one patient that was no longer a patient. There was a total of twenty-six patients that were contacted via telephone. Of the twenty-six patients, one patient did not call back after two voicemails were left. One patient had an invalid number on file.

The patient adherence to completing the scheduled mammograms was calculated by using the percentage of change, Equation (1). Sixty-four total "satisfied" mammograms at the beginning of the project represented (x^1). The total of "satisfied" mammograms at the end of the data analysis totaled ninety-three, therefore represented as (x^2) in Equation (1). A total of twenty-nine patients was added to the starting sixty-four "satisfied" patients to get our final

number of "satisfied" patients. Thus, there was a 45.3% increase in satisfied mammogram orders after the intervention.

$$C = \frac{x^2 - x^1}{x^1} \text{ x } 100 \qquad (1)$$

$$45.3\% = \frac{93 - 64}{64} \text{ x } 100$$

Table 1

"Unsatisfied" Data Post Intervention

Unsatisfied Mammograms (n = _11_)					
Refused		Unreachable		Noncompliant	
n= 6	42.3%	n= 1	3.8%	n= 4	15.4%

Some patient limitations as displayed in Table 1 above, included patients that refused to get a mammogram despite education, patients declining due to lifestyle, busy schedule, or insurance coverage, and declining due to comorbidities and/or health status at the time of the call. Other limitations were related to the ability to reach the patient to schedule an appointment such as patients that did not answer, patients that did not respond to voicemail with call back number, and patients that did not answer when the call was returned to them with scheduled appointment details. Some patients also had the mammogram appointment scheduled and did not go to the appointment to get them completed. There was a delay when linking orders to mammogram results within the EHR. Staff and project implementor limitations included staffing shortages in the office causing the students to be more involved in project implementation, call back system for the patients when the students are not in the office, no direct line to the students office for project implementation, limited time for staff education, and EHR limitations. Provider

and staff feedback have proved to be positive with improving overall representation within the EHR of mammogram screening compliance. Patients have also reported that the outreach program is convenient for them in terms of hassle-free scheduling and holding them accountable.

Implications for Practice

A lunch and learn presentation was delivered to staff and providers within the office to educate them on the outreach program and method for linking completed mammograms to outstanding orders. Both providers within the office could improve overall compliance rates and patient satisfaction by implementing the outreach program within the office. This was demonstrated through the outreach program by improving the provider's overall adherence. With the major decrease in staffing in the middle of this project design, there was no available staff to implement the telephone outreach program. The students were responsible for making calls and scheduling appointments due to limited staff. Staff members were educated on the process of the outreach program with the intent of continuing the process within the office for these patients.

Conclusion

Although staffing limitations provided many challenges, the outreach program project is feasible. However, it required more resources than readily available at the time of implementation. The project demonstrated that an outreach program to improve mammogram screening adherence could be successfully implemented in a primary care setting. Future projects may focus on limiting the resources to complete the outreach program.