

Increasing Mammography Uptake Through Academic-Community Partnerships Targeting Immigrant and Refugee Communities in Milwaukee

Sailaja Kamaraju, MD, MS; Melissa DeNomie, MS; Alexis Visotcky, MS; Anjishnu Banerjee, PhD; Kate Krause, BS; Emmanuel Tavares, BA; Amrita Rao, BS; Elaine Drew, PhD; Joan Neuner, MD, MPH; Melinda Stolley, PhD

ABSTRACT

Introduction: Milwaukee, a city characterized by high rates of racial segregation and a growing immigrant population, has large race-based breast cancer survival disparities. To address these disparities, breast health education workshops were offered through a community-academic partnership (CAP) to women from various ethnic backgrounds. This paper explores attendance, satisfaction, and rates of screening mammography among workshop attendees.

Methods: Partnerships were formed with community-based organizations, a mobile mammography unit, and the Wisconsin Well Woman Program, a state-supported program providing free mammograms. Multilingual staff provided monthly breast health education workshops at community settings and coordinated transportation. Participants completed surveys that included demographics, prior screening history, barriers to screening, and program evaluation. Descriptive statistics were used to summarize and analyze data.

Results: Over a 24-month period, 493 women—most of whom sought services at partnering organizations that serve primarily immigrants, refugees, and racial minorities—attended breast health workshops, with 374 participants completing surveys (mean age=45 years). A total of 360 were ≥40 years old. Among these women, 188 (113 insured [60%], 75 uninsured [40%]) reported no prior mammogram in the past 2 to 5 years. After attending the workshop, mammogram uptake was 100% among the insured and 80% among the uninsured. Satisfaction with the workshops was high; 73% of attendees rated them highly informative.

Conclusions: Our CAP offered culturally tailored breast health education and access to screening via a mobile unit that was well attended, highly rated, and increased screening mammography.

• • •

Author Affiliations: Medical College of Wisconsin (MCW), Department of Medicine, Division of Hematology and Oncology, Milwaukee, Wis (Kamaraju); MCW, Department of Family and Community Medicine, Milwaukee, Wis (DeNomie); MCW, Department of Biostatistics, Milwaukee, Wis (Visotcky, Banerjee); MCW, Milwaukee, Wis (Krause, Tavares, Rao, Neuner); University of Alaska Fairbanks, Division of Anthropology, Fairbanks, Alaska (Drew); MCW, Department of Medicine, Clinical Cancer Center, Milwaukee, Wis (Stolley).

Corresponding Author: Sailaja Kamaraju, MD, MS, Medical College of Wisconsin, Department of Medicine, Division of Hematology and Oncology, 9200 W Wisconsin Ave, Milwaukee, WI 53226; phone 414.805.4600; fax 414.805.4606; email skamaraju@mcw.edu.

INTRODUCTION

Breast cancer is the most commonly diagnosed cancer among women in the United States and the second leading cause of cancer mortality.¹ Regular screening is the key to timely diagnosis and treatment.² This can be challenging in populations with cultural, educational, and language barriers, which often exist in tandem with limited access to care.³⁻⁵ African American, Latino, Native American, and immigrant communities demonstrate lower adherence to screening mammograms compared to white populations.^{6,7} Factors that preclude women from seeking preventive health measures include lack of awareness, limited English proficiency, transportation barriers, personal beliefs, fear of illness, financial concerns, and work schedules that leave little time for daytime clinic appointments.⁸ Methods to identify these impeding factors and efforts to deliver appropriate preven-

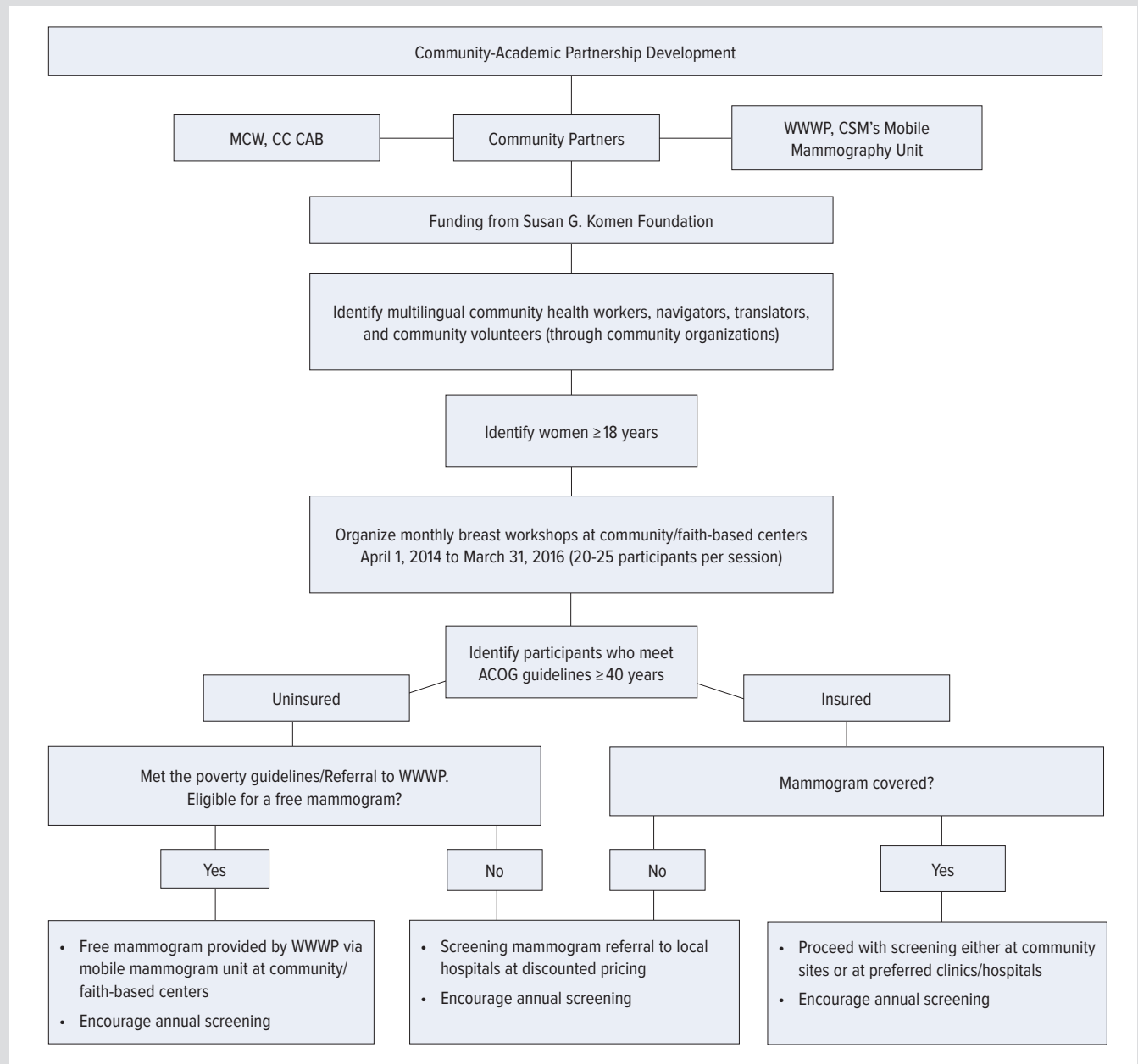
tive care through community engagement and outreach are critical to overcome these barriers.⁹

A variety of interventions demonstrate success with increasing screening mammography rates among women facing race-based health disparities. These include patient navigation to improve access and/or reduce practical barriers, community health worker-guided programs to promote education, and events offering mobile mammography.¹⁰ Few interventions include culturally tailored education, navigation, and access to mobile mammography—essential components that support screening—in one easily accessed community setting.¹¹ Such efforts are challenging and highlight the growing need for multisector partnerships and care delivery models that address the needs of underserved women.

CME

CME available. See page 61 for more information.

Figure. Project Outline



Abbreviations: MCW, Medical College of Wisconsin; CC CAB, Cancer Center's Community Advisory Board; WWWP, Wisconsin Well Woman Program; CSM, Columbia St. Mary's; ACOG, American College of Obstetricians and Gynecologists.

Community-academic partnerships (CAPs) are an effective way of engaging communities in cancer awareness efforts. Academic partners provide technical knowledge, health care resources, and training to lay navigators and community health workers.¹² Community partners provide cultural expertise, local knowledge, and established relationships with community members. These partnerships can enable the development and implementation of comprehensive and culturally relevant efforts to increase breast health knowledge and promote timely screening among underserved communities.¹²⁻¹⁴ Ultimately, such efforts may contribute

to a decrease in race-based breast cancer survival disparities.

Recent reports document significant disparities in breast cancer mortality and survival among Wisconsin's African American and Hispanic women compared to white women.^{3,15} Breast cancer-specific mortality was higher among the African American (Hazard Ratio [HR] 1.55, $P < 0.05$) and Hispanic/Latino population (HR 1.54, $P < 0.05$) compared to white women.¹⁵ Milwaukee, a city with high racial segregation and race- and ethnicity-based social and health disparities, is currently experiencing an influx of immigrants and refugees, particularly from Burma, Middle Eastern

countries, Eastern Europe (Albania), and Africa (Somalia).¹⁶ Although not yet documented, based on previous data showing low utilization of recommended screening in newly immigrated women, it may be expected that Milwaukee's recent immigrants will experience poor breast cancer outcomes.^{17,18}

Given these demographic shifts and observed race-based disparities, we developed a community-academic partnership to implement a comprehensive breast health education and screening program for minority and newly immigrated women. This partnership facilitated breast health workshops to small groups with assistance from community health workers and translators and use of a mobile mammographic vehicle to provide easy access to screening mammograms. Program effectiveness was measured using a session evaluation. This paper presents the development of the community-academic partnerships and the effects of the breast health workshops on mammography uptake among program participants.

METHODS

Community-Academic Partnership

The Medical College of Wisconsin (MCW) Cancer Center has developed a powerful Cancer Center Community Advisory Board that engages diverse stakeholders, including representatives from minority communities that face race-based health disparities. The advisory board aims to reduce barriers to cancer education, screening, diagnosis, treatment, access, and outcomes in southeastern Wisconsin. Although it focuses on several commonly represented cancers, breast cancer was chosen as the focus for this project because, among women in the United States, breast cancer it is the most commonly diagnosed cancer and the second-highest cause of mortality.¹

The study investigators are active members of the community advisory board with a history of community engagement and research among African American, Native American, and Latino groups; and the primary investigator has been actively involved for several years in outreach efforts with local African American, immigrant, and refugee community centers. Figure 1 depicts the project outline. Investigators partnered with Southeastern Wisconsin-based community and faith-based organizations that demonstrated an interest in, and commitment to, minority health and health access, breast cancer disparities, and/or women's health concerns. These organizations included the Muslim Community Health Center, African American Center (Islamic Da'wa Center), the Sikh and Hindu temples of Wisconsin, Wisconsin Shirdi Sai temple, and the Albanian, Turkish, Burmese, and Somali refugee communities. Other partners included an academic health care system (MCW), the Wisconsin Well Woman Program, and Columbia St. Mary's—a local health system that provided a mobile mammographic unit (Figure 1). Research oversight was provided by MCW's Institutional Internal Review Board.

Population/ Recruitment

Recruitment for the 1-session breast health education workshops was conducted via flyers posted at participating community centers and ethnic grocery stores, emails, and social media. Flyers were created by the community partners in English and translated to pertinent languages. Interested participants contacted project staff and reviewed study procedures. Eligibility criteria required that participants be women aged 18 and over. Community health workers and volunteers functioned as project liaisons.

Intervention

Breast Health Workshops – The Breast Health Education workshops were offered at a community location monthly from April 1, 2014 to March 31, 2016. They lasted 2 to 3 hours and were attended by approximately 20 to 25 women per session. Additionally, one-on-one sessions were held on several occasions for participants who needed additional assistance with translation. Upon arrival, women were asked to complete an anonymous survey that included questions about demographic information, prior mammographic history, and barriers that prevented them from obtaining mammograms. Survey items were based on previously published studies and refined with feedback from community leaders.¹⁹ Educational material in English and other languages (Arabic, Burmese, Farsi, Hebrew, Hindi, Somali, Swahili, and Urdu) developed by the Susan G. Komen Foundation was provided for later review. Following the survey, a medical oncologist and community health workers provided a 45-minute presentation in English that provided basic information about breast cancer risk, screening recommendations, and prevention. Translators were hired in advance pertinent to the spoken languages of the participants' group as identified by community health workers.²⁰ Participants also had the opportunity to receive a free clinical breast exam performed by the medical oncologist, a licensed internist, or a nurse practitioner. Participants completed a session evaluation at the end of the workshop.

Project Staff – The project engaged navigators, community health workers (CHWs), and volunteers from the partnering community centers. These individuals were invaluable in providing feedback and suggesting changes to simplify the presentation to improve its effectiveness among workshop participants. Study investigators relied on CHWs and volunteers fluent in various languages to assist with survey completion. CHWs provided healthy snacks and beverages, and facilitated workshop attendance by offering assistance with transportation and child care.

Mammography – A primary message from the workshops was the importance of regular mammography in early detection and successful treatment of breast cancer. American College of Obstetricians and Gynecologists guidelines were utilized for screening mammography starting at age 40 years.²¹ Free mammograms were provided by the Wisconsin Well Woman Program (WWWP), a statewide breast and cervical cancer screening pro-

Table 1. Demographic Characteristics of Study Participants, N=374

Variables	n (%)
Age	
Mean ± SD	44.99 ± 13.49
Native Language	
Arabic	54 (14.4)
Urdu	63 (16.8)
English	110 (29.4)
Punjabi	44 (11.8)
Missing	103 (27.5)
Residency Status	
Legal resident	136 (36.4)
Citizen	196 (52.4)
Missing	39 (10.4)
Visitor	3 (0.8)
Region of Origin	
African American	39 (10.4)
Middle East (Turkey, Iran, Iraq, Afghanistan)	38 (10.2)
Asia (Burma, India, Pakistan)	126 (33.7)
Refugees from Eastern Europe (Albania, Palestine)	26 (6.95)
Refugees from Africa (Somalia, Nigeria)	13 (3.5)
Missing	132 (35.3)
Do you have a primary care provider?	
No	130 (34.8)
Yes	216 (57.8)
Missing	28 (7.5)
Do you have health insurance?	
No	122 (32.6)
Yes	204 (54.5)
Missing	48 (12.8)
Prior Mammogram History: On average, how often do you have a mammogram?	
Yearly	66 (17.6)
Every 2 to 5 years	55 (14.7)
Every 5 to 10 years	14 (3.7)
Every 10 or more years	7 (1.9)
Never	148 (39.6)
Missing	84 (22.5)

Table 2. Reported Barriers to Obtaining Screening Mammogram

Self-reported Barriers to Screening Among the Breast Workshop Participants	N (%)
I do not have health insurance	91 (24.3)
I do not know where to go or who to call for a mammogram	52 (13.9)
I have no family history of breast cancer, so I don't need mammograms	49 (13.1)
I do not know if my health insurance will cover a mammogram	38 (10.2)
I do not know the benefits of getting mammograms	33 (8.8)
I do not speak English and do not know where I can go to see service providers who speak my language	29 (7.8)
I am afraid of finding out I have breast cancer	29 (7.8)
I want to get mammograms but I forget to schedule them	26 (7.0)
I do not have transportation to the clinic where I would get a mammogram	22 (5.9)

gram that provides cancer screenings and diagnostic/treatment services to low-income Wisconsin residents. Workshop participants aged 45 and older were eligible for free screening mammograms if their gross annual family income was below 250% of the federal poverty level. All other women ≥ 40 years of age who did not meet the WWWP's criteria for free mammograms were referred to local community hospitals for mammography and discounted pricing when eligible. While the study intentionally engaged participation from organizations that serve large numbers of immigrants and refugees, WWWP eligibility requirements limited services to documented US/Wisconsin residents.

A mobile mammography unit provided quarterly mammograms in conjunction with scheduled breast health workshops hosted by community organizations. Participant data was entered into Research Electronic Data Capture (REDCap), a secure web-based database used to collect and store research data. For individuals with normal mammograms, study staff emphasized the importance of ongoing annual screenings, while those who required additional follow-up were navigated to the necessary provider and/or resources. The study's principal investigator and primary providers reviewed screening mammogram reports for any additional evaluation (diagnostic mammogram, ultrasound).

Statistical Methods

We calculated descriptive statistics including means, standard deviations, and proportions, wherever applicable, for all variables of interest. Relevant summary statistics for demographic variables, including grouped summaries for ages, are tabulated. Missing data was included in the analysis and grouped into 1 category wherever appropriate, as in tables with demographics and evaluation summaries. Missingness was likely to be at random, but the type of data available precluded investigation of the nature of missingness, which could therefore be a potential limitation of the analysis.

Statistical analysis was performed in SAS 9.3 (SAS Institute, Cary, NC).

RESULTS

A total of 493 women attended one of the breast health education workshops. Of these, we excluded 108 women who declined survey completion and 11 women < 18 years of age. The final cohort included 374 women with a mean age of 45 years, the majority of whom were residents of the city of Milwaukee and 2 neighboring counties, Waukesha and Kenosha. Demographic characteristics of the study sample are described in Table 1. Study participants were of various racial and ethnic backgrounds with multiple spoken languages, and most participants were naturalized citizens or legal residents. A total of 34.8% participants lacked primary care providers and 32.6% lacked medical insurance.

A total of 360 participants were ≥ 40 years of age and thus appropriate for mammography. Of these, 188 women had reported not receiving a mammogram in the last 2 to 5 years prior to attending

the breast workshops. Women were unable to recollect the details of their yearly mammogram information. Barriers to obtaining a mammogram varied, with many women reporting multiple barriers (Table 2) including lack of or concerns about insurance coverage, lack of time to attend doctor appointments, uncertainty about where to go or who to call to schedule a mammogram, fear of negative findings, lack of transportation, and lack of English proficiency. Following the workshop, mammography increased in both uninsured and insured participants. Seventy-five of the 188 participants in need of current screening were uninsured and qualified for WWWP support to receive free mammograms. Among these, 60 women (80%) received a screening while others were no-shows (Table 3). The majority of the privately insured women (N=113) received their screening either at their primary providers' facility and few (n=<10) through the mobile mammographic unit at their faith-based community center. Additional diagnostic imaging was suggested for 12 women, all of whom were unremarkable except for 1 patient who was diagnosed of breast cancer and successfully completed treatment. Satisfaction with the breast health education workshops was high with most women reporting that they found it informative, the presentation clear, workshop site and group size comfortable, and project staff helpful (Table 4).

DISCUSSION

Our pilot initiative demonstrates the effectiveness of a culturally tailored community-academic partnership in facilitating the delivery of a comprehensive breast health education and screening program for culturally diverse women of southeastern Wisconsin. Despite the ethnic diversity of our sample, participants expressed similar concerns and perceptions regarding screening mammography including access, transportation challenges, busy schedules, fear of disease, and difficulties in language proficiency and scheduling a mammogram. Breast health education workshops, navigation, and access to screening provided at trusted faith- or community-based organizations by culturally and linguistically relevant community health workers contributed to increased mammography uptake in both insured and uninsured women.

Mobile mammography was critical to improving access to screening among participants. Other studies support the value of this resource, citing high rates of attendance by women lacking insurance and/or nonadherent to screening guidelines.^{22,23} Lee Yu-Mei et al reported greater preference for mobile mammography (21.3%) compared to hospital-based mammography (7.6%) among women surveyed.²⁴ A further advantage of mobile mammography is the data showing that mobile mammography may also support repeat visits, promoting adherence to recommended screening guidelines.²⁵

Mammography was a top priority for this intervention; however, education, clinical breast examinations, and culturally appropriate support were seen as pathways to promoting future

Table 3. Mammographic Assistance Through Community-Academic Partnership Project

Eligible Women (≥40 years) who had not received a mammogram in the last 2-5 years prior to the workshop, N = 188	n (%)
Privately insured women who obtained mammogram after attending workshop (n = 113)	113 (100)
Uninsured women who obtained mammogram after attending workshop (n = 75) (WWWP and Mobile Unit assisted)	60 (80)

Abbreviations: WWWP, Wisconsin Well Woman Program.

Table 4. Workshop Evaluation Results

Variables	Total N = 374 (%)
Overall how informative was this workshop?	
Extremely informative	273 (73.0)
A little bit informative	29 (7.8)
Not informative at all	2 (0.5)
Missing information	70 (18.7)
How would you rate the speaker's presentation and clarity?	
Extremely clear	279 (74.6)
A little bit clear	15 (4.0)
Not clear at all	4 (1.1)
Missing information	76 (20.3)
How comfortable was the atmosphere of the community site that you attended?	
Extremely comfortable	279 (74.6)
A little bit comfortable	16 (4.3)
Not comfortable	2 (0.5)
Missing information	77 (20.6)
What did you think of the group size of this workshop/presentation?	
Just about right	278 (74.3)
Too large	7 (1.9)
Too small	13 (3.5)
Missing information	76 (20.3)
How friendly and helpful was our group before, during and after today's workshop?	
Extremely friendly/helpful	280 (74.9)
A little bit friendly/helpful	9 (2.4)
Not at all	1 (0.3)
Missing information	84 (22.5)

screening adherence. Our breast health education workshops targeted underserved women from minority, immigrant, and refugee communities. Attendance was facilitated by offering the workshops in partnering community- or faith-based settings. In addition, trusted and culturally acceptable navigators and community health workers served as liaisons to assist women in overcoming barriers to attendance such as fear of spousal disapproval, language barriers, and transportation difficulties. Translators also played a key role in facilitating women's participation. Overall satisfaction was high and participants valued the group learning opportunity. Many women highlighted particular aspects of the workshop that they valued most. For example, some participants appreciated hav-

ing access to a health education program that allowed for interaction with academic faculty, while other participants reported that having a clinical breast examination for the first time was most meaningful. Several of the Burmese and Somali refugees shared being totally unaware of breast health, having never attended any health-related educational sessions or events, and thus were especially satisfied with the breadth and depth of information, services, and support.

In addition to facilitating initial workshops and screening access, our community-academic partnership is playing a key role in sustaining these efforts. Participating organizations continue to provide messaging around the importance of breast health knowledge and adherence to regular screening recommendations on an ongoing basis. A local homeless shelter began to include breast health information in its campaign addressing other health issues such as obesity, hypertension, and diabetes through the free medical clinics. Finally, and importantly, following this project, community- and faith-based organizations, in collaboration with academic faculty, received independent funding to support further breast health education; this demonstrates an increased desire and capacity to continue efforts aimed at improving breast health knowledge and screening.

The community-academic partnership was critical to program effectiveness. Each partnering organization played a unique role in ensuring that the project provided essential breast health education and screening in a culturally appropriate setting. This, and other similar projects, can contribute to improved screening adherence and education within communities that face shifting demographics due to immigration and/or an influx of refugees. Traditional screening models rely on patients/community members to seek care at clinical sites, which might be challenging to reach due to transportation challenges or lack of familiarity with the geography of a community; once there, diverse populations might be intimidated by the clinical setting, have language barriers that prevent them from easily navigating the facility, or might face any number of barriers due to their lack of familiarity with the dominant American English-speaking culture.⁵ In developing the culturally tailored breast health screening and education project, project partners were intentional about eliminating barriers to improve the education/screening experience for the diverse populations of women being served. Session evaluations – along with feedback collected from attendees – confirmed that the workshops were well-received by attendees. Other projects might consider using these workshops, which combined the clinical expertise of an oncologist with the cultural expertise of community organizations – as a model for effectively addressing health topics with diverse populations of immigrants and/or refugees.

There are also limitations to our study. First, not being a randomized trial, the study lacks the control group necessary to demonstrate actual differences in study outcomes. Second, though our

surveys and questionnaires were developed for individuals with low literacy, we had to exclude 108 of the 493 workshop participants who opted out of completing the survey. Further, our efforts to protect patient confidentiality and privacy prevented us from being able to provide assistance with survey completion, resulting in a fair amount of missing data. Unfortunately, due to the nature of the data collected, imputation or other standard statistical methods for handling missing data were not feasible. Future efforts will integrate methods to improve survey completion rates, including refining the survey items for improved comprehension, and interviewer administration.

CONCLUSIONS

This pilot project illustrates the importance of community-academic partnerships in engaging communities in cancer awareness. Future efforts will consider culturally tailored care delivery models utilizing mobile technology and applications to effectively engage with communities facing barriers and disparities.

Acknowledgements: The authors would like to acknowledge the following for their assistance and support: the staff of Wisconsin Well Woman Program, Columbia St. Mary's Mobile Mammographic unit, African American Da'wa Center, Albanian Community Center, Burmese Community Center, El Qur'an, Hindu Temple of Wisconsin, Muslim Community Affiliates and Health Center, Sikh Temples, Somali Center, Wisconsin Shirdi Sai Temple, and the Women's Shelter of Milwaukee. They also would like to thank the participants, the community health workers, translators, and the numerous volunteers without whom the project could not have happened, and the Susan G. Komen Foundation for educational materials used in the workshops.

Funding/Support: This research was funded by grant CGA 2014 WI 101-MCW1105 00027 and CGA 2015 WI 105- 0008 from the Susan G. Komen Foundation. Additional support was received by grant 8UL1TR000055 from the Clinical and Translational Science Award program of the National Center for Research Resources and the National Center for Advancing Translational Sciences.

Financial Disclosures: None declared.

REFERENCES

1. American Cancer Society. (2016). Breast Cancer Facts and Figures, 2015-2016 [published in 2015]. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/breast-cancer-facts-and-figures/breast-cancer-facts-and-figures-2015-2016.pdf>. Accessed June 19, 2018.
2. Berry DA, Cronin KA, Plevritis SK, et al; Cancer Intervention and Surveillance Modeling Network (CISNET) Collaborators. Effect of screening and adjuvant therapy on mortality from breast cancer. *N Eng J Med*. 2005;353(17):1784-1792. doi:10.1056/NEJMoa050518.
3. Wolff M, Bates T, Beck B, Young S, Ahmed SM, Maurana C. Cancer prevention in underserved African American communities: barriers and effective strategies – a review of the literature. *WMJ*. 2003;102(5):36-40.
4. Gorin SS, Heck JE, Cheng B, Smith SJ. Delays in breast cancer diagnosis and treatment by racial/ethnic group. *Arch Intern Med*. 2006;166(20):2244-2252. doi:10.1001/archinte.166.20.2244.
5. Kandula NR, Wen M, Jacobs EA, Lauderdale DS. Low rates of colorectal, cervical, and breast cancer screening in Asian Americans compared with non-Hispanic whites: cultural influences or access to care? *Cancer*. 2006;107(1):184-192. doi:10.1002/cncr.21968.

6. Millon-Underwood S, Kelber ST. Exploratory study of breast cancer screening practices of urban women: a closer look at who is and is not getting screened. *ABNF J*. 2015;26(2):30-38.
7. Glazier RH, Creatore MI, Gozdyra P, et al. Geographic methods for understanding and responding to disparities in mammography use in Toronto, Canada. *J Gen Intern Med*. 2004;19(9):952-961. doi:10.1111/j.1525-1497.2004.30270.x.
8. Juon HS, Kim M, Shankar S, Han W. Predictors of adherence to screening mammography among Korean American women. *Prev Med*. 2004;39(3):474-481. doi:10.1016/j.ypmed.2004.05.006.
9. Ahmad F, Jandu B, Albagli A, Angus JE, Ginsburg O. Exploring ways to overcome barriers to mammography uptake and retention among south Asian immigrant women. *Health Soc Care Community*. 2013;21(1):88-97. doi:10.1111/j.1365-2524.2012.01090.x.
10. Wells KJ, Battaglia TA, Dudley DJ, et al; Patient Navigation Research Program. Patient navigation: state of the art or is it science? *Cancer*. 2008;113(8):1999-2010. doi:10.1002/cncr.23815.
11. Rapkin BD, Massie MJ, Jansky EJ, Lounsbury DW, Murphy PD, Powell S. Developing a partnership model for cancer screening with community-based organizations: the ACCESS breast cancer education and outreach project. *Am J Community Psychol*. 2006;38(3-4):153-164. doi:10.1007/s10464-006-9071-2.
12. Samaras AT, Murphy K, Nonzee NJ, et al. Community-campus partnership in action: lessons learned from the DuPage County Patient Navigation Collaborative. *Prog Community Health Partnersh*. 2014;8(1):75-81. doi:10.1353/cpr.2014.0005.
13. Freund KM, Battaglia TA, Calhoun E, et al; Writing Group of the Patient Navigation Research Program. Impact of patient navigation on timely cancer care: the Patient Navigation Research Program. *J Natl Cancer Inst*. 2014;106(6):dju115. doi:10.1093/jnci/dju115.
14. Padelá AI, Killawi A, Heisler M, Demonner S, Fetters MD. The role of imams in American Muslim health: perspectives of Muslim community leaders in southeast Michigan. *J Relig Health*. 2011;50(2):359-373. doi:10.1007/s10943-010-9428-6.
15. Beyer KM, Zhou Y, Matthews K, et al. Breast and colorectal cancer survival disparities in southeastern Wisconsin. *WMJ*. 2016;115(1):17-21.
16. New Americans in Wisconsin: the political and economic power of immigrants, Latinos, and Asians in the badger state. American Immigration Council. <http://mps.milwaukee.k12.wi.us/MPS-Public/COS/Media/Partnerships/Gallery/NewAmericansinWisconsin2015-FactSheet.pdf>. Accessed June 19, 2018.
17. Hasnain M, Menon U, Ferrans CE, Szalacha L. Breast cancer screening practices among first-generation immigrant Muslim women. *J Womens Health (Larchmt)*. 2014;23(7):602-612. doi:10.1089/jwh.2013.4569.
18. Rastogi T, Devesa S, Mangtani P, et al. Cancer incidence rates among South Asians in four geographic regions: India, Singapore, UK and US. *Int J Epidemiol*. 2008;37(1):147-160. doi:10.1093/ije/dym219.
19. Champion VL. Instrument refinement for breast cancer screening behaviors. *Nurs Res*. 1993;42(3):139-143.
20. Panico N. Susan G. Komen Foundation. Breast Health Session. Oral presentation at: Breast Health Education Workshops; April, 2014 - March, 2016; Milwaukee, WI.
21. Committee on Practice Bulletins—Gynecology. Practice Bulletin Number 179: Breast cancer risk assessment and screening in average-risk women. *Obstet Gynecol*. 2017;130(1):e1-e16. doi:10.1097/AOG.0000000000002158.
22. Brooks SE, Hembree TM, Shelton BJ, et al. Mobile mammography in underserved populations: analysis of outcomes of 3,923 women. *J Community Health*. 2013;38(5):900-906. doi:10.1007/s10900-013-9696-7.
23. Vyas A, Madhavan S, Kelly K, Metzger A, Schreiman J, Remick S. Do Appalachian women attending a mobile mammography program differ from those visiting a stationary mammography facility? *J Community Health*. 2013;38(4):698-706. doi:10.1007/s10900-013-9667-z.
24. Yu-Mei L, Hsueh-Hua Y. Demographic factors influencing consensus opinion on the recall for women screened by mobile mammography unit in Taiwan. *Iran J Radiol*. 2013;10(3):116-121. doi:10.5812/iranradiol.6952.
25. Drake BF, Abadin SS, Lyons S, et al. Mammograms on-the-go-predictors of repeat visits to mobile mammography vans in St. Louis, Missouri, USA: a case-control study. *BMJ Open*. 2015;5(3):e006960. doi:10.1136/bmjopen-2014-006960.



To earn CME credit for this journal article, visit <https://www.wisconsinmedicalsociety.org/professional/wmj/journal-cme/> where you will be directed to complete an online quiz.



advancing the art & science of medicine in the midwest

WMJ

WMJ (ISSN 1098-1861) is published through a collaboration between The Medical College of Wisconsin and The University of Wisconsin School of Medicine and Public Health. The mission of *WMJ* is to provide an opportunity to publish original research, case reports, review articles, and essays about current medical and public health issues.

© 2018 Board of Regents of the University of Wisconsin System and The Medical College of Wisconsin, Inc.

Visit www.wmjonline.org to learn more.