

Increasing Breast Cancer Screening in Russian Immigrant Women: Identifying Barriers and Providing On-Site Mammography

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Background: There has been a significant decline in the use of mammography in the Russian immigrant population. **Local Problem:** Structural barriers to mammography include lack of or insufficient health insurance and distance to medical facilities. Organizational barriers include difficulty communicating with medical staff and navigating health care systems. The strongest mammography intervention is access. **Methods:** A Breast Health Tea event, small group discussions, and an on-site mammography event were held within this community to provide education about breast cancer and provide on-site screening mammography. **Results:** Twenty-seven women received the education and returned the questionnaires. Of these 27, 19 had mammograms. Of the 19, 16 had normal/benign results. Three required follow-up. Of the 3, 1 was positive for breast cancer, 1 was benign, and 1 went elsewhere. **Conclusions:** Providing access to on-site mammography has been shown to be an effective tool to reach communities that otherwise would not have access to these screenings. Advanced practice registered nurses can partner with public and private organizations and remove barriers to access for breast cancer screening in immigrant communities.

Keywords: Russian; immigrant; breast cancer; mammography

Introduction

Background

Despite increasing improvements in technology and the wide availability of screenings aimed at detecting breast cancer at its earliest stages, women are underusing available resources for cancer screenings. Recently, there have been concerning declines in the use of mammography (American Congress of Obstetricians and Gynecologists [ACOG], 2011; Breen et al., 2007). From 2000 to 2005, mammography screening rates dropped from 70% to 66% (Breen et al., 2007). This is especially true for Russian immigrant women in the United States and across the globe (Andreeva & Pokhrel, 2013; Chukmaitov, Wan, Menachemi, & Cashin, 2007;

Remennick, 1999). Brooks et al. (2013) also reported that underusing screening tools such as mammography delays appropriate diagnosis and treatment.

Breast cancer is the second leading cause of cancer-related deaths in women (American Cancer Society [ACS], 2015b). According to the World Health Organization (2015), in resource-poor settings, most women are diagnosed with breast cancer in later stages, decreasing their 5-year survival rates to 10%–40%, compared to 80% in women with early stage breast cancer. Because Russian immigrant women are underusing breast cancer screenings (Andreeva & Pokhrel, 2013), these women are presenting with advanced symptoms (Remennick, 2006). Structural and organizational barriers are factors in the underusing of mammography in this population.

According to Reminnick (2006), structural barriers to breast cancer screening in Russian immigrant women include lack of health insurance, insufficient health insurance, and distance to medical facilities. Organizational barriers include difficulty interacting with medical staff because of a language barrier and challenges navigating complex health care systems (Reminnick, 2006, 2007; Shpilko, 2006). Other barriers include reduced perceived risk of breast cancer, belief that mammography does not consistently prevent breast cancer deaths, and lack of emphasis on health promotion (Breen et al., 2007). Providing on-site access to breast health education and mammography can reduce or eliminate these barriers (Legler et al., 2002).

Education can help eliminate and overcome barriers to health care. Secginli and Nahcivan (2011) found that health promotion and education increases awareness for health prevention screenings in immigrant women. Along with education, providing access to on-site mammography is an effective, evidence-based tool to reach communities that otherwise would not have access to these screenings (Minnesota Department of Health [MDH], n.d.; Park Nicollet Health Services, 2015). The specific aim for this systems improvement (SI) project was developed to increase breast cancer screenings in Russian immigrant women in a faith-based community through identifying barriers and providing access to screening. Legler et al. (2002) and Brooks et al. (2013) state that the strongest mammography-enhancing intervention is access to mammography. The MDH meets these access-enhancing criteria through the Sage Screening Program, which provides a mobile mammography bus in partnership with a regional clinic and the ACS (MDH, n.d.; Park Nicollet Health Services, 2015). The Sage Screening Program brings mammography directly to women using the mobile mammography unit. In addition to breast cancer screening, the MDH Sage Screening Program provides free cervical and colon cancer screenings to eligible women based on income status.

Method

Setting

The setting for this SI project was a southern, outer ring suburb of Minneapolis. The project site community has approximately 283 homes with Russian-speaking families. Russian is the third most common language spoken in this geographic region (Stratis Health, 2012). The primary location for the project within this community was a Russian faith-based congregation. This congregation has 850 members of which approximately 200 are women older than the age of 40 years (O. Maleshenko,

personal communication, May 3, 2015). Women who were members of the church and older than 40 years were invited to participate in the SI project. This project was done with the support of the church scheduler, a Sage representative, a regional clinic representative, and an ACS representative.

Interventions

Breast Health Tea Event. To increase breast cancer screening rates in the Russian immigrant population, the DNP project leader (PL) hosted two events. The first event, a Breast Health Tea event, was held to assess knowledge, assess need for intervention, and provide education. Participants were invited using invitations handed out after church services by the PL and a flyer posted on a church bulletin board that contained the eligibility criteria. The Breast Health Tea event included a PowerPoint presentation aimed at educating participants about breast cancer, including risk factors, prevention (healthy lifestyles), and breast cancer screening. In addition, palpable breast models and breast beads were available to provide women with the opportunity to locate and feel a breast lump. The breast beads are different sized beads that can be used to demonstrate the size of tumors that can be detected by mammography. The beads provide a tactile way of differentiating between breast lumps that can be felt by the woman compared to breast lumps that can be detected by mammography.

A question and answer period followed the presentation. Women were then invited to schedule a mammogram on site in 3 weeks. Small group discussions were held for women unable to attend the tea event to provide them with the same information and facilitate access to the upcoming on-site mammography event. The discussions provided an opportunity for participants to ask questions and schedule an on-site mammogram.

During the tea event and small group discussions, participants were given a disclosure statement of voluntary participation and three questionnaires. Questionnaires did not have identifying information and once completed were placed in a folder to ensure participant confidentiality. The PL collected the folder at the end of the event. The first questionnaire was a needs assessment with questions evaluating participant use of clinical breast exams and mammograms. The second and third questionnaires were pre- and postintervention Likert scale assessments of participant knowledge and beliefs about mammograms and breast cancer screening. The aim of these questionnaires was to assess the effectiveness of the education provided and to evaluate barriers to breast cancer screening tools.

Mammogram Event. The second component of this system's SI project included the provision of on-site mammograms. Per the request of the participants, the PL provided a reminder call to participants who were scheduled for a mammogram. At the Breast Health Mammogram event, each of the representatives (Sage, ACS, regional clinic) set up tables/spaces. There were tables for registration, refreshments, breast health information, and resources to access health care. The women moved through three stations. First, women were directed toward the registration and resource tables, they were then guided to the clinical breast exam station. A nurse practitioner from the Sage Screening Program performed the clinical breast exams, which took place in a small private room next to the registration area. Upon completion of the clinical breast exam, participants were directed to the on-site mobile mammography bus for their mammogram. Each participant spent approximately 15 min at each station. Women had the opportunity to talk to the Sage and ACS representatives to receive information on accessing other health care resources (e.g., Pap tests and annual physical exams). The Sage Screening Program provided professional, certified Russian interpreters who were available at each station.

Methods of Evaluation

Needs Assessment. In addition to the narrative data collected during the Breast Health Tea event and discussion sessions, a three-question needs assessment survey was administered prior to the educational tea and discussion sessions. The first two questions on this survey assessed when the participant last had a clinical breast exam and when the participant last had a mammogram. The third question on this survey evaluated participants' reasons for not having a clinical breast exam and mammogram in the past 2 years if they reported not having one in that timeframe.

Pre- and Postassessments. The pre- and postassessments were based on a 5-point Likert-type scale. Four statements evaluated participants' knowledge of the importance of mammography, knowledge of where to obtain a mammogram, and knowledge of risk factors and prevention of breast cancer. Data were evaluated using the Wilcoxon signed-rank test for paired data. This test was used instead of a paired *t* test to avoid the assumption of normality of the data and better deal with the discrete nature of the outcomes.

Aggregate Data and Descriptive Statistics. Aggregate data were collected and reflected the number of women educated (i.e., those who completed the pre- and postassessments), number of women screened, age range,

insurance status, screening history, and mammogram results (e.g., normal/benign, need follow-up, and number of suspicious or positive results).

Screening history was grouped according to the following ranges: 1–3 years, 3–5 years, or >5 years; mammogram results were identified as normal/benign, need follow-up, and number of suspicious or positive results. All data were deidentified.

Thematic Networks Analysis. To identify the barriers, narrative or qualitative data collected from the needs assessment and the discussions were analyzed by creating a thematic networks analysis. This process entailed the following six steps: reduction of the data, identification of themes, arrangement of themes, description of networks, summarization, and compilation (Terry, 2012). The barriers noted on the needs assessments were identified through reduction of the data collected, arrangement of data by themes, inclusion of a description for each barrier, and finally summarization and compilation of data to clarify the barriers, patterns to breast cancer screening, and the relationship of the themes.

Ethics

Ethical principles were applied throughout the project process. The presented information and consents were given within the appropriate language of the Russian faith-based community.

Institutional review board (IRB) approval and exempt status was granted prior to the start of project implementation by the PL's university. The project site did not require a separate IRB.

The project was introduced and discussed at the beginning of the educational sessions in the native Russian language of the women. The PL spoke the Russian language fluently and was able to communicate with the participants freely. All written information was given in two languages, Russian and English. This was done to reinforce understanding of the project for the participants. Risks of mammography were explained before the women consented to the breast cancer screening. These risks include false-positive results, false-negative results, radiation, and the need for further testing. The participants were also ensured their right to withdraw from the project at any time. They were given contact information for the PL, faculty advisor, and the research subjects advocate line should they have any questions or concerns.

Confidentiality and Health Insurance Portability and Accountability Act (HIPAA) compliance were enforced throughout the project. The patients completed a needs assessment and pre-/postquestionnaires without

identifying information. At the request of the participants, phone numbers were given to the PL to make reminder phone calls prior to the mammogram event. The PL ensured patient privacy by only speaking to the participant individually regarding the date and time of the mammogram. No voicemail messages were left. During the mammogram event, the use of professional Russian-speaking certified interpreters protected patient confidentiality and eliminated need for family or community members and/or the PL to interpret. The regional clinic and the Sage Screening Program followed HIPAA regulations with private health information of the participants as ordered by their protocols and policies. No private medical data were given to the PL. Only aggregate deidentified information was provided to the PL from the regional clinic and Sage.

Results

Needs Assessment

The needs assessment was the first questionnaire that was filled out, which consisted of three questions. The first and second question assessed when the last clinical breast exam was done and when the last mammogram was obtained. Of the 27, 5 had a clinical breast exam and a mammogram within the last year, 14 in the last 2–5 years, 3 within the last 10 years, and 5 had never had one done. The third and final question assessed participants' reasons for not having a clinical breast exam and mammogram in the past 2 years. Of the 27, 22 had not had an annual breast exam and mammogram within the last 2 years. The reasons listed included no insurance, didn't think it was important, other, and no response (Table 1).

Pre- and Postassessment

The pre- and postassessments were analyzed using the Wilcoxon signed-rank test. The frequency of each response in the figures is shown on the Y axis, and the

TABLE 1. Reason for Not Getting a Mammogram in More Than 2 Years

Reason	Number of Women	%
No insurance	8	36.4
Did not think it was important	5	22.7
Health care provider did not tell me	0	0.0
It is bad for me	0	0.0
Other	5	22.7
Blank	4	18.2

Note. $N = 27$.

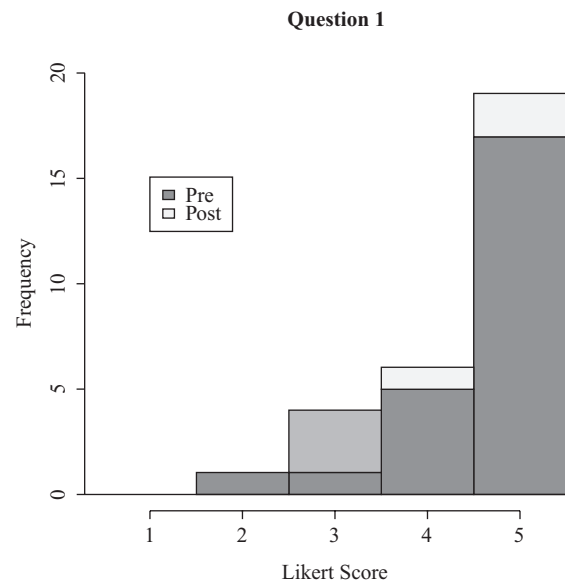


Figure 1. Pre-/postsurvey Question 1: Importance of annual screening mammography. The red area shows the distribution of the postintervention responses, and the blue area shows the distribution of the preintervention responses. The purple area is where they overlap.

response options are shown on the X axis (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*). In assessing participants' responses to Question 1 regarding the importance of annual mammography, the results demonstrated that there was a trend toward thinking that getting an annual mammogram was more important in the postintervention period compared to the preintervention period (Figure 1). However, this shift was not statistically significant ($p = .05991$). For Question 2, which assessed participants' likelihood of getting an annual mammogram after the intervention, the postintervention questionnaire again corresponded with higher responses (Figure 2). These results illustrated that the women were significantly more likely to agree that they will get a mammogram done every year after the intervention ($p = .0024$). With Question 3, there also was a trend toward increased responses, moving from disagreeable to agreeable (Figure 3). These results showed that after the intervention, the women were significantly more knowledgeable about where they could go to get a mammogram ($p = .0168$). Thus, results were statistically significant. For the final question on the pre- and postassessment questionnaires, there were significant improvements in participants' perceived knowledge of breast cancer risk factors and prevention strategies ($p < .0003$; Figure 4).

Breast Health Tea and Mammogram Event

Ten women attended the Breast Health Tea event. Seventeen more women attended small group discussions,

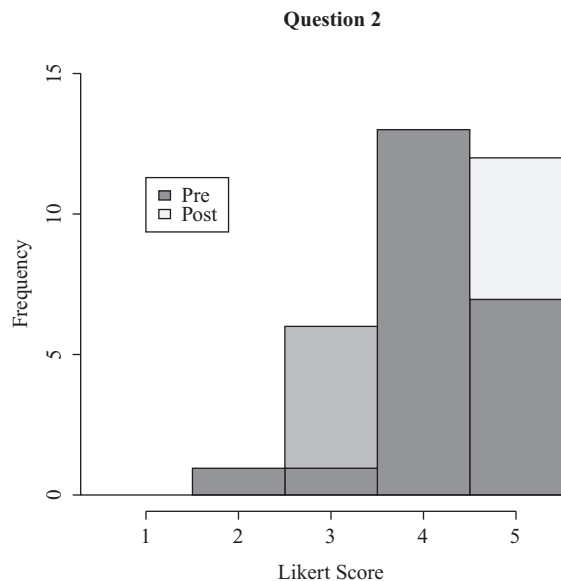


Figure 2. Pre-/postsurvey Question 2: Likelihood of getting an annual mammogram. The red area shows the distribution of the postintervention responses, and the blue area shows the distribution of the preintervention responses. The purple area is where they overlap.

which resulted in 27 female participants. The age range for the participants was 40–62 years, with an average age of 52 years. Of the 27 women, 19 signed up for the mammogram event. Of the eight who did not sign up, four had a mammogram within the last year, and four women went through their primary care provider for breast cancer screening. The mammography results for

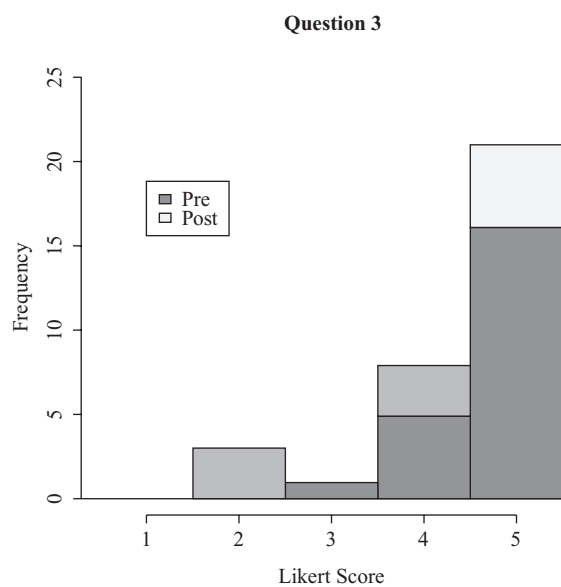


Figure 3. Pre-/postsurvey Question 3: Knowledge of where to get mammograms. The red area shows the distribution of the postintervention responses, and the blue area shows the distribution of the preintervention responses. The purple area is where they overlap.

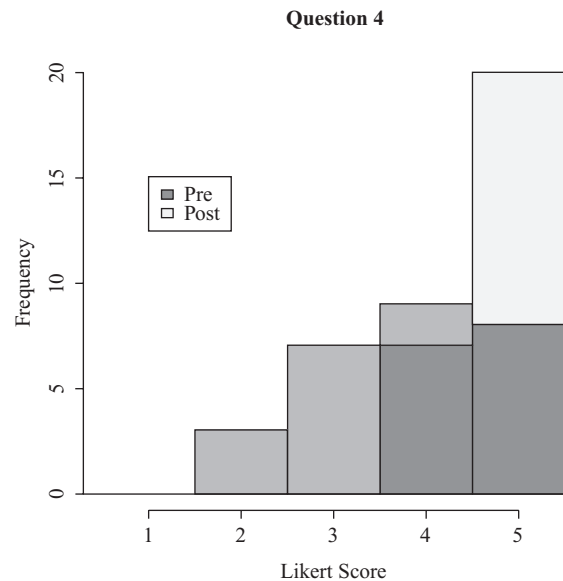


Figure 4. Pre-/postsurvey Question 4: Knowledge of breast cancer risk factors and prevention. The red area shows the distribution of the postintervention responses, and the blue area shows the distribution of the preintervention responses. The purple area is where they overlap.

the 19 women included 16 normal/benign findings. Three women required follow-up. Of the three, one was positive for breast cancer, one was benign on follow-up, and one went elsewhere for further evaluation.

Thematic Network Analysis

Throughout the discussions/events and on the needs assessment tool, several themes and barriers to breast cancer screening were identified. One of the themes that arose was fear that mammography would cause cancer. Another was distrust toward the medical system, for example, believing that the medical system was “making money off me.” Lack of knowledge about risks for breast cancer and the importance of breast cancer screenings also were identified as a barrier to care. However, the most common barrier identified was the financial burden of not having insurance or being underinsured (Figure 5).

Discussion

It is evident that Russian immigrant women are under-using breast cancer screening tools. There are structural and organizational barriers that include lack of insurance/being underinsured, distance to facilities, difficulty navigating the health care systems, and difficulty communicating with medical staff (Breen et al., 2007; Reminnick, 2006, 2007; Shpilko, 2006). This project focused on identifying these barriers and providing on-site access to mammography.

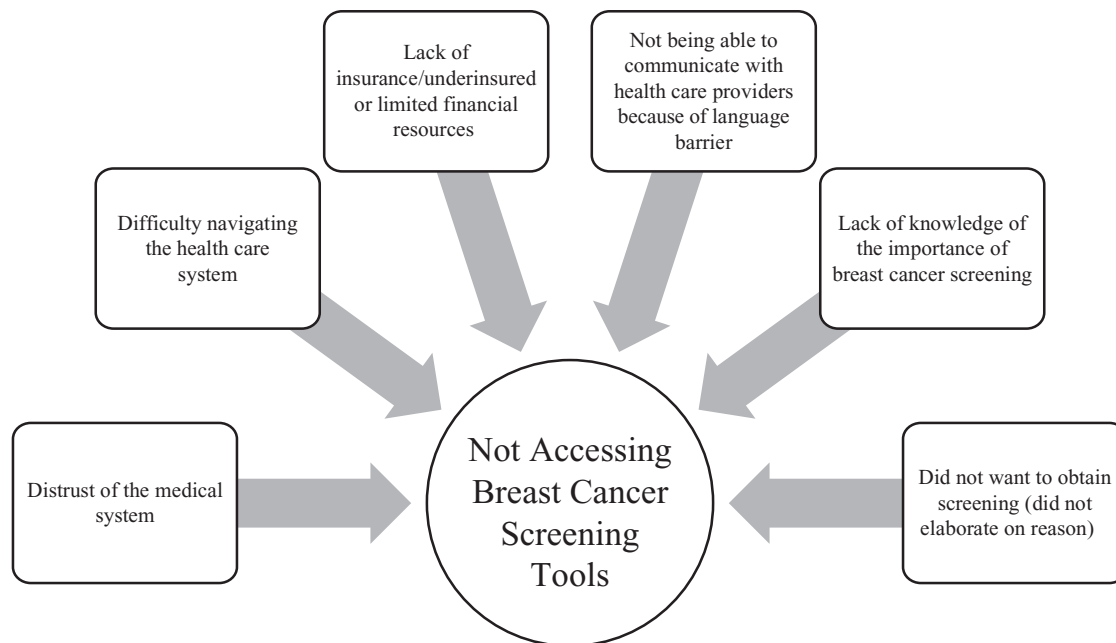


Figure 5. Barriers to accessing breast cancer screening. Thematic network analysis illustrating the themes that were depicted from the assessments and discussions.

The needs assessment revealed that the women in this faith-based community were not using or were underusing breast cancer screening tools. Most of the women in this group had not had a mammogram in 2–5 years. The remaining women did not have a mammogram in more than 5 years. This assessment also revealed the barriers that these women faced. Some of the more prominent barriers that are modifiable for this group of women were the lack of knowledge related to breast cancer screening and being uninsured/underinsured. After providing the education, the discussions that followed revealed distrust among some women toward the health care system, which was fueled by the difficulty in navigating the health care system.

The pre- and postassessment questionnaires affirmed that after education and discussion, the women were more knowledgeable about breast cancer, screening tools, and how to access screening. In addition, the postassessment confirmed that once the education and access to mammography were provided, the women were more likely to strongly agree that they would get an annual mammogram. The first step to increasing mammography is to identify the barriers in a particular group of women. The next step is to look for ways to address these barriers and provide easy access to breast cancer screening tools. Providing on-site mammography within a community increases access and decreases structural and organizational barriers. Furthermore, women may feel more in control and more comfortable in an environment with which they are familiar.

Limitations

Several limitations were identified in this SI project. First, the sample size was small and was obtained from one faith-based community. For this reason, it is difficult to generalize these results to other communities. It would have been beneficial to include other Russian congregations, or even other immigrant congregations, in the region. The number of women who could be screened in 1 day also limited the sample size. The mobile mammography service could only accommodate 20 participants in 1 day. Having multiple screening dates would have allowed for a greater number of participants. Another limitation was having the educational or tea event only one time. Providing this education on several days and at different times may have increased the reach of this educational intervention. In addition, the questionnaires were not tested for reliability or validity. Finally, no information was gathered after the mammography event to assess participants' responses to the breast cancer screening.

Having a follow-up survey after the mammogram event to further evaluate the participant's response to on-site mammography would have provided more useful information for developing future screening programs.

Implications for Practice

Health care providers need to be aware of barriers to cancer screening. It is necessary to take the time to educate immigrant women on the importance of breast

cancer screenings, and how to access these screenings. Providers can be proactive and participate by volunteering at cancer screening events. They also can advocate funding these programs at the local, state, and federal level. Providing these services in partnership with communities of underserved women will lead to a shift in earlier detection and treatment of breast cancer.

It is important for health care providers to be aware of the current mammography screening recommendations. When this project was implemented, the recommendations by the ACS and the American Congress of Obstetricians and Gynecology (ACOG) advised that women older than the age of 40 years have annual mammograms. The ACS modified its recommendations in October (ACS, 2015b) to recommend women start annual screening mammograms at age 45–54 years and continue screening biennially after that (Oeffinger et al., 2015). Screenings are advised for as long as the life expectancy is 10 years or longer. The ACS recommended against a clinical breast exam at any age. ACOG (2015) continues to recommend annual mammography for women age 40 years and older and annual clinical breast exam starting at age 19 years. Both the ACS and ACOG recommend that providers partner with their patients to collaborate on the best plan of care regarding the timing of mammography screenings (ACOG, 2015; Oeffinger et al., 2015).

Conclusion

By identifying barriers to screening mammography, the PL was able to provide resources to overcome structural, organizational, and other barriers to care. The modifiable barriers that were eliminated by providing on-site mammography were the lack of insurance and difficulty in navigating the health care system. The educational information provided eliminated the barrier of participants' lack of understanding or knowledge of breast cancer screening tools. Education was provided in a native language, which eliminated or decreased communication barriers. As Brooks et al. (2013) found, mobile mammography addressed both the financial barrier (lack of health insurance) and the nonfinancial barriers (education and counseling). By providing education and on-site mammography, these women were able to access the screenings that they otherwise would not have. For one particular woman, it was life-saving.

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