



The Columbia University
**JOURNAL of
GLOBAL HEALTH**

Evaluation of a Breast Cancer Screening Program in Nigeria using the Evaluability Assessment Model

Bilikisu Elewonibi, PhD¹, Allyson E. Farris², Rhoda Moise, PhD³, Femi Olaleye, MD⁴, Rhonda BeLue, PhD⁵

¹Department of Health Policy & Systems Management School of Public Health, LSU Health Science Center, New Orleans, LA

²School of Public Health, LSU Health Science Center, New Orleans, LA

³Fox Chase Cancer Center, Philadelphia, PA

⁴Optional Cancer Care Foundation, Surulere Lagos, Nigeria

⁵Department of Health Management and Policy, St Louis University, St. Louis, MO

ABSTRACT There exists a paucity of policies and programs that support breast cancer screening in Nigeria. There is a clear need for effective programs that are cognizant of the local realities in Nigeria. The evaluability assessment model can be used as a cost-effective and quick alternative to traditional evaluations in improving program practices and management and developing performance measures. This study used an evaluability assessment to determine if a breast cancer screening program in Lagos, Nigeria was achieving its objectives and to adjust its activities to improve outcomes and processes to optimally serve its community. The evaluability assessment revealed that the program's objectives are plausible given its resources and context. Program recommendations focused on improving staff management, developing benchmarks to measure outputs and outcomes, and examining more effective methods of disseminating program information to the target population. This study is used as an example of how the six-step evaluability assessment model can be adapted to a multitude of programs to appraise program practices or performance measures.

INTRODUCTION

Women in low-and-middle income countries (LMIC) disproportionately bear the burden of dying from breast cancer, the global leading cause of oncological mortality in women (Ginsburg et al., 2017; Torre et al., 2017). Although mortality rates for breast cancer in LMIC are on the rise (Ginsburg et al., 2017), many LMIC do not have the infrastructure to monitor and manage disease through comprehensive registration systems (Ferlay et al., 2010, 2015). In countries where these systems exist, mortality from breast cancer has significantly declined over time. For instance, the U.S. breast cancer mortality rate decreased by 30% in the past two decades due to early detection, better treatment, and increased awareness among women and physicians (Siegel et al., 2013).

There are many studies related to breast cancer screening, knowledge, and related risk factors among Nigerian women (Akhigbe & Omuemu, 2009; Elewonibi & BeLue, 2017; Odusanya & Fmcph, 2001; Odusanya & Olumuyiwa, 2001). They reveal that low breast cancer screening knowledge and a younger age of onset are key

© 2022 ELEWONIBI ET AL. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC-BY 4.0), which permits the user to copy, distribute, and transmit the work provided that the original author(s) and source are credited.

Send correspondence to: BELEWO@LSUHSC.EDU

factors that lead to low screening rates and, ultimately, breast cancer mortality in Nigeria. Financial strain, limited access to screening, and advanced stage diagnosis all contribute to poor breast cancer survival rates in Nigeria when compared to high-income countries (HIC). For instance, the 5-year survival rate in Nigeria is only 10% compared to 70% among HIC on average (Okobia et al., 2006). Despite these findings, there is a lack of policies and programs that support breast cancer screening in Nigeria. There is a clear need for effective programs for preventive health services that are cognizant of the local realities in Nigeria such as competing health and financial responsibilities (Elewonibi & BeLue, 2017). The purpose of this study was to evaluate a breast cancer screening program in Lagos, Nigeria to determine the program's effectiveness and adjust its activities to improve outcomes.

Health programs need adequate evaluations to ensure they meet their goals, which include improving health, providing access to care, and reducing disparities. Unfortunately, program evaluations can be expensive and time-consuming to perform due to their multi-step dimensions and complex nature. Consequently, health programs in developing countries often do not have the resources needed for comprehensive evaluations (Leviton et al., 2010). Evaluability assessments offer a solution to these issues by providing a systematic process that links program planning, development, and evaluation (Fisher & Peters, 2009). Evaluability assessments are also attractive for public health research due to their cost-effectiveness. Typically, evaluability assessments are administered to assess an ongoing program's functionality and efficiency in order to determine continued use. The process reveals whether stakeholders agree to program goals and whether assumptions about the program are plausible, given contextual resources (Leviton et al., 2010). Finally, evaluability assessments identify programs that need improvement as well as those that seem promising by helping to develop performance measures so that the program is more likely to be successful once a formal evaluation is complete. This study uses the evaluability assessment methodology as a cost effective and time-sensitive alternative to traditional evaluations (Leviton et al., 2010).

METHODS

Setting

The author's institute (from here referred to as the "the institution") is a non-profit in Lagos, Nigeria, offering breast cancer screening and treatment centers in the state. Since 2012, the institution's objectives have been to increase awareness and knowledge of breast cancer in the community, emphasizing the importance of regular screening and providing these cancer screening services at affordable rates to all women. The institution holds a weekly health seminar on risk factors, signs, and symptoms associated with breast cancer, providing free breast cancer screening for participants. Ongoing assessment of program implementation and effectiveness is necessary for the institution to provide optimal services to its community. The current study took place at the Surulere office of the institution in Lagos, Nigeria, in June and July 2015. We employed a six-step evaluability assessment approach adapted from the model developed by Joseph Wholey in 1979 and later updated in 2010 (Wholey, 1979; Wholey et al., 2010).

Assessment and Data Collection Procedures

Step 1: Review Program Documentation

Documents containing the mission of the institution, a description of goals, grant proposals, application for non-government organization (NGO) status, annual report, information sheets, and education flyers were obtained from the program director and reviewed by the research team to understand the current objectives and status of the program. These documents provided background on specific program activities and program goals and helped identify all major stakeholders affiliated with the program's implementation. These stakeholders included the program director, board of trustees, collaborating doctors, nurses and support staff, staff in collaborating laboratories where tests are conducted, and patients receiving the program. All stakeholders were approached to be interviewed.

Step 2: Development of Program Framework

In this stage, a program logic model was developed to understand the program's protocol and use the logic model as a guide for stakeholder questions. A logic model is a graphic depiction of the activities, resources, and expectation of the program and depicts the program theory as it was initially conceptualized, based on program documentation (Leviton et al., 2010). The input-activities-output-outcomes format was chosen for simplicity and logical flow as it efficiently illustrates how program activities can be directly linked to program outputs (McLaughlin & Jordan, 1999). This format consists of four main components: input, activities, outputs, and outcomes, and it also highlights the relationship among long-, intermediate- and short-term desired outcomes and program activities that need to be implemented to achieve the desired outcomes.

Step 3: Stakeholders Engagement

Stakeholders were interviewed to learn about the daily functioning and realities of the program from multiple perspectives. A preliminary meeting with the program director and staff was held to explain the purpose and process of the assessment and gauge feasibility of interviewing all relevant stakeholders. After the meeting, semi-structured interviews with stakeholders were conducted individually to document their perceptions of program objectives, resources, expectations, and effectiveness. Staff interviews were conducted separately to encourage open discussion and determine the extent to which a consensus existed regarding the objectives of the program. The interview questions covered topics such as challenges in fulfilling their roles, program standards, implementation issues, and feasibility of the desired outcomes and program activities. Exit interviews were conducted with female program participants, 18 years of age and older, who were able to speak English or pidgin English, and who received service on the day of interviews. After women filled out the clinic registration form, those eligible were invited to participate in the study via a verbal recruitment script. The clinic registration fee (approximately \$3) was covered as compensation for participating in interviews. Women were asked questions designed to elicit information about delivery, implementation, and level of satisfaction with the program. A list of interview questions for each stakeholder group is included in the appendix. Stakeholder interviews were conducted by the lead author and local researchers, all of whom were familiar with the local language, customs, and traditions. The local researchers were trained by the lead and co-authors to ensure consistency in interview standards and approaches. More details regarding the recruitment and selection process for patients as well as training for those who conducted the interview are documented by Elewonibi & BeLue, 2017. All interviews were face-to-face and were recorded, transcribed verbatim, and summarized using the qualitative analysis software Nvivo 12.

Step 4: Program Observation

Program activities were observed to better understand the logistics of program implementation and to observe any discrepancies between expected and actual program activities. Every step of program delivery was observed by two to three evaluators, on different days and at two time points in a day. During the observation period, a patient was followed from intake to discharge to document their experience with the program. Patient observations were made by two researchers who met at the end of each day to compare notes and experiences to determine the program's fidelity. A third researcher, who did not participate in that day's patient observations, would also be present at the meeting to settle any discrepancies. Researchers noted instances when the clinic protocol was not adhered to, the context surrounding the change in protocol, the quality of program delivery, and client reactions.

Step 5: Clarify Program Objectives

Following the document review, stakeholder interviews, and program observations, the logic model was revised and shared with the program manager for further development and revision. The document reviews and stakeholder interviews were used to develop the input and activities sections of the logic model, while field notes taken during the observation of the program were used to develop the activities section. Formal goals and objectives were developed with the program director; content analysis of stakeholder interviews was used to identify common goals, expectations, and challenges among staff members. Program activities were directly linked to program goals and objectives.

Step 6: Analysis

Evidence from other successful programs, logic models, and program activities were used to determine if the current program outcomes were achievable and to develop recommendations for improvement. Details about existing breast cancer screening programs in other developing countries and their evaluations were reviewed to assist in developing the final logic model and recommendations. Programs were deemed potentially suitable if they involved low resource settings, were simple to implement, and had similar goals and outcomes as the institution.

RESULTS

Stage 1: Results – Document Review, Stakeholder Interviews and Observation

Document Review

The objectives of the institution were:

- 1) To provide cancer screening services at an affordable rate to all women.
 - 2) To increase awareness and knowledge of cancer in the community, emphasizing regular screening.
- To achieve these objectives, the institution offers the following clinical services: clinical breast

examination, visual cervical cancer screening, Human papillomavirus (HPV) vaccine, cervix polypectomy, cryotherapy, breast and cervical biopsy, breast scan with ultrasound technology, mammograms, lumpectomy, aspiration breast biopsy, and prostate-specific antigen (PSA) tests. The institution collaborates with diagnostic labs and other nearby medical facilities to provide services they do not offer, such as mastectomy and chemotherapy. The weekly cancer screening program is funded through private donations and payments received for services given on Monday-Thursday.

The institution maintained seven full-time staff, volunteers, and office supplies on a regular basis. Patient information and program attendance were well documented, with an average of 200 women seen monthly; 66% attended on Fridays and 33% on Mondays-Thursdays. The center also published information leaflets available for women to take home. Leaflets were distributed at events or venues where a large number of women gathered. The clinic disseminated information through media outlets such as Facebook and media appearances on TV and radio.

Stakeholder Interviews

In total, 14 stakeholders, excluding patients, were approached to be interviewed. Of those, nine people agreed to participate in the study.

Program Director

The program's objectives, as stated by the program director, were consistent with program documentation. The program's target population for breast cancer services was women aged 25 and older, due to the average age of breast cancer incidence and the general lack of communal cancer awareness. While the free screening program is available to all, it mostly targeted low-income women who would not be able to afford frequent screening; therefore, at the director's discretion, low-income women who could not afford treatment were given subsidies.

The director fills numerous roles, including a clinical role in performing screening and diagnostic services for patients, a management role of organizing training and managing staff, and an operational role, which ranges from organizing waste management to maintaining supplies. The director is also the chief fundraiser, and a large part of his time is spent seeking private donations from sponsors.

The director believed the program had been successful in achieving its goals, evidenced by the growth in women screened monthly and the demands for the center's services by other organizations and groups. The director was especially happy that the program was interactive with the community and self-sustaining. However, funding the program and providing services at affordable rates remain the two greatest challenges to sustainability. The director stated that his long-term goal was to demonstrate to policymakers that providing affordable, good-quality cancer screening and treatment services to all women is possible.

Clinical and Administrative Staff

The institution consisted of three nurses, two doctors, two volunteer field workers, and three administrative staff who agreed to participate. Most of the staff had been with the institution for a year at minimum. During 20-45-minute in-person interviews, staff members articulated the program goals: to create and increase awareness of cancer screening, especially among women with low incomes and little-to-no education. Many highlighted the gap the institution fills in the healthcare system given that there are scarce screening centers in the country. They also felt a secondary goal of the program was to provide emotional support to patients receiving treatment and follow up with patients who were due to be screened or missed an appointment.

Staff stated that program successes were exemplified by the following: the high number of women currently being screened compared to the clinic's initial opening, the number of women who returned for repeat screening or came in because they had heard of the institution from other patients, and the increase in outreach programs to which they were being invited. They also praised the commitment shown by the program director to ensure the success of the program and his passion for the cause. The biggest challenge staff faced was dealing with patients who were ill-mannered during service delivery. They also felt they had no avenue to voice concerns nor share suggestions to the program director. Since the director was not present all the time, they required a mechanism to voice their concerns and opinions without fear of repercussion.

Program Participants

One hundred and twenty-nine women were approached as part of this study, and ninety-four interviews were

conducted with a 72.8% response rate. The demographic distribution of these participants is described elsewhere (Elewonibi & BeLue, 2017). Many program participants had been referred to the institution by friends, family, or colleagues. Of those women who had received screening elsewhere, many were happy with the services and professionalism of the staff, specifically highlighting: 1) superior quality of service rendered; 2) cleanliness of the facility; and 3) expertise of staff and modern technology used. Many participants also appreciated that the institution was a “one-stop-shop” in which they could receive screening, diagnostic, and treatment services. They also appreciated staff effort to follow up for additional screening or treatment.

Patients’ main criteria for selecting the institution were convenience and affordability. One woman noted that if she had gone to the public hospital, she would not have been seen in a timely manner. When asked about barriers to accessing the institution’s services, some reported that Friday was not a good day to offer the program due to work, family, or religious obligations. Other barriers to subsequent screening included forgotten appointments, geographical distance and traveling time to the center, and the cost of transportation. A small percentage of patients complained about the costs of clinic services, and this concern manifested in two ways. Majority of women who mentioned cost felt the services offered were too expensive compared to other screening programs they had attended and felt they were being cheated by the institution. Conversely, one woman stated services at the institution were too inexpensive in comparison, causing her to question the quality of the services. However, most women who participated did not have an issue with the cost of services provided. In general, participants felt that the cleanliness of the clinic as well as staff competence were good indicators that the procedures at the institution were safe.

Program Observation

Observation of program activities indicated staff duties were not well-defined and were wide-ranging. For instance, the administration manager, who also acted as the receptionist, might be called away to open the store cupboard for supplies, make delivery payments, or attend to other matters that would require leaving the reception area. In these cases, the records keeper would then be asked to act as the receptionist, requiring the records keeper to go back and forth from receiving patients at the reception and registering new patients to performing her primary duties of retrieving and updating patient files. Additionally, having only one doctor at the screening sessions was problematic. While nurses could screen patients, diagnosis and scanning could only be done by the doctor. On some occasions, the doctor would be called back and forth between patient screening rooms.

The institution also conducted outreach services on average once per week. Often a church, company, or organization such as a bank branch invited and paid the institution to provide screening services to women and to conduct health talks. Additionally, the institution met women in places they usually gathered, such as large local markets or trading centers. These outreach activities were conducted all over Nigeria.

Stage 2: Logic Model Development

The logic model (Table 1) clarified program goals and objectives, highlighted necessary inputs, and identified program activities necessary to meet short- and long-term goals. Inputs to the model were provided by the institution employees and the clinic from which the program operates. The program activities were conceptualized as: (i) women-centered educational and skill-developing seminars about breast cancer symptoms and screening, (ii) free screening events once a week targeted to all women, and (iii) outreach activities to women. The assumptions underlying the success of program activities are shown as outputs and outcomes. The logic model framework positioned long-term desired outcomes at the far right of the diagram to emphasize that desired outcomes are determined by program activities through outputs. These outcomes capture what the program hopes to change in the target population.

Short-term outcomes include changes in attitudes, behaviors, and knowledge of breast cancer screening related activities, and can be directly tied to intervention. The short-term outcomes given in Table 1 are measured at the end of the program activities or soon after the program has finished. Medium-term outcomes describe any changes in behavior or decision making in the target population based on the program activities. Medium outcomes are measured within several months after the end of the program through interviews at follow up visits. Long-term outcomes describe any changes in population status that the program hopes to achieve and are measured a year or several years after program completion through interviews at follow up visits. These outcomes can be less directly attributed to the program.

Increasing awareness of cancer knowledge in the community is depicted as a longer-term desired outcome, whereas knowledge about the program within the target groups and women being able to conduct self-breast exams is shown as a shorter-term desired outcome. These outcomes are influenced by the program outputs. For an illustration, some underlying assumptions of the program are:

- To reduce mortality and increase survival rate of breast cancer, breast cancer needs to be diagnosed in early stages.
- For breast cancer to be diagnosed in early stages, women will need to adhere to screening guidelines.
- For women to adhere to screening guidelines, women need to be initially screened for breast cancer screening and given a follow-up plan.

Finally, benchmarks on how to measure success of each activity are provided in the model. These include conducting brief surveys during each visit and keeping detailed records of women who come back for screening at the prescribed time.

Inputs	Activities	Outputs	Outcomes: Short	How to measure success	Outcomes: Medium	How to measure success	Outcomes: Long
Buildings Equipment Website Educational Pamphlets Staff Program director One medical doctor Two full-time nurses 2 part-time nurses 2 office administrators 1 medical records officer Volunteer field workers	Conduct seminars/class on breast, cervical, prostate cancer risk factors, causes, symptoms, screening and treatment.	Breast and cervical cancer awareness seminars offered to community in each location Provide information about screening guidelines Show how to conduct self-breast exam	Women are aware of the risks, causes and symptoms of breast/cervical cancer Women will know how and how often screening should be done Women will be able to conduct self-breast exams	Survey during repeat screening	Women who attend the seminars more empowered and have the tools needed to reduce their risk of breast/cervical cancer Increase awareness about breast cancer screening centers in the community The institution serves as resource for information	Track number of new patients	Increase breast/cervical cancer knowledge in the community
	Conduct (subsidized on Fridays) clinical breast and cervical exam. Provide clinical breast exam, scans and mammograms.	Women will be aware of breast cancer status and given follow-up plan	Women will follow up with treatment and adhere to screening guidelines	Improve recurring screening for each woman (Screening recall)	Breast cancer caught in early stages	Number of breast/cervical cancer cases diagnose	Shift stage of diagnosis Reduce mortality/Increase survival rate
	Conduct surveys	Measure cancer knowledge	Track/measure the influence of seminar on awareness and knowledge	Document improvement among score per woman			
	Local outreach to community women, religious groups, businesses, clubs, organizations about breast/cervical cancer. Seminars and screening services offered	Women will follow up with treatment and adhere to screening guidelines Women who cannot come to clinic will have mobile access to services	Women will follow up with treatment and adhere to screening guidelines Information/knowledge about the institution will increase by word of mouth/social media	Improve recurring screening for each woman (Screening recall) Track number of referrals from past clients using "how new patients heard about the institution?"	Increase community participation.	Percentage increase in the number of women attending the classes Number of community linkages (to promote overall goal) established	Funding from local partners due to impact Attention from Nigerian government
	Media outreach (social media, TV, radio, newspapers)	More women come to the institution for screening, treatment and information after hearing about it from media outlets	Knowledge of the institution will improve by word of mouth/social media	Track the number of new patients as a result of media outreach using "how new patients heard about the institution?"	Increase community participation.	Percentage increase in the number of women attending the classes Number of community linkages (to promote overall goal) established	Funding from local partners due to impact Attention from Nigerian government

TABLE 1. THE LOGIC MODEL FOR THE CANCER SCREENING PROGRAM AT THE INSTITUTION

Stage 3: Program Recommendations

The institution's screening program consists of education and service delivery components aimed at increasing awareness of breast cancer in the community and providing an access point for affordable screening, diagnosis, and treatment. Overall, the evaluability assessment found that the program's goals were realistic and measurable. However, the program's objectives needed to be clarified further and specific program activities needed to be linked to short- and long-term goals. Based on results from stage 1 and 2, the following recommendations are offered to improve the institution's program.

Participants and Program

Observation of participants showed that the health education seminars did improve knowledge among women, but some participants did not fully understand seminar content. The educational seminar should be carefully examined to determine if the issue is with the content or the method of delivery and redesigned to better meet the needs of the community.

- 1) It is important to include relevant factors reflecting cultural attitudes in the process of obtaining breast cancer screening services that are salient to the population. In their 2017 study, Elewonibi and BeLue [3] used the PEN-3 model to describe culturally relevant factors that shape attitudes toward breast cancer and highlight the important role of spirituality in health seeking behavior among women in Nigeria. Hence, educating local religious and cultural leaders about the breast cancer screening and education program and involving them in outreach may be another avenue to increase breast cancer awareness among women.
- 2) Barriers to subsequent screening mentioned by patients included transportation to the institution and time constraints with the limited hours and days when the clinic offers the program. Availability and accessibility of the program need to be carefully examined.
- 3) Outreach education programs should also target men. Men played an important role in some women's perceptions and uptake of health care services. Education programs that target or include men will not only increase awareness in the community in general, but men may be more likely to provide emotional and financial support to the women in their lives and encourage them to go for screening.

Staff and Facility

- 1) Review of the institution background documents shows that the program needs to develop benchmarks to measure outputs and outcomes from the logic model. Benchmarks could be developed from a brief knowledge and experience survey given at each screening to measure retention and personal impact. A program monitoring system could also be put in place that gathers and summarizes patient information, creating a profile of women attending seminars, services utilized, and staff workload. In addition to information on the number of women screened per month, knowing how many of those women return for repeated screening is important. Finally, a program service or treatment protocol needs to be developed for each service component to ensure accurate and consistent implementation for every participant. This protocol could be as simple as a checklist.
- 2) Staff interviews revealed that they need clarification about fidelity to program components and goals. Staff members generally agree that the overall goal of the institution's program is to provide cancer screening services and improve awareness of breast cancer in the community. However, the mechanisms through which program activities lead to these goals need to be explained to every employee involved with the program, highlighting the important role each person plays in achieving those goals. All staff observed and noted the passion and dedication of the program director toward the program; feedback and discussion about their importance to the success of the program would motivate and inspire them.
- 3) Content analysis of staff interviews showed that issues related to staff concerns need attention. First, staff members need to be given clear instructions on their duties. Providing clear task and timeline expectations will help prevent confusion. Second, an avenue for staff to voice concerns or make program suggestions to senior management needs to be created. An anonymous monthly evaluation form or a staff suggestion box might be used. Third, staff training seminars or workshops are needed. The number one challenge raised by staff was dealing with rude or unhappy patients; hence, training should cover both health education and customer service techniques. Finally, a staff meeting should be held at least once a month.
- 4) Additional staff are needed to keep service provision timely and efficient. Part-time employees could relieve current issues, but as more demands are made for services, current staff levels will not be sufficient to sustain growth. To help guide this process, an organizational chart should be created, showing current staff and their roles. Next, staffing gaps that need to be filled should be identified and highlighted in the chart to help show how the program needs to grow and will prioritize staffing needs.

Overall

Finally, once benchmarks have been put in place, the program goals have been explained to all staff members, and the program monitoring system has been put in place, it is recommended that a process evaluation be conducted. Evaluations are valuable in documenting fidelity to program design and delivery, progress of program goals, and whether the program is meeting the needs of its target population.

CONCLUSION

This paper used the evaluability assessment model to assess the institution's breast cancer screening program in Lagos, Nigeria to determine if the program's objectives were measurable, agreed to, and supported by stakeholders, and whether the program had the resources needed to reach program goals. The evaluability

assessment template used included a document review, stakeholder interviews, and program observation. The document review identified program goals and resources while interviews and program observation were analyzed to determine program efficacy, perceived barriers, and benefits. Finally, the development of an iterative logic model was used to formally define short-, medium-, and long-term outcome objectives. The results of the assessment show that the institution's objectives regarding awareness and affordability for breast cancer screening and activities, including clinical and community services, are achievable. However, interviews with staff and observations of activities suggest the institution may benefit from more defined and systematic roles as well as responsibilities to optimize functionality and efficiency of their program. The sustainability of the screening program is dependent on growing the demand for its services, which can be achieved by improving breast cancer awareness in the community. By interviewing program participants, the assessment allowed programmers to understand how best to disseminate educational information and develop a logic model that accounts for local cultural dynamics. Identifying and incorporating the priorities of program participants and stakeholders yielded a more comprehensive logic model, which in turn facilitated the design of a realistic program plan that is reasonable to monitor and evaluate.

The following limitations should be considered when analyzing the study results. The logic model includes outcomes across a time-continuum with methods to measure progress, such as surveys; however, it does not provide procedural design, implementation, or infrastructure of these methods. In addition, not all program stakeholders were interviewed and may have had more to add to the development of the logic model. A logic model that is developed with all individuals responsible for implementing and delivering a program improves its plausibility as fewer assumptions have to be made. Future evaluations should include all stakeholders' views on how the program works. Finally, only the institution's breast cancer program was assessed, which makes it more difficult to generalize the results to all services offered at their facility. A full evaluation should be carried out before the true efficacy of the institution's program can be determined.

This study adds to the evaluability assessment practice by slightly deviating from the six-step framework outlined in Leviton et al. 2010, demonstrating the importance of cultural considerations and adaptations in research to fit the local context. Given the pre-established connection between the research team and the institution, the evaluability assessment approach and timeline were altered for instance, having to conduct the document review first before holding stakeholder meetings. Overall, this study articulates the utility of an evaluability assessment as a cost-effective tool for programmatic improvement in under-resourced settings. Through a comprehensive, systematic approach, evaluability assessments may provide evidence regarding a program's effectiveness. The recommendations from this study provided information on areas for improvement, and defined options for altering the program to reach its goals and provide measurable outcomes. In addition, the study provided meaningful benchmarks of the program's successes. These benchmarks could be used to apply for funding grants, ensuring the program's sustainability and visibility, potentially garnering the attention of the Nigerian government. The revised culturally appropriate program could also serve as a template to be used in similar settings across Nigeria and Africa for other screening programs.

REFERENCES

1. Akhigbe, A. O., & Omuemu, V. O. (2009). Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city. *BMC Cancer*, 9(1), 203. <https://doi.org/10.1186/1471-2407-9-203>
2. Elewonibi, B., & BeLue, R. (2017). The influence of socio-cultural factors on breast cancer screening behaviors in Lagos, Nigeria. *Ethnicity & Health*, 1–16. <https://doi.org/10.1080/13557858.2017.1348489>
3. Ferlay, J., Shin, H.-R., Bray, F., Forman, D., Mathers, C., & Parkin, D. M. (2010). Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *International Journal of Cancer*, 127(12), 2893–2917. <https://doi.org/10.1002/ijc.25516>
4. Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., Parkin, D. M., Forman, D., & Bray, F. (2015). Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. *International Journal of Cancer*, 136(5), E359–E386. <https://doi.org/10.1002/ijc.29210>
5. Fisher, R. J., & Peters, L. (2009). The role of evaluability assessment in mental health program evaluation. *Canadian Journal of Community Mental Health*, 4(2), 25–34.
6. Ginsburg, O., Bray, F., Coleman, M. P., Vanderpuye, V., Eniu, A., Kotha, S. R., Sarker, M., Huong, T. T., Allemani, C., Dvaladze, A., Gralow, J., Yeates, K., Taylor, C., Oomman, N., Krishnan, S., Sullivan, R., Kombe, D., Blas, M. M., Parham, G., ... Conteh, L. (2017). The global burden of women's cancers: A grand challenge in global health. *The Lancet*, 389(10071), 847–860. [https://doi.org/10.1016/S0140-6736\(16\)31392-7](https://doi.org/10.1016/S0140-6736(16)31392-7)
7. Leviton, L. C., Khan, L. K., Rog, D., Dawkins, N., & Cotton, D. (2010). Evaluability Assessment to Improve Public Health Policies, Programs, and Practices*. *Annual Review of Public Health*, 31(1), 213–233. <https://doi.org/10.1146/annurev.publhealth.012809.103625>
8. McLaughlin, J. A., & Jordan, G. B. (1999). Logic models: A tool for telling your programs performance story. *Evaluation and Program Planning*, 22(1), 65–72. [https://doi.org/10.1016/S0149-7189\(98\)00042-1](https://doi.org/10.1016/S0149-7189(98)00042-1)
9. Odusanya, O. O. & Fmcp. (2001). Breast Cancer: Knowledge, Attitudes, and Practices of Female Schoolteachers in Lagos, Nigeria. *The Breast Journal*, 7(3), 171–175. <https://doi.org/10.1046/j.1524-4741.1998.410062.x-i1>
10. Odusanya, O. O., & Olumuyiwa, O. O. (2001). Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria. *Acta Oncologica*, 40(7), 844–848. <https://doi.org/10.1080/02841860152703472>

11. Okobia, M. N., Bunker, C. H., Okonofua, F. E., & Osime, U. (2006). Knowledge, attitude and practice of Nigerian women towards breast cancer: A cross-sectional study. *World Journal of Surgical Oncology*, 4(1), 11. <https://doi.org/10.1186/1477-7819-4-11>
12. Siegel, R., Naishadham, D., & Jemal, A. (2013). Cancer statistics, 2013. *CA: A Cancer Journal for Clinicians*, 63(1), 11–30. <https://doi.org/10.3322/caac.21166>
13. Torre, L. A., Islami, F., Siegel, R. L., Ward, E. M., & Jemal, A. (2017). Global Cancer in Women: Burden and Trends. *Cancer Epidemiology and Prevention Biomarkers*, 26(4), 444–457. <https://doi.org/10.1158/1055-9965.EPI-16-0858>
14. Wholey, J. S. (1979). *Evaluation, promise and performance*. The Urban Institute. \\
15. Wholey, J. S., Hatry, H. P., & Newcomer, K. E. (2010). *Handbook of Practical Program Evaluation*. John Wiley & Sons.