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Increasing Breast Cancer Screenings in the New American Population

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ABSTRACT

Purpose: Breast cancer poses a significant health risk globally, with routine screenings pivotal for early detection. The New American population in Vermont face many barriers to accessing mammogram screenings and have a 0% participation rate in breast cancer screening, thus necessitating targeted interventions. The purpose of this project was to improve mammogram participation among New Americans by at least 15% by January 2024.

Methods: The intervention at a New American clinic included an educational infographic presented during initial health center visits, supplemented by tangible pamphlets. Patient understanding was assessed through teach-back questions. Appointment scheduling was facilitated during the visit, with reminder cards provided. The project's analytical methods involved descriptive statistics, utilizing demographic data (age, ethnicity, language, education) which identified potential disparities influencing screening behaviors.

Results: 83% of participants (n=6) proactively scheduled mammogram appointments, supported by reminder cards. Visual representations highlight demographic characteristics impacting screening engagement. The results of the project support the effectiveness of the tailored interventions.

Conclusions: The project underscored the effectiveness of targeted strategies to address healthcare disparities within New American communities. The proactive role of graphic educational materials was emphasized in empowering patients to engage actively in their healthcare decisions. Despite limitations related to clinic constraints, the project surpassed its primary aim. Implications for practice include adopting tailored interventions and comprehensive healthcare strategies for diverse populations, emphasizing patient empowerment, and increasing accessibility. Further projects should explore the scalability and sustainability of similar interventions in diverse healthcare settings.

INTRODUCTION

Breast cancer is a widespread form of cancer that affects people with breasts across the globe and it is the most common cancer among individuals with breasts (Schoueri-Mychasiw et al, 2012). In 2020, 2.3 million women were diagnosed with breast cancer, while 685,000 died of it (World Health Organization, **2022**). However, routine breast cancer screening is not prevalent among the New American population in the United States, especially in comparison to the native-born population and many barriers to access exist (Gookin, 2018). New Americans may include immigrants, refugees, temporary or long-term visitors, regardless of their legal documentation status, originating from diverse backgrounds.

Healthcare providers at a health center in Vermont have identified this discrepancy in the New American patient population's care. Despite receiving an initial medical intake visit with a provider once they arrive in Vermont, the patients are not adequately receiving recommended preventative services, such as mammograms for breast cancer screenings. Mammograms are an essential tool for detecting breast cancer at an earlier and more treatable stage, leading to a reduction in mortality rates (Schoueri-Mychasiw et al, 2012).

PROBLEM STATEMENT

The New American patient population in Vermont, USA, face numerous barriers that contribute to low participation rates in receiving mammogram screenings. These barriers to access of care include cultural beliefs and norms, low socioeconomic status, screening knowledge, fear of positive tests, transportation difficulties, finances, privacy/modesty, and language (Schoueri-Mychasiw et al, 2012).

PURPOSE STATEMENT & RATIONALE

To address this healthcare disparity, this project focuses on improving the rate of mammogram screenings among the New American patient population in a local health clinic, by providing patient education that will reduce the existing knowledgeable gap about preventative health. This education will promote the importance of mammogram screenings which can help detect breast cancer in earlier stages ultimately leading to improved health outcomes in population of interest.

AIMS

The primary aim of this quality improvement project is to provide education about breast cancer to the New American population in Vermont with a secondary aim of improving mammogram screenings by 15% by January 2024.

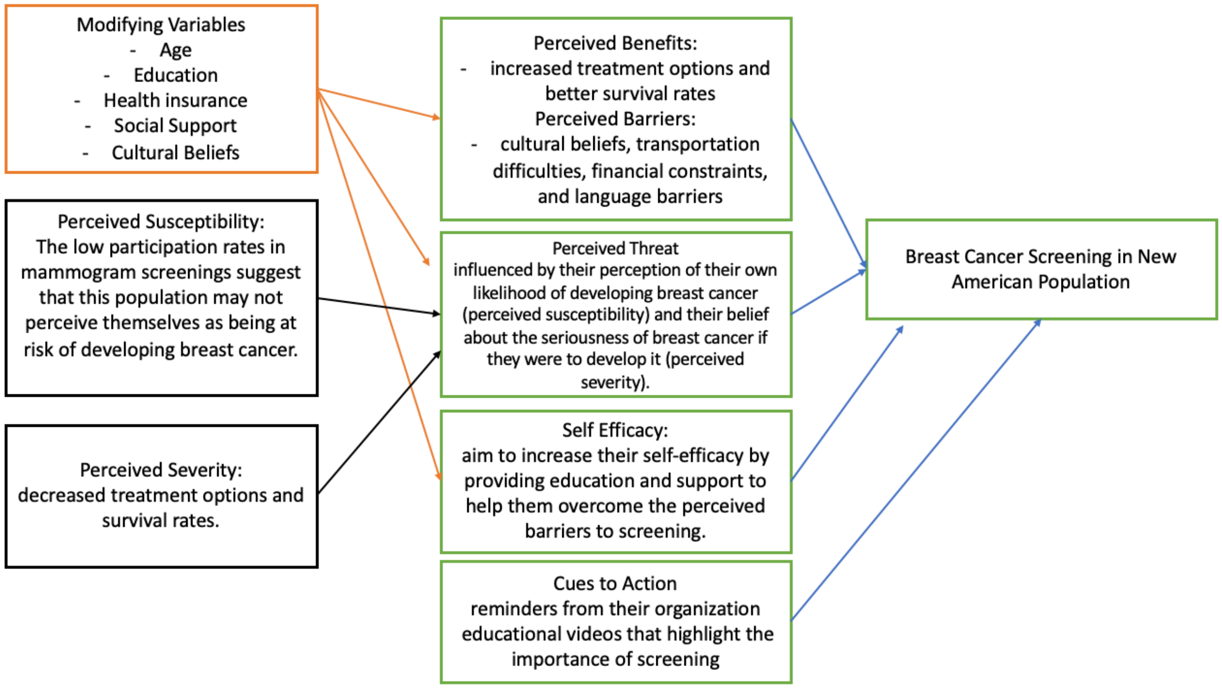
CONCEPTUAL FRAMEWORK

The Health Belief Model is a psychological model that explains why people engage in health behaviors or make health-related decisions. The model proposes that an individual's behavior is based on their perception of the threat posed by a health problem, and the perceived benefits of taking action to avoid or mitigate the threat.

The model suggests that an individual's health behavior is influenced by four factors:

1. perceived susceptibility: the belief that one is susceptible to a particular health problem or disease,
2. perceived severity: the belief that the health problem or disease is serious or has significant consequences,
3. perceived benefits: the belief that taking a particular action will reduce the risk of the health problem or disease or lessen its severity, and
4. perceived barriers: the belief that there are obstacles or costs associated with taking action to avoid or mitigate the health problem or disease.

The model has been used to explain a wide range of health behaviors and is demonstrated below in breast cancer screening in New American Population in Vermont.



APPRAISAL OF THE LITERATURE

In response to the pressing need to boost breast cancer screening rates in diverse populations, our research focuses on exploring diverse interventions. By critically analyzing five recent studies, the objective is not only to gain a deep understanding of the current challenge of potential barriers that contribute to low breast cancer screenings but also to pinpoint the most effective interventions for improving screening rates.

First, Derek Falk’s (2018) study “A Mixed Methods Review of Education and Patient Navigation Interventions to Increase Breast and Cervical Cancer Screening for Rural Women” is a mixed-methods review of 12 studies that investigated interventions to improve cancer screening rates for rural women. The study found that patient navigation and education interventions are effective in increasing screening rates and reducing disparities. The study provides prevalence and incidence statistics of rural women who experience disparities in cancer screening rates, and the economic costs associated with the interventions are also discussed.

Second, Fernández-Feito et al.'s (2021) study "A mixed-methods study to evaluate the acceptability of information leaflets for breast cancer screening" is a mixed-methods study that evaluated the acceptability of information leaflets for breast cancer screening. The study found that the leaflets were highly acceptable and effective in improving knowledge about breast cancer screening. The study provides important benchmarks for the acceptability of health education materials among women in a breast cancer screening program.

Third, Fathollahi-Dehkordi and Farajzadegan's (2018) study "Health education models application by peer group for improving breast cancer screening among Iranian women with a family history of breast cancer: A randomized control trial" is a randomized control trial that evaluated the effectiveness of peer group health education models in improving breast cancer screening rates among Iranian women with a family history of breast cancer. The study found that the intervention was effective in improving screening rates and provides important statistics on morbidity and mortality associated with breast cancer in Iranian women.

Fourth, Racine et al.'s (2023) study "Effectiveness of breast cancer screening interventions in improving screening rates and preventive activities in Muslim refugee and immigrant women: A systematic review and meta-analysis" is a systematic review and meta-analysis that evaluated interventions to increase breast cancer screening rates among Muslim refugee and immigrant women. The study found that interventions that incorporate cultural and religious considerations were effective in improving screening rates and reducing disparities. The study provides important statistics on healthcare utilization and economic costs associated with interventions to increase breast cancer screening rates among refugee and immigrant women.

Gookin et al.'s (2018) study titled "Assessing Barriers to Health Care Access for New Americans" aimed to examine refugees' perceptions of the U.S. health care system and the barriers they faced while accessing health care services. The study identified five major themes contributing to healthcare access in the

Vermont refugee population, providing valuable insights into reducing barriers to breast cancer screening for New Americans. The study concluded that language barriers, childcare, transportation, lack of preventive care, and financial burdens were the key themes identified. Financial issues were the most discussed and prominent barrier for the New American population, as per the study's findings.

Based on the critical appraisal of the literature, it is evident that breast cancer screening rates remain low among underserved populations, including rural, immigrant, and refugee communities. The studies reviewed highlight various factors that contribute to the low screening rates, including language barriers, lack of awareness and education, transportation, financial burdens, and cultural beliefs. The studies by Falk (2018), Fernández-Feito et al. (2021), and Fathollahi-Dehkordi and Farajzadegan (2018) provide valuable insights into the effectiveness of education and patient navigation interventions, the acceptability of information leaflets, and the application of peer groups in improving breast cancer screening rates. Meanwhile, Racine et al.'s (2023) systematic review and meta-analysis offer evidence-based recommendations for breast cancer screening interventions for Muslim refugee and immigrant women. Finally, Gookin et al.'s (2018) study on healthcare barriers for New Americans highlights the importance of addressing issues such as language barriers, transportation, and financial burdens to improve access to healthcare and reduce barriers to breast cancer screening in refugee populations. Overall, these studies provide a strong rationale for implementing interventions that address the unique challenges faced by underserved populations to improve breast cancer screening rates and ultimately reduce breast cancer morbidity and mortality.

INTERVENTIONS

An educational infographic (Figure 1.1 in Appendix) about breast cancer screening will be presented via an interpreter (if needed), in the room with the patient and they will be given a tangible pamphlet that contains the material from the PowerPoint. This allows the patient to learn about the topic during the visit as well as review the information in their own time once they leave the clinic. The educational infographic

((Figure 1.1 in Appendix) will contain only pictures to accommodate for patients who do not speak English. The healthcare provider will inquire if the patient is open to scheduling a mammogram appointment during the current visit. Should the patient express hesitation, the provider will proceed to provide further information, answer questions, and address any fears or concerns the patient may have. In the end, the provider will contact the Breast Imaging Center to arrange a mammogram appointment for the patient and ensure that the patient receives a reminder card to help them remember the appointment.

METHODS

First, a patient is identified as a New American in the healthcare center. A New American clinic has been established by the healthcare center with the mission of helping newcomers to the United States navigate the healthcare system and connect them with a healthcare provider. An intake will be conducted by the provider, behavioral health specialist, health educator to ensure the patient is set up for success. During this initial intake visit, the outreach educator, nurse or medical assistant will present educational material about breast cancer screening, with the use of interpreter if necessary, and leave the patient with a take home educational infographic (Figure 1.1 in Appendix). A future appointment with the mammogram center will be scheduled for the patient and will be written on a reminder card so that the patient knows the appointment date. A future appointment with the patient's healthcare provider will be arranged after scheduling the mammogram screening. This appointment will allow the patient to discuss their imaging results with the provider to ensure the continuity of their care.

DATA COLLECTION

A retrospective analysis was performed six months before commencing data collection to establish the baseline for the number of mammograms scheduled for New American patients and this figure serves as a valuable benchmark for gauging the quantity of mammograms received by New American patients before the intervention. Additionally, it aids in assessing the effectiveness of the intervention by project's end. In a 6 month period, 21 patients were scheduled in the New American clinic block and met the criteria to receive a breast cancer screening education thus resulting in a mammogram. The analysis showed that 0% of New American patients were scheduled for a mammogram appointment during their visit.

The New American clinic's schedule will be proactively reviewed in advance to identify individuals who are suitable for educational sessions and mammogram screenings. The established criteria for this selection are as follows: individuals must be female or a person with breasts to qualify for education of breast cancer, must be 40 years and above to qualify for a mammogram screening, never had a mammogram before, and been in the U.S for less than 5 years.

Once eligible patients have been identified within the healthcare center, coordination will take place with the team of healthcare providers, behavioral health specialists, and medical assistants to ensure a smooth workflow throughout the day. The coordination involves ensures that the patient sees every member of the team in an timely efficient manner and all their healthcare needs are being met. Educational sessions will be conducted at a time that aligns with the team's availability, and data will be recorded in real-time using Microsoft Excel, with no inclusion of personally identifiable information (PHI).

MEASURES

The collected data will encompass the following criteria: a randomly assigned number (for de-identification), patient age, ethnicity, language, education level, whether breast cancer education was provided, the patient's understanding, rated on a scale of 1 to 5, whether a mammogram appointment has been scheduled, the date of the scheduled appointment, and whether a reminder has been issued. The patient's understanding will be assessed as follows:

1: Minimal understanding – the patient is confused.

2: Limited understanding – the patient is apprehensive.

3: Moderate understanding – the patient is making progress.

4: Good understanding – the patient is competent.

5: Excellent understanding – the patient is proficient.

The dependent variable in this quality improvement project is the rate of mammogram screenings among the New American population in Vermont. The independent variable is the intervention of education about breast cancer provided to this population.

Aim	Intervention	Outcome
Education about Breast Cancer Screening	Infographic about Breast Cancer Screening and Mammograms created	Assessing Patient Understanding on a scale of 1 (minimal) to 5 (excellent)
Scheduled Mammogram by 15%	Calling Mammogram center to schedule and set up appointment	Appointment scheduled and reminder card given to patient

LIMITATIONS

Numerous constraints became apparent during this project. One significant limitation revolved around the clinic for New Americans, which operated only one day a week from 8 am to 12 pm. Moreover, during specific weeks within the implementation period, there were instances of where just male patients were scheduled or individuals who did not meet the specified criteria were in the schedule. Compounding this, the clinic had to be cancelled if any clinical team member was unavailable or absent due to illness. Another challenge arose when patients opted to defer the breast cancer screening education if they were already at the clinic for a long period of time. The extended duration of patient visits, often exceeding an hour and a half, left little room or patience for additional educational sessions. Furthermore, a major limitation emerged when a clinical provider reduced their clinical hours, resulting in the rescheduling of New Americans for future appointments. This period fell outside the implementation window thus causing them to not be a part of this project but most importantly, led to delays in these individuals receiving the care they required. These various limitations underscore the need for a more flexible and comprehensive approach to ensure timely and accessible healthcare for New Americans within the constraints of the clinic's operational framework.

DATA ANALYSIS

The data collection process includes assigning unique patient numbers and gathering demographic information such as age, ethnicity, language, and education level. This dataset serves as the foundation for understanding the patient population. Utilizing descriptive statistics will be pivotal in summarizing these demographic variables, offering a comprehensive view of potential disparities that may impact screening behaviors. Visuals in the form of bar graphs and pie charts (Figures 1-3) were created and displayed to evaluate the variables listed above.

A sample size of six participants was obtained for this project. The data, including information on participants' language proficiency, educational background, and comprehension of the breast cancer screening infographic, has been presented through various chart representations. Notably, 83% of the patient cohort have proactively scheduled their mammogram appointments, with the additional observation that all participants who scheduled appointments received reminder cards.

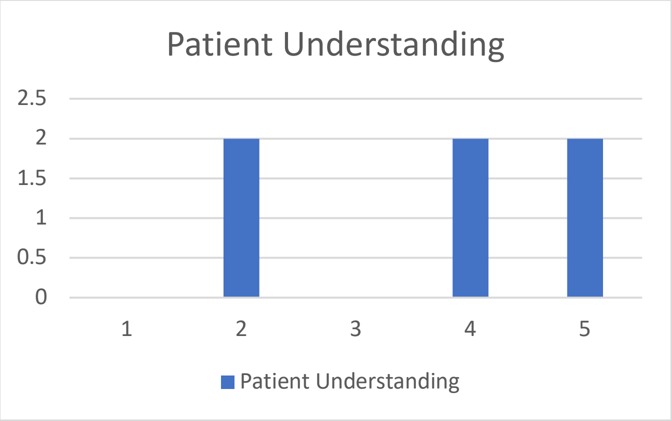


Figure 1

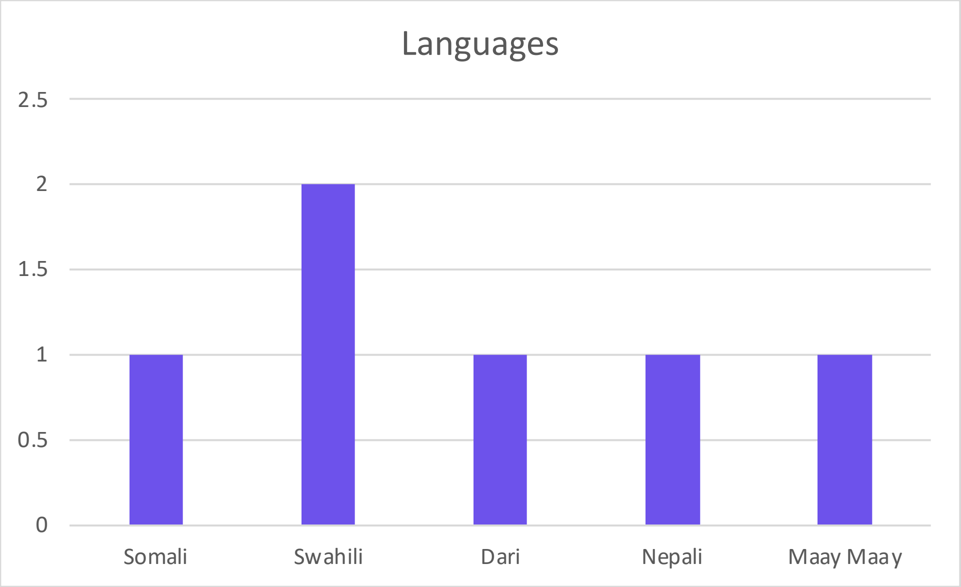


Figure 2

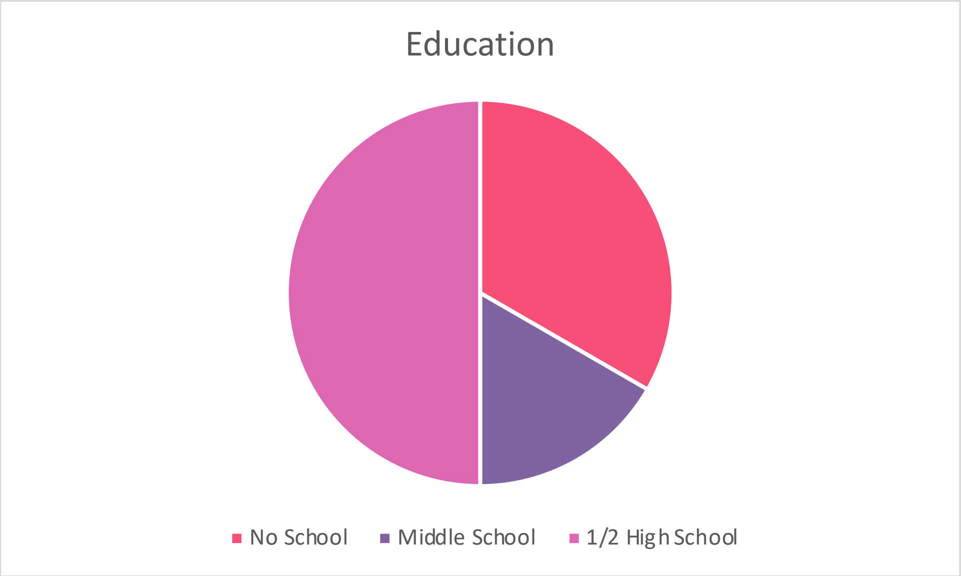


Figure 3

Additionally, a process flowchart map is used to visualize and optimize the screening process, spanning from patient education to scheduling. This visualization tool assists in pinpointing inefficiencies and streamlining the patient journey, ultimately enhancing the patient experience/understanding, and increasing screening rates. By incorporating these data analysis methods, the project aims to provide evidence-based insights and targeted interventions, with the overarching goal of improving breast cancer screening rates among New American individuals and subsequently enhancing their overall health outcomes.

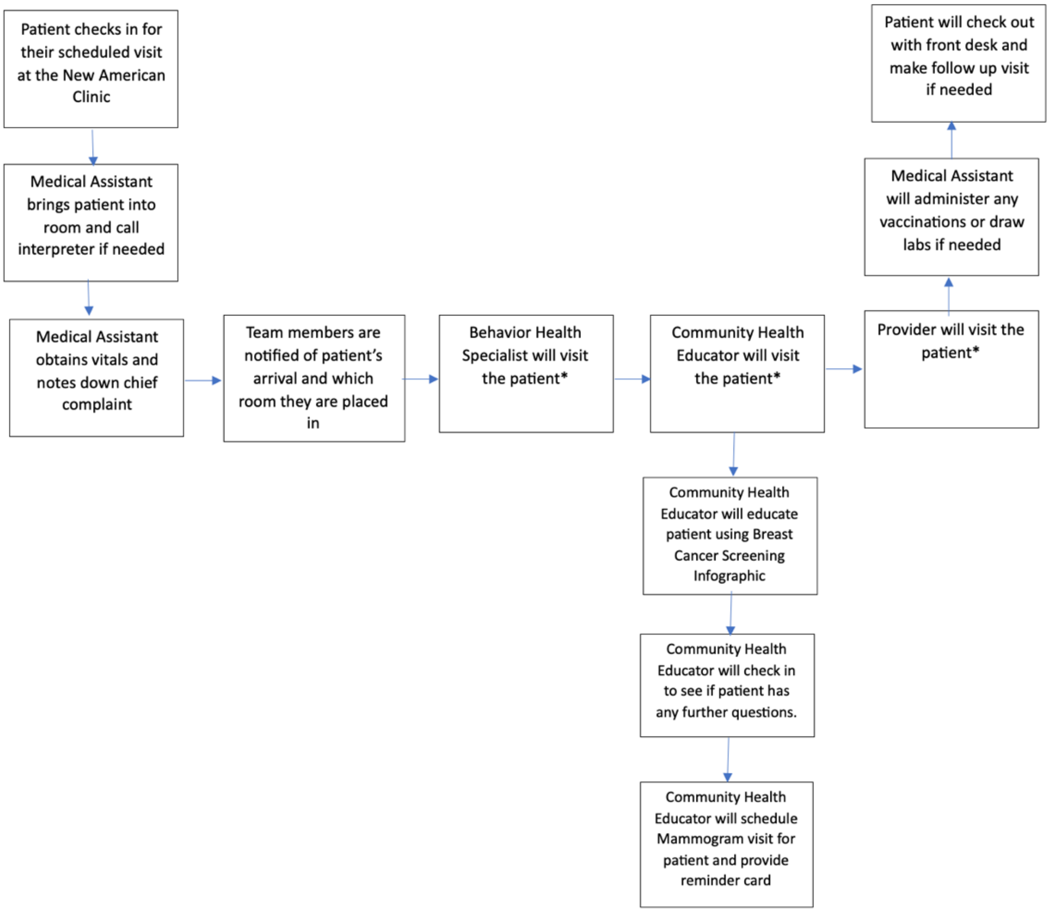


Figure 4

DISCUSSION

The significant findings of this research project highlight the imperative need to address healthcare disparities among New Americans undergoing domestic health screenings, specifically focusing on breast cancer screenings within an academic medical center in the northeastern region. This diverse patient population hails from all corners of the world and frequently requires medical information to be translated during provider visits, underscoring the essential requirement for alternative medical educational materials designed to accommodate non-native English speakers. In the pursuit of enhancing breast cancer screenings within this population, we employed a comprehensive data analysis approach. The data collection process involved the assignment of unique patient identifiers and the collection of crucial demographic information, including age, ethnicity, language proficiency, and education level. This dataset serves as the foundation for comprehending the unique characteristics and needs of the New American patient population.

Descriptive statistics played a central role in summarizing these demographic variables, offering a holistic perspective on potential disparities that may influence their screening behaviors. To facilitate a deeper understanding of the data, we employed visual aids in the form of bar graphs and pie charts. These visuals allowed us to evaluate the variables mentioned above, providing a clearer and more accessible representation of the data. In this project, based on a sample size of six carefully selected participants, we have made intriguing observations. The data, which encompasses information regarding language proficiency, educational background, and comprehension of the breast cancer screening infographic, has been thoughtfully presented through various chart formats.

A remarkable 83% of the patient cohort exhibited a proactive approach by scheduling their mammogram appointments, a finding that underscores the significance of our research in the context of enhancing breast cancer screenings within the New American population. It's noteworthy to highlight that all participants who scheduled appointments received reminder cards, reinforcing the potential impact of such reminders on encouraging patients to prioritize their healthcare. The overall aim of this project, increase breast cancer screenings by 15%, was well surpassed.

One of the most meaningful findings of this project lies in the proactive role that graphic educational materials can play in empowering patients to participate actively in their own healthcare decision-making process. Prior to this intervention, there was no standardized method for assessing whether patients genuinely understood the importance of breast cancer screenings. However, with the implementation of standardized methods such as teach-back questions, we have established a qualitative means of assessing patient comprehension, supporting the broader goal of increasing the proportion of adults whose healthcare provider checks their understanding, as articulated in the Healthy People 2030 initiative.

These findings not only highlight the need for tailored healthcare strategies for New Americans but also emphasize the potential for graphic educational materials to enhance patient knowledge, engagement, and the patient-provider relationship, ultimately contributing to the improvement of breast cancer screening rates within this population. Furthermore, this project underscores the importance of promoting patient empowerment, fostering understanding, and ensuring that healthcare information is accessible to all, regardless of their cultural or linguistic backgrounds.

ETHICAL CONSIDERATIONS

In conducting this quality improvement project at a Vermont community health center, the research team is committed to upholding ethical principles. Beneficence guides their efforts to maximize benefits while minimizing harm to the New American patient population. Cultural sensitivity and language barriers will be addressed to ensure patients fully comprehend the purpose and potential benefits of mammograms. These are addressed by thoroughly educating the patients about breast cancer screenings, checking in with patients frequently to see if they have any questions, tailoring the material to their education level, and emphasizing the safety and modest environment of the breast care center. It is explained that the breast care center is primarily staffed with women, interpreters are readily available, and it is culturally component to meet the needs of all patients.

Respect for autonomy will be maintained, with patients provided clear, culturally competent information and the opportunity to make informed decisions. Equitable access to screenings and education will be ensured, with ongoing assessment of selection criteria to prevent unintended biases.

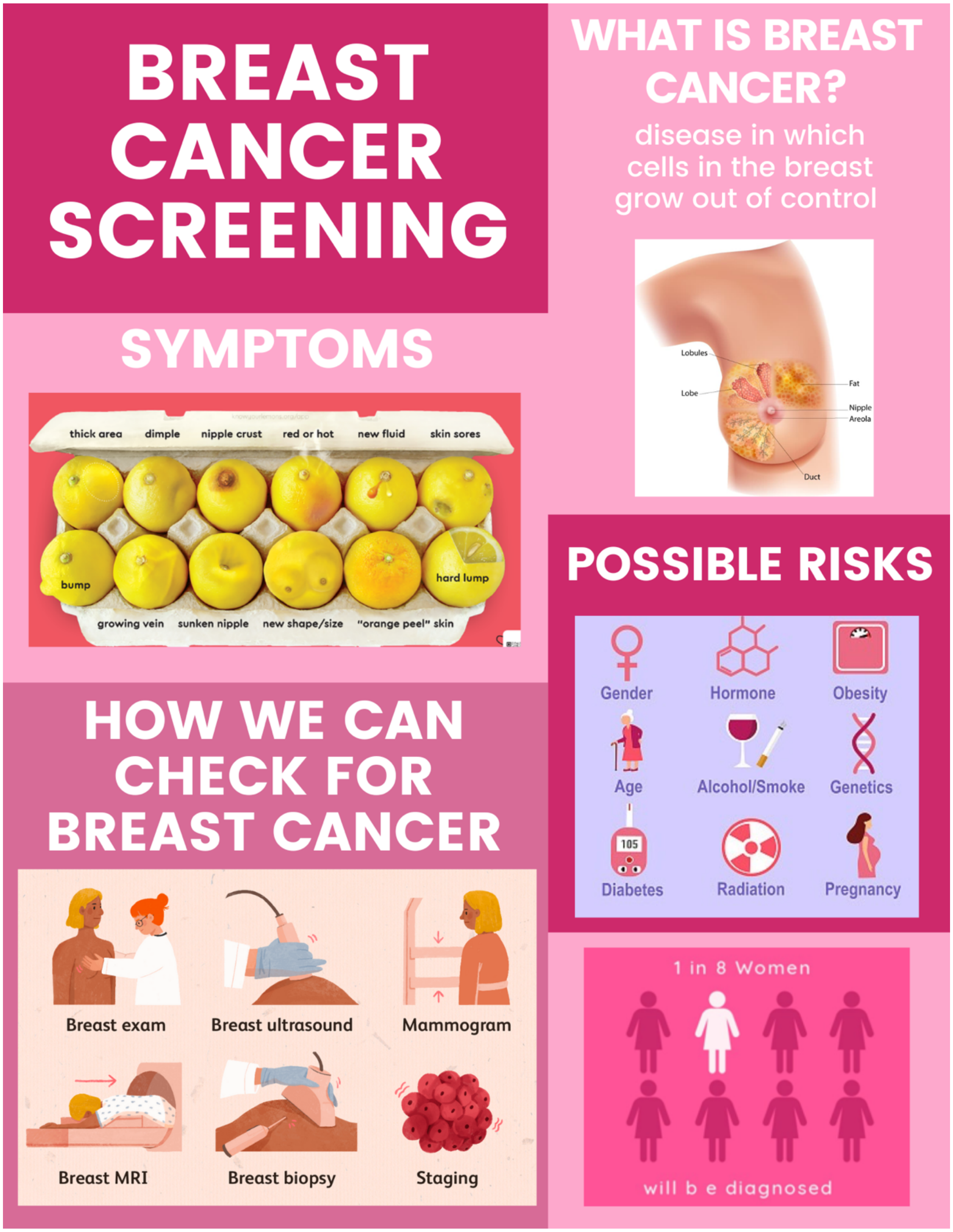
Confidentiality and privacy of patient data will be strictly upheld, adhering to privacy guidelines, including HIPPA and anonymizing data for presentation. Transparent communication with the New American community will foster trust and address any ethical concerns that may arise. In summary, the research team is dedicated to conducting a project that respects ethical principles while improving healthcare access for the New American population.

CONCLUSIONS

In conclusion, the data analysis has provided invaluable insights into the demographics, behaviors, and potential disparities within the New American patient population and the aim of increasing breast cancer screenings by 15% was surpassed in this project. These findings underscore the importance of tailored interventions, utilizing visual aids and proactive educational materials to enhance patient engagement and understanding. Additionally, the multifaceted analysis of this project has revealed several limitations in the existing healthcare infrastructure for New Americans seeking breast cancer screenings. Operational constraints of the clinic, along with scheduling issues and disruptions due to clinical team availability, highlight the urgent need for a more flexible and accessible approach. Furthermore, ethical considerations, encompassing cultural sensitivity, autonomy, equitable access, and confidentiality, demonstrate the commitment to upholding ethical principles in the pursuit of improving healthcare for the New American community. By adopting a holistic and ethical approach, this project aims to make a meaningful contribution to addressing healthcare disparities and promoting patient empowerment within this diverse population.

APPENDIX

Figure 1.1: Infographic used to teach New American patients about breast cancer and mammograms



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