

Short Commentary*Open Access, Volume 2***Financial Restrictions Limit Early Breast Cancer Screening: The Case of Jordan****Tala Hamadeh¹; Immanuel Azaad Moonesar^{2*}**¹Monitoring, and Evaluation Senior Coordinator, Jordan Breast Cancer Program, Jordan.²Associate Professor, Mohammed Bin Rashid School of Government, Jordan.**Abstract**

Mammography and clinical breast exams are two methods that may help diagnose breast cancer in its early stages. Breast cancer is one of the malignancies that can be screened for and detected early. According to an estimate made by Jordan's Department of Statistics in the year 2020, there will be 1,140,460 women in Jordan who are eligible (those who are at least 40 years old) for mammography screening. However, only 13,000 women have been screened, which amounts to 1.14 percent of the population that is eligible. One obstacle that stands in the way of breast cancer screening in Jordan is the high cost of mammography. The non-insured population has an average cost of the examination of \$70, which may be a hardship for an ordinary Jordanian household when compared to their monthly average pay of \$639. In a parallel effort, several stakeholders may be attempting to standardize, at a reasonable price, the cost of mammography examinations offered by private healthcare institutions.

Abbreviations: BIU: Breast Imaging Units; JBCP: Jordan Breast Cancer Program; JCR: Jordan Cancer Registry; JIF: Jordan Insurance Federation; KHCC: King Hussein Cancer Center; KHCF: King Hussein Cancer Foundation; MMU: Mobile Mammography Unit; MOH: Ministry of Health; RMS: Royal Medical Services; SBCC: Social Behavioral Change Communication.

Background

Mammography and clinical breast exams are two methods that may help diagnose breast cancer in its early stages. Breast cancer is one of the malignancies that can be screened for and detected early. A delay in screening would result in an increase in late-stage diagnoses, which would cause a delay in treatment. For example, studies have indicated that a delay in treatment of thirty days would result in a nine percent drop in the patient's chance of survival. The low-income situation of the women is the primary obstacle that causes a delay in obtaining medical treat-

ment. When opposed to the early stages, when the survival rate was 100 percent, the survival rate in the late stages of discovery is just 22 percent.

If caught in its early phases (stages 0, 1, and 2), the illness imposes a far less burden in terms of prognosis, morbidity, mortality, and the expense of treatment than it does in its later stages (3, 4 and 5). However, the most recent information from the Jordan Cancer Registry reveals that more than half of the country's cancer patients had advanced stages of the disease. This will provide a significant challenge for Jordan's healthcare systems and indivi-

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duals and other bordering nations [1]. In Jordan, cardiovascular illnesses are the primary cause of mortality, although cancer is the second greatest cause of death there. This will result in an increase in the morbidity and death rates associated with the illness as a consequence of life expectancy combined with extended exposure to risk factors [2]. Breast cancer, in particular, is the most prevalent form of the disease in this area of the world. It accounts for around 39 percent of all cancer diagnoses in females and 20 percent of all cancer diagnoses in people of both sexes, and it has a fatality rate of 12.7 percent [1]. According to certain estimates, one of every two Jordanian households has been touched by breast cancer in some way, shape, or form.

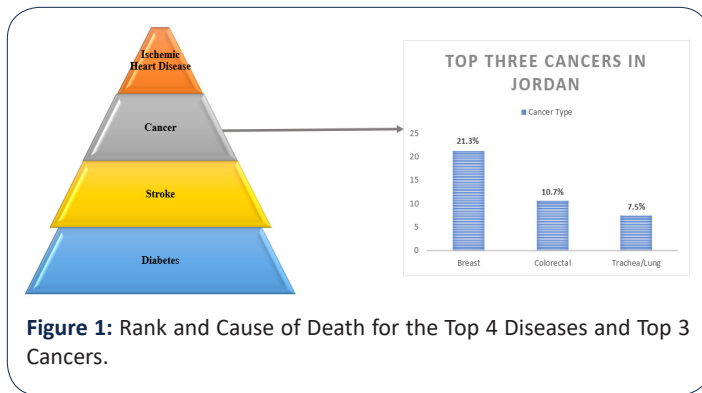


Figure 1: Rank and Cause of Death for the Top 4 Diseases and Top 3 Cancers.

Even though Jordan has achieved amazing strides in improving its health outcomes over the last decade, the country still faces a great deal of difficulty in achieving fairness in its healthcare system and maintaining its capacity to afford it. The provision of curative treatment, as opposed to preventative care, receives the majority of the resources allocated to the healthcare system. The primary care sector receives just 18 percent of total healthcare spending, whereas secondary and tertiary care get 74 percent of total expenditures.

Jordan is making progress toward universal health insurance for all residents, which has been a strategic aim for all consecutive Jordanian administrations over the course of more than three decades. Jordan is now in the process of moving toward universal health insurance. This include the provision of primary and preventative medical care (i.e., screening for breast cancer). According to figures provided by the Ministry of Health, the percentage of individuals in the kingdom who had health insurance in 2013 reached around 86 percent, having increased progressively over the course of the previous years.

Even with that, there is the unjust financial contribution of the people (out of pocket) represented by a poor application of health insurance, which demands the application of the concept of social solidarity. This is the case despite the fact that. There is a danger involved since there is not a legal structure in place to safeguard them, and the price of these services is rather expensive. if they are not available and there is no provision for their coverage in any of the public or commercial health insurance plans. Women have reported a number of hurdles to screening for breast cancer, the most common of which are dread of the findings and a lack of symptoms. Various studies were carried out by the Jordan Breast Cancer Program (JBPCP). Also, women claimed that mammograms are expensive, which is concerning when taking into account the average monthly income of a family, which is \$639.

Policy issues

According to an estimation made by the Jordanian Department of Statistics in the year 2020, there will be 1,140,460 women in Jordan who are eligible (those who are at least 40 years old) for mammography screening. However, only 13,000 women have been screened, which amounts to 1.14 percent of the eligible population [3]. It is estimated that breast cancer will be diagnosed in four out of every one thousand women who undergo screening for the disease. However, if these women had not been screened, the diagnosis of the disease would have been made at a late stage, which would have resulted in higher treatment costs for the patient, the government, and their insurance companies—an estimate of \$42,000 USD without emergency admissions or hormonal treatment (Herceptin).

When screening is performed, treatment expenses are reduced, and there is a greater likelihood that the patient will have a favorable morbidity outcome. An RCT study indicated that most women who passed away from breast cancer had not participated in routine mammography screening. The researchers looked at a series of 461 fatalities caused by breast cancer and discovered that 116 deaths (25 percent) were among asymptomatic women. Increasing participation rates in regular yearly mammographic screening might lead to a further reduction in the death rate caused by breast cancer [4]. The expense of mammography screening is a barrier to getting people in Jordan checked for breast cancer. The non-insured population has an average cost of the examination of \$70 USD, which may be a hardship for an ordinary Jordanian household compared to their monthly average pay of \$639 USD.

In Jordan, the number of people holding different types of insurance has increased over the years; nonetheless, according to the data, only 78 percent of the population is covered. Accessibility and functionality issues are encountered with the breast imaging units (BIUs), which results in a shortage of health services resorting to the private sector and their pricing. This is even though the MOH and RMS insure 44 percent and 27 percent of breast cancer patients, respectively [5].

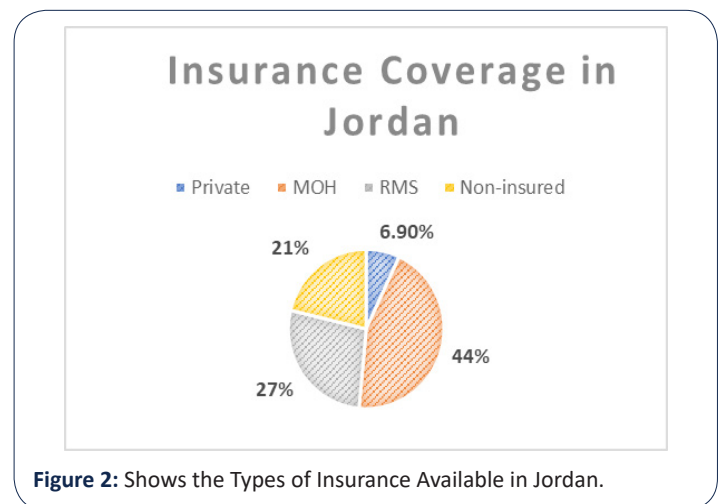


Figure 2: Shows the Types of Insurance Available in Jordan.

As a result, diagnostic mammography would only be covered after a referral from a physician, which might be an inconvenience for the patient. The private insurance available in Jordan places more of an emphasis on curative and diagnostic health care than preventative measures. The patient would be responsible for the

out-of-pocket expenses in this scenario, regardless of whether or not she had health insurance.

The factors that really matter

Governance

The High Health Council in Jordan produced a National Strategy for the Health Sector in Jordan for 2015-2019. This strategy has addressed several important aspects of health care. They have emphasized the need to concentrate on primary and preventive health care initiatives, including screening programs. Even though this strategy is in place, the main actors in the area have not yet begun the implementation process.

Although there exist recommendations on the subject of breast cancer screening and early detection, there are presently no policies in place that encourage women who are eligible for breast cancer screening to be screened [6].

Finance

Most of Jordan's population who are eligible for mammography have voiced their concerns about the cost of the screening examination. According to the findings of a JBCP study, which examined women's willingness to pay for mammography, 45 percent of women agreed to pay \$35 for the exam (which was used as a benchmark). The price conversion between the various pricing points is highest when the pricing goes lower, indicating that mammography prices are rising. At the same time, the women who were protected by the private insurances are obliged to pay an out-of-pocket cost, which seemed to be an additional unfair practice.

It was clear that change was taking place at the health facilities run by the MoH, as the price of a mammogram was lowered to a standard rate of \$7.75 USD for all Jordanian people. Despite this, the private sector is still responsible for bearing the expenses. As was noted before, the average cost of a mammogram at a private hospital in Jordan is \$70. This fee is regulated by the Private Hospital Association as well as the Jordan Medical Association. In 2012, the public sector spent on secondary health care services, including as hospitals, amounted to 703.7 million dinars, representing 74.2 percent of total expenditure. For this reason, reform measures need to be implemented in the healthcare system to contribute to and assist in formulating policies to bring down the cost of healthcare provided in hospitals.

Another outcome that the High Health Council intended to address was the health, financial, and social protection for all citizens based on fairgrounds that indicated a need to review and amend legislation package related to the health insurance industry and implement mandatory health insurance. This was going to be done by implementing health insurance for everyone. In our situation, these measures will make it possible for qualified women to have improved access to screening mammography at a uniform and more reasonable price.

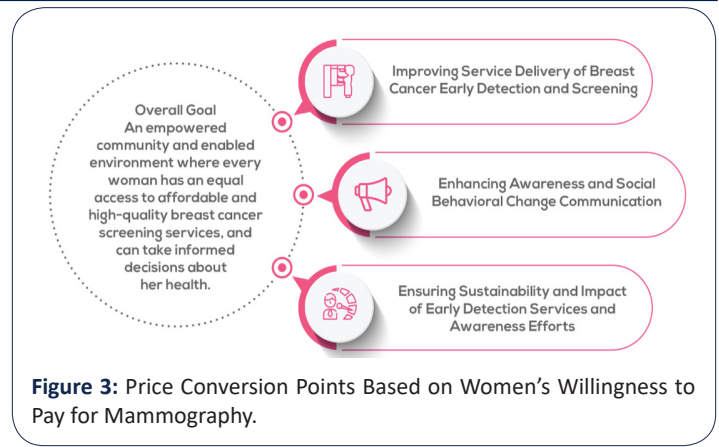


Figure 3: Price Conversion Points Based on Women's Willingness to Pay for Mammography.

Delivery

The low number of mammography screening exams may be attributed to various factors, including the inaccessibility and unavailability of the service, the cost of the service, and the quality of the services currently being given. The health care system in Jordan is very diversified, with components coming from a variety of different sectors, including the public, charitable, private, and military sectors. There are a total of 80 breast imaging facilities in the United States that provide screening mammography, with the private sector accounting for 34% of them. In addition, the Jordan Breast Cancer Program has contributed an additional two mobile mammography devices to benefit underserved and disadvantaged regions in the country of Jordan.

JBCP is a national program that was established in 2007 under the leadership of the King Hussein Cancer Center and Foundation. Its goal is to contribute to the achievement of a community in which every woman has equal access to affordable and high-quality screening services and is empowered to make informed decisions about her health. This will result in the down-staging of breast cancer from its late stages (III and IV) to its early stages (0, I, and II), where the disease is more curable and survivable.

Figure 4 The Primary Objective for Enhancing the Provision of Breast Cancer Services.

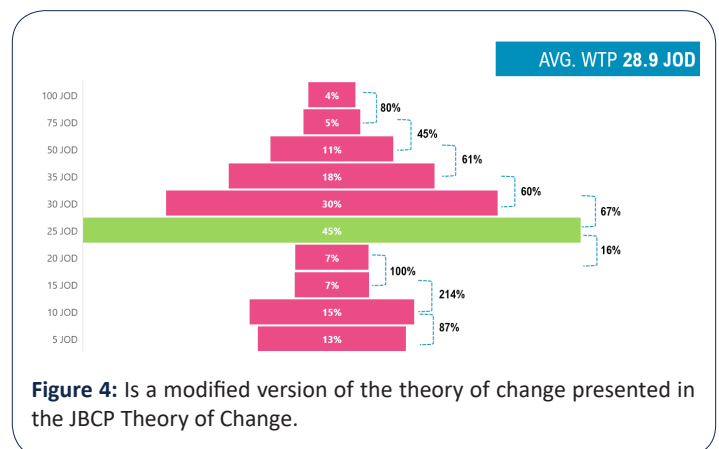


Figure 4: Is a modified version of the theory of change presented in the JBCP Theory of Change.

One of its goals is to improve the accessibility and utilization of high-quality screening services. Other goals include enhancing the capabilities of healthcare providers who specialize in breast cancer early detection and screening, providing mobile mammography screening services to women who live in underserved areas, and improving the overall quality of service delivery [3].

Theoretical model of change

The overarching objective of the strategy is to put into place one or more interventions that will hasten the progression of breast cancer from its advanced stages into its earlier stages, when the illness is more treatable, survival rates are better, and treatment costs are lower.

If you concentrate on anything other than the operations carried out by JBCP on service delivery, quality of service, and rising demand for service, you will bring attention to the financial burden that mammography places on the population that is eligible for the service via two outcomes.

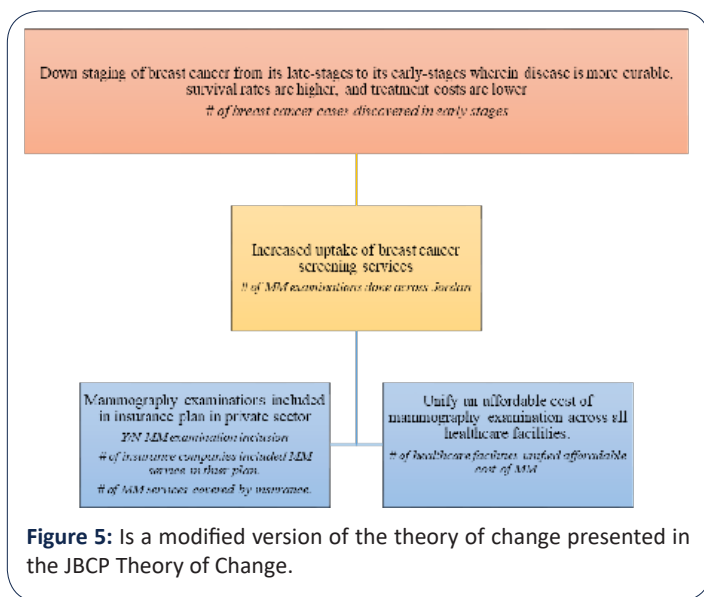
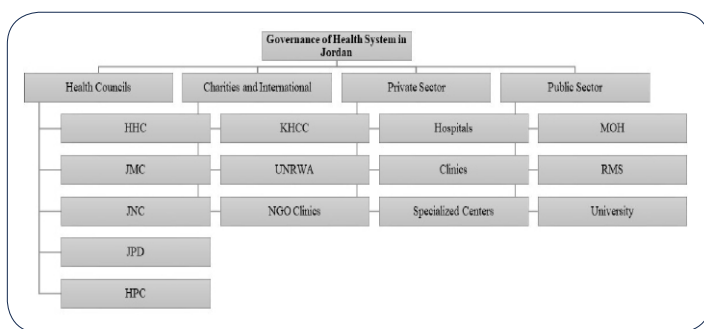


Figure 5: Is a modified version of the theory of change presented in the JBCP Theory of Change.

Stakeholder analysis



The following are the categories that are used to classify the general breast health care delivery in Jordan:

At this level, two outputs are taken into consideration along with two distinct stakeholders and two communities, one of which is insured and the other of which is not covered.

Mammograms for early detection should be covered by health insurance.

The first proposal would include a mammography service as a screening treatment inside the insurance program, with minimal yearly payments for women who are qualified to participate in the program (above the age of 40). It is vital to make it clear that Jordan's private insurance covers diagnostic and symptomatic mammography exams. This means either a physician referral or symptoms must be present. Our objective is to get mammography exams included in insurance plans as a screening treatment when the patient is asymptomatic as a preventative health strategy that lowers the patient's out-of-pocket expenditures and fulfills our aim of including mammogram examinations. It was shown in Japan that lowering patients' out-of-pocket fees for mammogram screening led to an increase in overall attendance and decreased disparities in attendance [7].

In a similar vein, in the United States of America, the Federal Health Reforms mandate that private health insurance plans must include coverage for a variety of preventative health measures, including mammogram screenings. According to the evidence, mammography screening rates have considerably risen between 4.5 to 25 percent as a direct result of the obligation to provide mammography coverage. In addition, mammography deductibles have been eliminated due to the reform, which has contributed to an increase in the number of women who have mammograms as part of their preventative health care routines. In addition to that, the requirement had a long-term influence on the staging diagnosis of breast cancer, where there was an increase in the discovery of early-stage in-situ pre-cancers rather than late stages [8].

The average cost of breast cancer therapy in Jordan is \$42,000, although this does not take into account the cost of any emergency hospitalizations or hormonal treatment (Herceptin). The average cost of a mammography test is \$70. With the diagnosis of breast cancer, the financial strain on the insurance company became even more significant. In order to verify, a cost-benefit analysis has to be carried out taking into account Jordan's specifics.

In the context of Jordan, a number of entities are engaged and play an important part in the process of carrying out this policy choice. The Jordan Insurance Federation has a significant impact on Jordan's private medical insurance market. With their assistance, we will be able to bring down the out-of-pocket expenses that patients incur while undergoing mammography as a screening treatment.

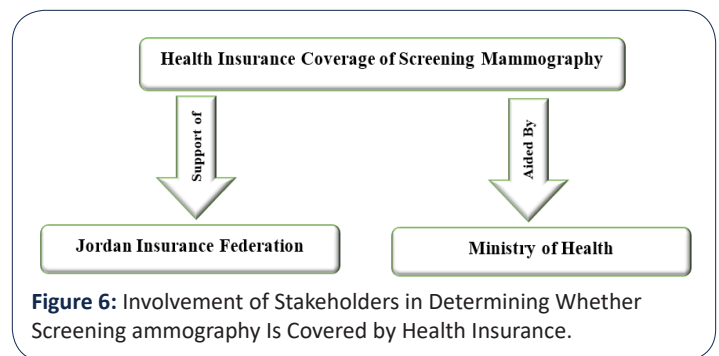


Figure 6: Involvement of Stakeholders in Determining Whether Screening mammography Is Covered by Health Insurance.

Reduce and unify cost of screening mammography across private sector

According to the figures from 2015, there are 4.5 million Jordanians who have health insurance, while 2.1 million do not. JBCP

has taken the initiative to assist and give free mammograms to non-insured economically disadvantaged women over the age of 40 via its two mobile mammography equipment (MMU). The functioning of the mammography machine and the obstacles experienced in the breast imaging units in the public sector both contribute to the fact that, despite the existence of MMUs, it is very difficult to reach the population that is intended to be screened for breast cancer. Because of this, it is of the utmost need to give some serious thought to the possibility of working toward the unification of a reasonable cost of mammography examination across all private healthcare institutions. Accessibility and service availability are never an issue at Department of Health facilities, even if non-insured patients are permitted to undergo screening there. Therefore, mammography costs at private facilities need to be reevaluated and standardized so that they are more accessible to the general public financially.

There was a systematic review done on the interventions that were done to increase the uptake of mammography. The findings of this review showed that interventions with multiple strategies (one to one, phone calls, patient reminders, etc.) were more effective than interventions with single strategies. In the context of Australia, the adoption of mammography was boosted by an extra 6% as a result of the many initiatives that were used, as well as the cost reduction that resulted in mammography being provided free of charge [9].

In a similar vein, the Jordanian Breast Cancer Program (JBCP) has extensive outreach activities that target the community and raise awareness through the application of the concept of Social Behavioral Change Communication (SBCC) in both its one-on-one and one-to-group activities. This was mentioned earlier. There will be a rise in the demand for mammography as well as an increase in its usage if low-cost mammography is made available in conjunction with the treatments that are already in place. We will decide on standardizing an accessible pricing for mammography screening in order to enhance the use of the service, and this decision will be made with the assistance and cooperation of different groups, such as the Private Hospital Association and the Jordan Medical Association.

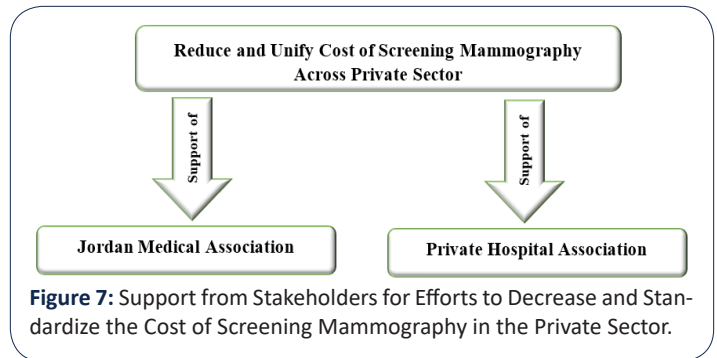


Figure 7: Support from Stakeholders for Efforts to Decrease and Standardize the Cost of Screening Mammography in the Private Sector.

Table 1: A Framework for Monitoring and Evaluation (adopted from Hamadeh & Moonesar, 2021).

	Indicator	Means of verification	Base line	Goal
Output 1: Mammograms are covered by insurance policies for individuals working in the private sector	<ul style="list-style-type: none"> Inclusion of Y/N for the MM examination The number of insurance firms that offered the MM service as part of their plan. The total number of MM services that are covered by insurance. 	<ul style="list-style-type: none"> Inclusion of Y/N for the MM examination The number of insurance firms that offered the MM service as part of their plan. The total number of MM services that are covered by insurance. 	0	<ul style="list-style-type: none"> Yes, of MM inclusion 10 insurance companies 25,000 mammography screening covered by insurance
Output 2: Unify an affordable cost of mammography examination across all healthcare facilities.	<ul style="list-style-type: none"> # of healthcare facilities unified affordable cost of MM 	<ul style="list-style-type: none"> Official Letters and Correspondence 	0	<ul style="list-style-type: none"> 35 healthcare facilities unified their MM cost
Outcome: Increased uptake of breast cancer screening services	<ul style="list-style-type: none"> # of MM examinations done across Jordan 	<ul style="list-style-type: none"> Mammography Registry 	13,000	<ul style="list-style-type: none"> 35,000 MM examinations done across Jordan
Goal: Down staging of breast cancer from its late-stages to its early-stages wherein disease is more curable, survival rates are higher, and treatment costs are lower.	<ul style="list-style-type: none"> % of breast cancer cases discovered in early stages 	<ul style="list-style-type: none"> National Cancer Registry 	55%	<ul style="list-style-type: none"> 40% of breast cancer cases discovered in the early stages

Proposed: Using the following plan of action (adopted from) [12] :

IF Mammography examinations are included in the insurance plan in the private sector.

AND An affordable cost of mammography examination across all healthcare facilities are unified.

THEN Uptake of breast cancer screening services is increased.

Key Indicators:

- % of breast cancer cases discovered in early stages
- # of MM examinations done across Jordan
- Y/N MM examination inclusion
- # of insurance companies included MM service in the plan.
- # of MM services covered by insurance.
- # of healthcare facilities unified affordable cost of MM

The expense of the screening examination is one of the primary obstacles in the way of breast cancer screening; eliminating this obstacle would result in an increase in the number of women who have mammograms.

When compared to the median income of a Jordanian household, which is \$639 per year, the average cost of the screening test is seventy dollars, which is regarded to be an extremely expensive price. 45 percent of women agreed to pay \$35 for the exam (benchmark); the price conversion between the various pricing points is highest when the pricing goes lower. A JBCP study showed that the women's willingness to pay for mammography; the price conversion between the various pricing points is highest when the pricing goes lower. At this step, two outputs are taken into consideration, with two distinct stakeholders and two communities, one of which is the insured and the others of which are the non-insured. The first recommendation is that the mammography service be included as a screening treatment within the insurance program, with minimal yearly payments for women who are qualified for coverage (above the age of 40 years old). In order to accomplish this goal, one would need to have one-on-one meetings with the United Insurance Agency and undertake an insurance cost burden study comparing early-stage breast cancer therapy to treatment for advanced breast cancer.

In a parallel effort, several stakeholders may be attempting to standardize, at a reasonable price, the cost of mammography examinations offered by private healthcare institutions. According to the figures from 2015, 4.5 million people in Jordan have health insurance, while 2.1 million do not. Even though those without health insurance can get screened at facilities run by the Ministry of Health, there is still the problem of availability. Because of this, the prices of mammograms at private hospitals ought to be re-evaluated and standardized so that they are more accessible to the general public financially.

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