

**The Ministry of Health,  
Community Development, Gender,  
Elderly and Children**



**National Guidelines**  
for Early Diagnosis of Breast Cancer  
and Referral for Treatment

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## FOREWORD

Cancer is a major contributor to the global burden of disease. The estimated number of new cases each year is expected to rise from 10 million in 2002 to 15 million by 2025, with 60% of those cases occurring in developing countries. In the United Republic of Tanzania, breast cancer is the second most frequently diagnosed cancer in women, and the second cause of cancer related mortality. Although the etiology of breast cancer is unknown, numerous risk factors, including genetics and the environment, contribute to its development.

Breast cancer does not strike an individual alone. Despite considerable social changes, women continue to be the center of family life; thus the impact of breast cancer is profound on both the woman diagnosed with the disease and her family. Due to the high incidence and mortality rate, combined with the steep cost of treatment and the limited resources available in Tanzania, health authorities and policy-makers must make breast cancer a priority. At the same time, the cost and benefit of fighting breast cancer need to be carefully weighed against competing health needs. To date, the Government of Tanzania, in collaboration with various non-governmental organizations, has responded in several ways. Since 2008, the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) has coordinated reproductive health activities for cervical and breast cancer; the main focus has been to improve access to diagnostic services and treatment at facilities and outreach campaigns.

The MoHCDGEC recognizes the need to formulate and implement plans to effectively address the burden of the disease, including establishment of policies and guidelines for early diagnosis. Local Government Authorities (LGAs) are responsible for delivering diagnosis and treatment services for breast cancer and integrating it with prevention services for cervical cancer. The Prime Minister's Office, the Regional Administration and Local Government (PMO-RALG), is responsible for supervising, coordinating and monitoring their activities in line with the Ministry's policies and guidelines, a key role recommended by the Health Sector Strategic Plan IV. The decentralization approach using a local government structure will continue to improve governance, management responsibilities, and capacities at the health facility level, which will strengthen the voice of Tanzanian communities in delivery and management of breast health care. Tanzania is currently experiencing an epidemiological transition, with an increase in non-communicable diseases and a consequent rise in health care costs. Current health financing levels pose many challenges requiring change to financial access to health care, greater resource mobilization efforts, transparency and social accountability, and improvement of breast cancer control services with focus on the quality of service and universal access.

I hope that these guidelines will support everyone involved in the battle against breast cancer in Tanzania. The key recommendations that follow focus on the national response to promote early diagnosis and link it with proper treatment and management of the disease. Program planners and managers should disseminate these guidelines to improve the quality of breast health care. This is the guiding reference document for preparation of Regional and District implementation plans, training packages, and service delivery models for health facilities. I therefore invite you to consult and use it extensively for the betterment of breast cancer outcomes in Tanzania.



Dr. Mpoki M. Ulisubisya  
Permanent Secretary  
Ministry of Health, Community Development, Gender, Elderly and Children



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Finally, the MoHCDGEC remains committed to the dissemination and utilization of the National Guidelines for Early Diagnosis of Breast Cancer and Referral for Treatment.



Prof. Muhammad Bakari Kambi  
Chief Medical Officer  
Ministry of Health, Community Development, Gender, Elderly and Children



## ABBREVIATIONS

<b>ACA</b>	Awareness, Clinical evaluation and Access to treatment
<b>AGOTA</b>	The Association of Gynecologists and Prime Minister’s Office-Regional Administration and Local Government Obstetricians
<b>BC</b>	Breast Cancer
<b>CBE</b>	Clinical Breast Examination
<b>CBO</b>	Community based organization
<b>CCBRT</b>	Comprehensive Community Based Rehabilitation
<b>CCHP</b>	Comprehensive Council Health Plan
<b>CECAP</b>	Cervical Cancer Prevention
<b>CHMT</b>	Council Health Management Team
<b>DHIS</b>	District Health Information System
<b>DMO</b>	District Medical Officer
<b>DRCHCO</b>	District Reproductive and Child Health Coordinator
<b>FBO</b>	Faith based organization
<b>HMIS</b>	Health Management Information System
<b>KCMC</b>	Kilimanjaro Christian Medical Centre
<b>LGA</b>	Local Government Authority
<b>MoHCDGEC</b>	Minister of Health, Community Development, Gender, Elderly and Children
<b>MOI</b>	Medical Officer in Charge
<b>NCD</b>	Non-Communicable Disease
<b>ORCI</b>	Ocean Road Cancer Institute
<b>PO-RALG</b>	President Office – Regional and Administration and Local Government
<b>PRRR</b>	Pink Ribbon Red Ribbon
<b>RCH</b>	Reproductive and Child Health
<b>RHMT</b>	Regional Health Management Team
<b>RMNCAH</b>	Reproductive, Maternal, Newborn, Child and Adolescent Health
<b>RMO</b>	Regional Medical Officer
<b>RRCHCO</b>	Regional Reproductive and Child Health Coordinator
<b>WHO</b>	World Health Organization



## SUMMARY

Breast cancer is the second most common cancer and the second most lethal cancer among Tanzanian women; along with cervical cancer, it accounts for more than half of all cancer deaths. Like in other countries in the region, the incidence of breast cancer is not as high as in Europe or the USA although it has been steadily growing due to increased life expectancy, increased urbanization and adoption of western lifestyles. On the other hand, the low survival rates in Tanzania and neighboring countries can be attributed to a high proportion of women presenting with late-stage disease, as well as limited access to adequate diagnostic and treatment services.

Although some risk reduction may be achieved by addressing modifiable risk factors such as alcohol, obesity or lack of physical activity, these strategies cannot eliminate most breast cancers that develop in Tanzania where breast cancer is diagnosed in late stages and the overall five-year survival rate is very low.

Breast cancer treatment is more effective, less complex and less expensive when provided earlier in the course of the disease. Thus, improving early diagnosis and effective treatment of breast cancer is a key strategy to breast cancer control. There are two approaches to identifying breast cancer at the earliest possible stage. One is identification of breast cancer in patients with symptoms, also referred to as early diagnosis. The second is identification of unrecognized disease in a healthy population through screening. The two have the same objectives: identifying the disease at the earliest possible stage and providing timely, effective treatment. The approaches are not mutually exclusive and are equally important components of reducing the burden of breast cancer, however, the resources required differ. Early diagnosis is based on clinical detection strategies, while screening requires image-based detection, which is more costly and more cumbersome, but finds disease earlier in its evolutionary course.

Based on the burden of breast cancer in Tanzania, the findings of the situation analysis, and WHO guidelines, the government of Tanzania will focus on the early diagnosis of breast cancer. The ACA (Awareness, clinical evaluation and access to treatment) Program for the early diagnosis of breast cancer will prioritize the diagnosis and treatment of symptomatic breast cancer, and guide implementation of the program using a resource-stratified, phased approach.

These guidelines will focus on early diagnosis of breast cancer in patients who have signs and symptoms and an average risk of developing breast cancer. The goal is to identify breast cancer as soon as possible, and provide diagnosis and treatment in the earliest stages, when it is more effective, has less complications and is less costly; ultimately the objective is to improve the quality of life and increase the survival of patients.

The guidelines will also address screening recommendations for asymptomatic patients, although it is not recommended that public efforts and resources be allocated to developing a nationwide, population-based screening program until diagnostic imaging, pathology services, and referral for surgery and specialized treatment are established and functioning. In facilities or programs where these services are available, accessible and functioning, opportunistic screening can be a viable option in accordance with the recommendations from the WHO.



## CHAPTER 1. INTRODUCTION

The global burden and threat of non-communicable diseases constitutes a major public health challenge that undermines social and economic development in Tanzania. Strong leadership and urgent actions are required at both national and regional levels to mitigate the burden of the disease.

### 1.1 Global Burden of Disease

Cancer is a growing global health burden in developed and developing countries. It is the leading cause of death in developed countries and the second most common cause of death in developing countries (Globocan, 2012). Worldwide, the most common cancers in women are breast, colorectal, cervical and lung, and among men are lung, prostate, colorectal, stomach and liver. The World Health Organization (WHO) estimates approximately 14 million new cases of cancer were diagnosed and 8.2 million cancer related deaths occurred in 2012. This is expected to rise by 70% to 22 million cases over the next two decades. Even though an estimated 70% of cancer deaths occur in low- and middle-income countries (LMICs), data on cancer incidence and survival are often unavailable as less than 10% of LMICs have functional cancer registries. There is a pressing need to raise awareness and implement effective cancer prevention, early diagnosis and treatment services in developing countries.

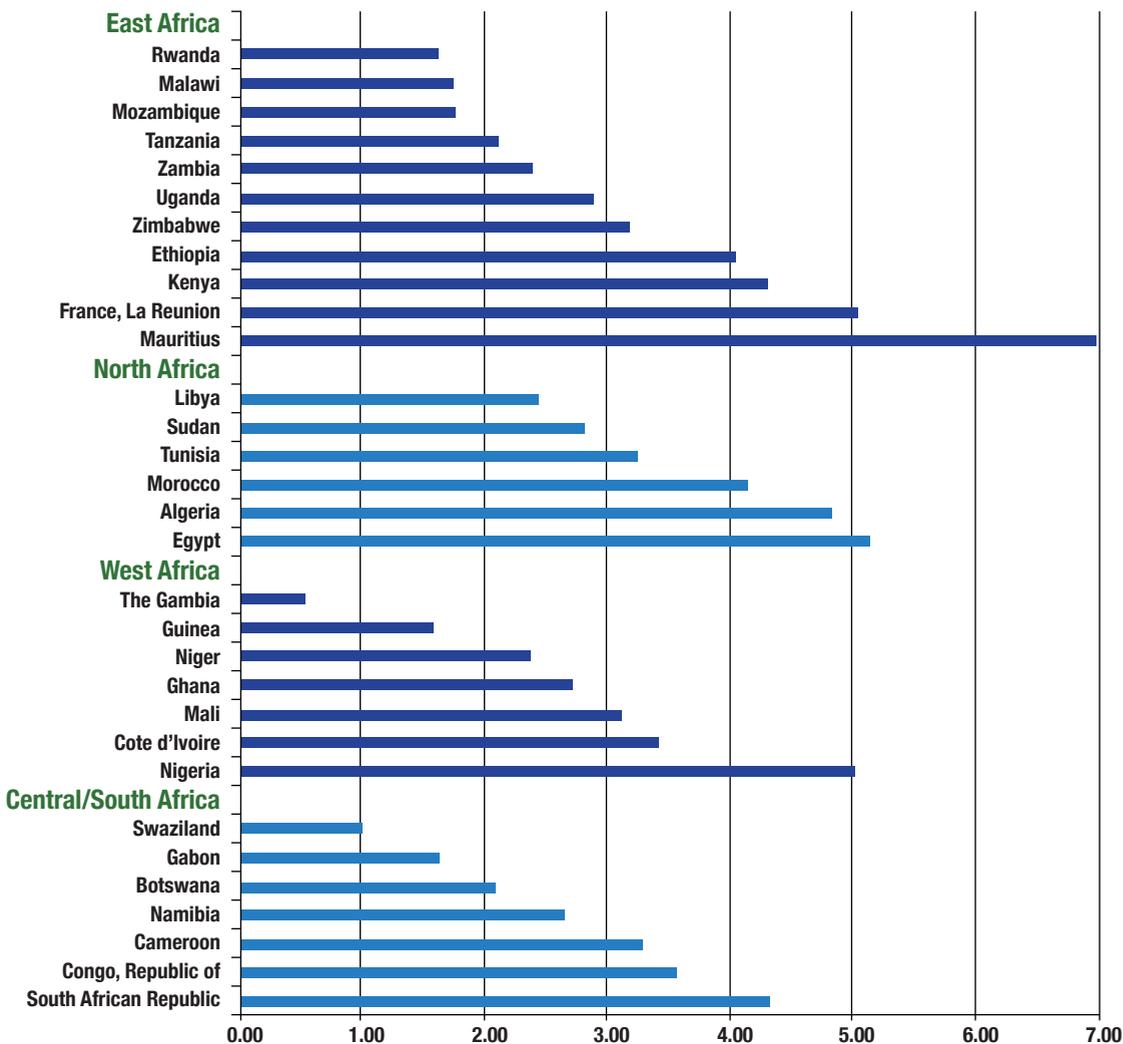
### 1.2 Breast Cancer Burden

Breast cancer is the second most common cancer in the world and the most common cancer in women in both developing and developed countries. Slightly more cases are observed in less developed regions (883,000 cases) than in more developed regions (794,000 cases) (Globocan, 2012). An estimated 1.67 million new cases were diagnosed in women in 2012, comprising 25% of all cancers in women. Incidence rates vary nearly four-fold across the world regions, with rates ranging from 27 per 100,000 in Middle Africa and Eastern Asia to 92 per 100,000 in North America (Globocan, 2012).

Globally, breast cancer ranks as the fifth cause of death from cancer overall (522,000 deaths). It is the most frequent cause of cancer death in women in less developed regions (324,000 deaths) and the second cause of cancer death in more developed regions (198,000 deaths) after lung cancer. The range in mortality rates among world regions is less than that of incidence because of the more favorable survival of breast cancer in high-incidence developed regions, with rates ranging from 6 per 100,000 in Eastern Asia to 20 per 100,000 in Western Africa (Globocan, 2012).

Despite more women dying of breast cancer in LMICs than of issues related to pregnancy or childbirth, resources have historically been devoted to maternal health; few LMICs have national programs for breast cancer prevention, screening and treatment. Figure 1 on the next page illustrates the cumulative risk of developing breast cancer in countries in Africa that represents the full spectrum of breast cancer incidence and mortality. Mauritius, a high-income country, has the highest breast cancer incidence in Africa but also has a 5-year breast cancer survival that is similar to high income countries outside of the continent. By contrast The Gambia, a low-income country, has the lowest breast cancer incidence in Africa, but also has the worst breast cancer 5-year survival in the world (Sankaranayaranan R, 2010).





**Figure 1.** Percentage cumulative risk of breast cancer in women by country.  
 Source: Globocan 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11; 2013.  
<http://globocan.iarc.fr>.

The incidence of breast cancer in less developed regions is not as high as in more developed regions although it has been steadily growing due to increased life expectancy, increased urbanization and adoption of western lifestyles (Anderson B., 2015). The low survival rates in less developed countries can be attributed to the lack of early detection programs, resulting in a high proportion of women presenting with late-stage disease, as well as limited access to adequate diagnostic and treatment services (T Peter Kingham, 2013).

Although some risk reduction may be achieved by addressing modifiable risk factors such as alcohol, obesity or lack of physical activity, these strategies cannot eliminate most breast cancers that develop in low- and middle-income countries where breast cancer is diagnosed in late stages and the overall five-year survival rate is very low (Sankaranarayanan R1, 2011).

Therefore, early detection based on awareness of early signs, timely diagnosis and effective treatment remain the cornerstone of breast cancer control to improve outcomes and survival. The five-year survival rate for early localized breast cancer exceeds 80% in settings where early detection and basic treatment are available and accessible (Swaminathan R, 2011).



CHAPTER 1. INTRODUCTION *continued*

1.3 Breast Cancer in Tanzania

Although cervical cancer is the leading cause of cancer related mortality and morbidity in Tanzania, breast cancer ranks the second most common cancer and the second most lethal among Tanzanian women (Globocan, 2012). Together, breast and cervical cancer account for more than half of all cancer cases in Tanzania. Figure 2 shows the estimated number of breast cancer cases compared to other common cancers, and a mortality profile in Tanzania from a Globocan 2012 data estimate.

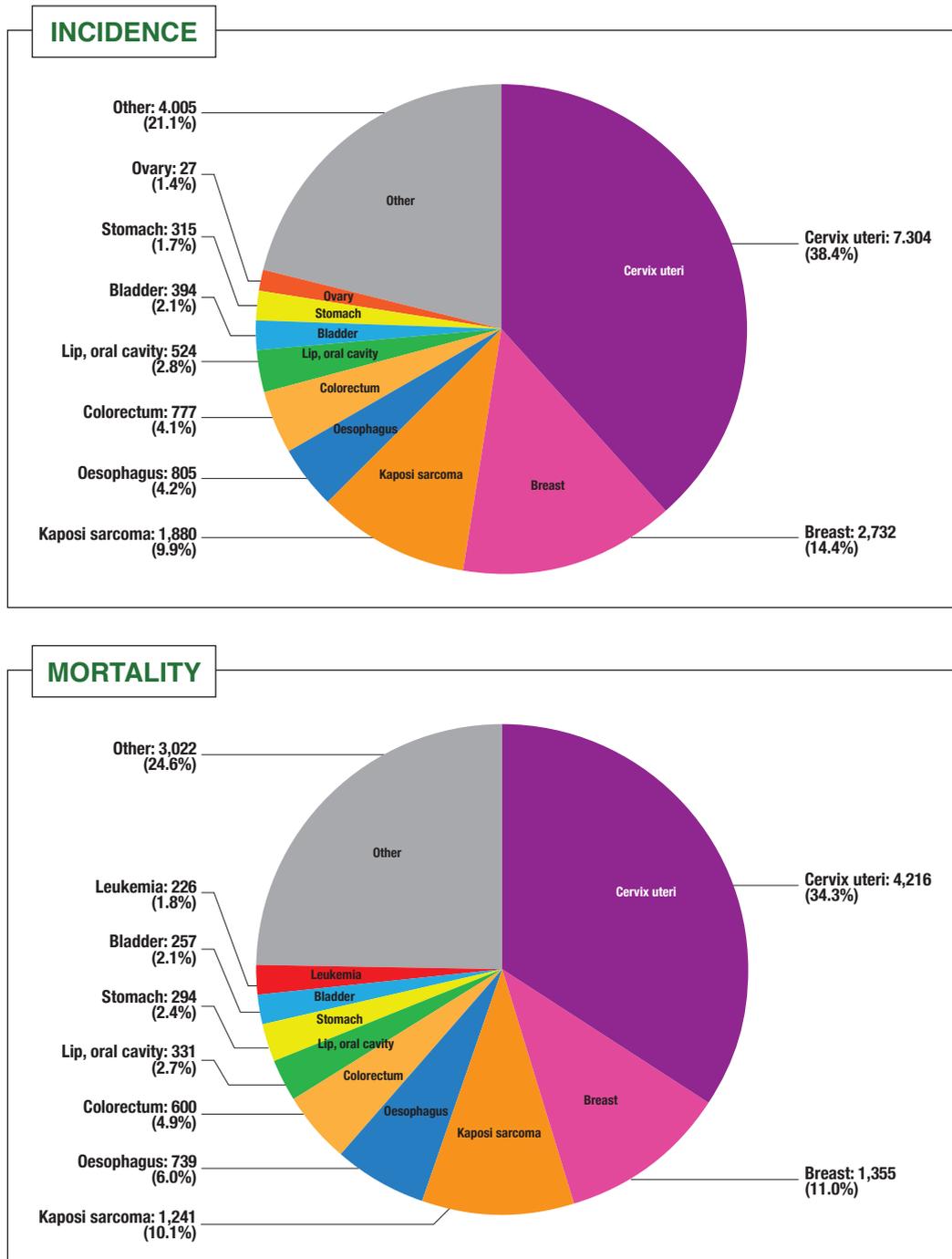


Figure 2. Cancer incidence and mortality, United Republic of Tanzania  
 Source: Globocan, IARC, 2012 (Globocan, 2012). <http://globocan.iarc.fr/Default.aspx>



CHAPTER 1. INTRODUCTION *continued*

In Table 1, data from the Ocean Road Cancer Institute (ORCI) also show breast cancer ranking second in new cancer patients seen at their facility from 2007 to 2015. These data and other studies indicate that in Tanzania the majority of patients present with stage 3 or 4 breast cancer (Burson, et al., 2008,2009) and also highlight that breast cancer now represents nearly 10% of all cases seen at ORCI behind cervical cancer and Kaposi sarcoma.

**Table 1.** Number of new breast cancer cases (trend) – ORCI Annual Report 2016 (ORCI, 2016)

NUMBER OF CANCER CASES													
Type	Years 2005 – 2015												%
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	TOTAL	
Cervical Cancer	955	1006	1288	1374	1510	1881	1896	1795	1867	1892	1934	17,398	34
Kaposi Sarcoma	295	404	418	447	681	814	789	654	680	674	689	6,545	13
Breast Cancer	244	245	275	322	386	526	667	705	733	742	758	5,603	11
Esophageal Cancer	221	256	282	307	380	511	573	601	625	643	657	5,056	10
Head and Neck	155	206	244	272	289	361	386	411	427	439	449	3,639	7
Lymphoma	201	199	226	245	186	269	295	295	307	314	321	2,858	6
Leukemia	56	78	87	103	142	261	252	251	269	253	259	2,011	4
Urinary Bladder	56	88	87	98	109	153	168	168	175	182	186	1,470	3
Skin Cancer	50	108	111	123	129	141	147	147	153	161	165	1,435	3
Eye Cancers	46	76	80	95	84	119	131	134	139	143	146	1,193	2
Prostate Cancer	51	69	75	85	96	93	101	116	121	129	132	1,068	2
Others	467	403	69	305	203	115	124	179	186	192	196	2,439	5
<b>Sub Total</b>	<b>2,797</b>	<b>3,138</b>	<b>3,242</b>	<b>3,776</b>	<b>4,195</b>	<b>5,244</b>	<b>5,529</b>	<b>5,456</b>	<b>5,682</b>	<b>5,764</b>	<b>5,892</b>	<b>50,715</b>	<b>100</b>

#### 1.4 Early Detection of Breast Cancer

Cancer is an important global public health problem that can only be addressed in the context of a strong health care system that tackles cancer control from different core components: prevention (when possible), early diagnosis, treatment, palliative care, and follow up and survivorship.

Breast cancer treatment is more effective, less complex and less expensive when provided earlier in the course of the disease. Thus, improving early diagnosis of breast cancer and effective treatment is a key strategy to breast cancer control. There are two approaches to identifying breast cancer at the earliest possible stage. One is identification of breast cancer in patients with symptoms, also referred to as early diagnosis. The second is identification of unrecognized disease in a healthy population, through screening. The two have the same objectives: identifying the disease at the earliest possible stage and providing timely, effective treatment. The approaches are not mutually exclusive and are equally important components of reducing the burden of breast cancer. However, they differ in required resources. Early diagnosis is based on clinical detection strategies, while screening requires image-based detection, which is more costly, more cumbersome, but finds disease earlier in its evolutionary course. Figure 3 on the next page depicts screening and early diagnosis according to symptom onset.



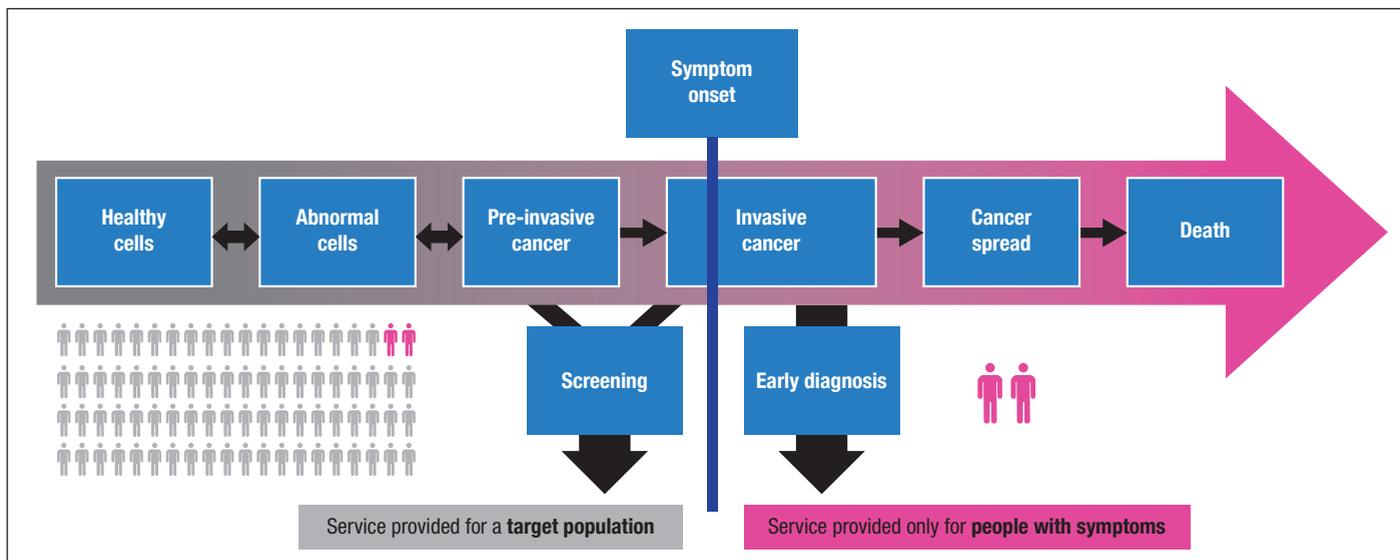


Figure 3. Screening and early diagnosis according to symptom onset (WHO, 2017)

In limited resource settings where the majority of women with breast cancer are diagnosed in late stages, WHO recommends focusing on the early diagnosis of breast cancer particularly if national, population-based mammography screening programs are not an option in the short or medium term (WHO, 2013).

The utilization and efficacy of low-cost screening approaches through clinical breast examinations (CBE) is currently under study in India (Sankaranarayanan, et al., 2011). Irrespective of the method used, an organized, sustainable program, targeting the right group and ensuring coordination, continuity and quality across the whole breast cancer continuum of care, is central to the success of population based early detection. Targeting the wrong age group – younger women with low risk of breast cancer - could cause a lower number of breast cancers detected per woman screened which reduces programmatic cost-effectiveness. This is because targeting younger women leads to an increase in the evaluation of benign tumors, requiring an undesirable use of diagnostic resources in already overloaded health care facilities (Yip CH & Panel., 2008).

According to the 2014 WHO position paper on mammographic screening (WHO, 2014), opportunistic (as opposed to population-based) screening programs run the risk of causing more harm than good and should not be implemented: opportunistic screening is defined as an unsystematic application of screening tests in routine health services. That being said, opportunistic screening may be useful as an initial step in developing population-based screening programs where pilot programs permit the establishment of technology and techniques that can be scaled up to cover regions or populations once they can be demonstrated to be effective (Murillo R, 2016).

The registry of the Oncology Department in Sarawak General Hospital in Malaysia showed that 77% of breast and 70% of cervical cancer patients were diagnosed at an advanced stage (stages III and IV). An Early Cancer Surveillance Program was started in 1994, with the intent of down staging these cancers. The program consisted of training health staff in hospital and rural clinics to improve their skills in early cancer detection including CBE and raising public awareness through pamphlets, posters and sensitization by health staff. Data analysis revealed that the program achieved down staging of two of the cancers. Breast cancer stage III and IV was reduced from 60% (1994) to 35% (1998) and cervical cancer in stage III and IV from 60% to 26%. In addition to health care workers, lay volunteers can also be trained to perform CBE. This surveillance program demonstrates that a screening program can increase the detection of breast cancer in asymptomatic women in low-income rural communities (Devi B.C.R., 2007).



### 1.5 Rationale

The United Republic of Tanzania, comprised of Tanzania mainland and the semi-autonomous Islands of Zanzibar, is the largest country in East Africa covering 947,300 square kilometers. According to the latest Population and Housing Census of 2012, Tanzania Mainland had a population of 43,625,354 comprised of 21,239,313 males and 22,386,041 females with an average annual growth rate of 2.7%. The overall incidence of breast cancer has been increasing slowly for the past 10 years and it now represents nearly 10% of all cases seen at ORCI (ORCI, 2016).

Opportunistic screening occurs in Tanzania in selected breast cancer facilities as part of awareness campaigns but not in a large scale or standardized way to meet the need of the public at large. Screening starts with public awareness and health education, followed by clinical breast examination and referral of those with a palpable mass to facilities for diagnostic services such as mammography and ultrasound, and in case of suspicious findings, fine needle biopsy. There is limited capacity to scale up these activities as the current infrastructure and health care system capacity cannot meet the demand.

Successful breast cancer control requires integrating early detection programs with accurate diagnosis and timely, accessible and effective treatments. Addressing any of these components in isolation will not improve breast cancer outcomes.

Based on the burden of breast cancer in Tanzania, the findings of the situation analysis (Breast Cancer Initiative 2.5, 2017), and WHO guidelines, the government of Tanzania will focus on early diagnosis of breast cancer.

The ACA (Awareness, clinical evaluation and access to treatment) Program for the early diagnosis of breast cancer, described in this document, will prioritize the detection, diagnosis and treatment of symptomatic breast cancer, and guide implementation of the program using a resource-stratified, phased implementation approach.

Focusing on early diagnosis of breast cancer is an effective and affordable strategy. It can complement screening strategies where justifiable, available and feasible (WHO, 2017). Screening is a much more complex public health undertaking than early diagnosis and is usually cost-effective and justified if an adequate health system capacity has been achieved and when the quality of the entire multidisciplinary screening process is assured (von Karsa L, 2013) (WHO, 2007).

Following international guidelines, the introduction of population-based mammography screening in the public health system will be delayed until processes are in place to effectively detect, diagnose and treat palpable tumors. As the health care system is strengthened, regional screening programs may be an option in populations or communities with an appropriate burden of breast cancer if sufficient resources are provided to implement and sustain the programs.

Although there are limited and varying data on the outcomes and effectiveness of mass breast screening programs in resource limited settings, the Medical Women Association of Tanzania (MEWATA) in collaboration with the national MoHCDGEC has conducted several mass breast cancer screening campaigns in Tanzania. Lessons learned from these campaigns show the need for development of standard guidelines to support effective implementation of wide scale early detection and treatment programs.



## CHAPTER 2. GOAL AND OBJECTIVES OF THE GUIDELINES

The purpose of this document is to provide guidance on the implementation of a cost effective national breast cancer early diagnosis program in Tanzania. Based on breast cancer control recommendations from WHO, these guidelines will provide a framework on how to implement simple and affordable strategies, adapted and tailored for individual programs or health facilities, within the parameters of what is acceptable in Tanzania. They are intended to contribute to making quality services available in the country, guiding providers at all levels within the health care system in effective, evidence-based interventions that are integrated with services of other cancers of the reproductive organs.

The guidelines will focus on early diagnosis of breast cancer in patients who have signs and symptoms and an average risk of developing breast cancer. The goal is to identify breast cancer as soon as possible, and provide diagnosis and treatment in the earliest stages when it is more effective, has fewer complications and is less costly. Ultimately the objective is to increase survival and the quality of life of patients (Knowledge Summaries: Early detection. Breast Health Awareness and Clinical Breast Exam, 2017).

The guidelines will also address screening recommendations for asymptomatic patients, although it is not recommended that public efforts and resources be allocated to developing a nationwide, population-based screening program at this time.

### The specific objectives of the guidelines are to:

- Describe the burden of breast cancer and the importance of detecting breast cancer at the earliest possible stage;
- Provide guidance to policymakers, managers and other stakeholders on how to implement a breast cancer control program focused on the early diagnosis of the disease;
- Provide a framework for those facilities implementing early diagnosis breast cancer interventions in Tanzania;
- Give guidance to facility managers, department heads and other stakeholders on the provision of high-quality breast health care services; and
- Improve the quality and consistency in patient care and ultimately patient outcomes.

### The audience for these guidelines includes but is not limited to:

- Policymakers;
- Program managers at national, zonal, regional and council levels;
- Health facility leadership teams;
- Health service providers;
- National and international development partners;
- National and international non-governmental organizations (NGOs);
- Community representatives/community health workers (CHWs); and
- Learning institutions, donors, survivors and advocates

Finally, these guidelines were developed to standardize protocols for the early diagnosis of breast cancer. Specific guidelines for the clinical management of breast cancer in Tanzania, including treatment protocols, are currently being developed and together with the early diagnosis guidelines, aim to significantly improve the prognosis of breast cancer patients and ensure the quality and safety of interventions and treatment.



## CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER

Early diagnosis is defined as the early identification of cancer in patients who have symptoms of the disease. This differs from cancer screening which seeks to identify unrecognized (pre-clinical) cancer or pre-cancerous lesions in an otherwise healthy target population.

### 3.1 Role of Early Diagnosis in Breast Cancer Control

Early diagnosis increases the chance of successful treatment by detecting disease at an earlier point when less extensive but equally effective treatments can be provided with increased likelihood of achieving a remission. Diagnostic delays can occur if women do not present for evaluation, but also if health care providers fail to recognize the early signs and symptoms of breast cancer. However, early diagnosis can only be effective if it is promptly followed by effective cancer treatment. WHO notes that the promotion of early cancer diagnosis in the absence of available proper treatment is not only ineffective, but is also unethical (WHO, 2017).

<b>Definition</b>	<ul style="list-style-type: none"> <li>• Early diagnosis is defined as the early identification of cancer in patients who have symptoms of the disease. This differs from cancer screening which seeks to identify unrecognized (pre-clinical) cancer or pre-cancerous lesions in an apparently healthy target population.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>• Improve survival, reduce morbidity and reduce the cost of cancer care when followed by timely, effective, affordable and equitable access to treatment (Anderson et al., 2008)</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>• Access to primary care is critical for early diagnosis</li> <li>• Improving capacity at the primary care level/first point of contact in health system can result in more timely diagnosis</li> <li>• Diagnosis requires an efficient referral process and timely coordination of services that include:             <ul style="list-style-type: none"> <li>- Initial presentation for evaluation of a breast complaint (medical exam and CBE)</li> <li>- Imaging studies</li> <li>- Biopsy of suspicious lesions</li> <li>- Pathology (histology/cytology) studies, and</li> <li>- Return visit to review results of diagnostic studies and discuss treatment plans.</li> </ul> </li> <li>• An effective early diagnosis program includes:             <ul style="list-style-type: none"> <li>- Breast health awareness education (health worker and community training)</li> <li>- Health-seeking behavior</li> <li>- Trained workforce starting with primary care providers and including pathologists</li> <li>- Patient pathways and a clear and efficient referral system</li> <li>- Identification and reduction of barriers to timely diagnosis and care</li> <li>- Clinical breast exam (CBE) performed by primary care providers</li> <li>- Timely diagnosis for all women with abnormal findings</li> <li>- Timely treatment for all women proven by tissue diagnosis to have breast cancer.</li> </ul> </li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>• Based on the Tanzania Breast Health Care Assessment 2017, the MoHCDGEC will focus resources on early diagnosis, not screening.             <ul style="list-style-type: none"> <li>- Strengthen early diagnosis capacity (accurate, prompt referral and diagnosis)</li> <li>- Improve coordination of care between health facilities</li> <li>- Improve patient pathways/reduce delays in care</li> <li>- Provide basic diagnostic tests and treatment</li> <li>- Improve education/awareness among providers and community</li> </ul> </li> </ul>



CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER *continued*

There are three steps to early diagnosis: awareness of cancer symptoms and access to care; clinical evaluation, diagnosis and staging; and access to treatment.

Table 2 summarizes three early diagnosis methods for breast cancer. It is important to distinguish the use of imaging tests, such as diagnostic ultrasound and mammography, for early diagnosis of symptomatic patients from organized screening where imaging tests are used to detect and diagnose cancers before they cause clinically recognizable signs or symptoms. While image-based screening has the potential to find disease at earlier stages when compared to clinically-based early diagnosis, screening also requires more resources and infrastructure than most low- and middle-income countries can realistically sustain. Screening programs require careful planning and a well-organized and sustainable program targeting the appropriate population with coordination, continuity and quality of actions across the whole continuum of care.

**Table 2.** Early diagnosis methods, target populations and limitations

METHOD	DESCRIPTION/PURPOSE	POPULATION	LIMITATIONS
<b>Breast Health Awareness</b>	<ul style="list-style-type: none"> <li>• Training on signs and symptoms, risk factors and risk reduction strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Healthcare workers, physicians, midwives, community health workers, nurses, traditional healers, women over 20 years of age (linked with reproductive health), and other community influencers</li> </ul>	<ul style="list-style-type: none"> <li>• Only effective if women have access to timely diagnosis and treatment</li> </ul>
<b>Clinical Breast Exam</b>	<ul style="list-style-type: none"> <li>• CBE performed by a trained health care provider involves a physical examination of the breasts and underarms with proper positioning of patient for breast palpation (upright and lying flat)</li> <li>• Basic component of breast health awareness</li> <li>• Diagnostic tool with educational benefit</li> </ul>	<ul style="list-style-type: none"> <li>• Symptomatic women presenting with signs or symptoms</li> <li>• Asymptomatic women age 30+ years as a breast awareness education tool</li> <li>• Women with family history of breast cancer at a young age, may have CBE performed before 30 years of age</li> </ul>	<ul style="list-style-type: none"> <li>• Not proven effective as a screening method to decrease mortality</li> <li>• Requires proper training, practice and quality assurance</li> <li>• Providers need feedback on patient diagnosis</li> </ul>
<b>Diagnostic Imaging Ultrasound/ Mammography</b>	<ul style="list-style-type: none"> <li>• Ultrasound as a diagnostic tool can characterize a mass as solid or cystic</li> <li>• Ultrasound can also be used to guide biopsy techniques, inform surgical management and potentially identify additional lesions in the same breast or opposite breast</li> <li>• Ultrasound imaging is not recommended as a screening modality</li> <li>• Diagnostic mammography can be used to evaluate the extent of disease in the affected breast and evaluate the opposite breast</li> </ul>	<ul style="list-style-type: none"> <li>• Use as a diagnostic tool for women with suspicious findings on CBE</li> </ul>	<ul style="list-style-type: none"> <li>• Requires specialized training</li> <li>• Ultrasound is highly operator-dependent and can be less sensitive than mammography</li> <li>• Mammography is not appropriate for use as a screening tool at this stage</li> </ul>



CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER *continued***3.2 Breast Health Awareness**

Breast health awareness is one key element of cancer early diagnosis. Both patients and health professionals should be aware of specific breast cancer signs and symptoms; that awareness must be translated into health seeking behavior.

<b>Definition</b>	<ul style="list-style-type: none"> <li>Breast health awareness targets both the public and health professionals. It provides education on the risk factors and symptoms of breast cancer as well as the importance of seeking timely medical evaluation for breast concerns.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>Improve knowledge and awareness among target populations about the importance of early diagnosis when treatment is more effective.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>Define the target population: primary care physician/first point of contact, midwives, nurses, advocates/ volunteers, women, community</li> <li>Education approach must be culturally relevant and appropriate to the education level of the target population, e.g. health professionals vs. community members</li> <li>Cancer survivors and advocates should participate in the design and development of educational approaches</li> <li>Breast health awareness includes:             <ul style="list-style-type: none"> <li>Risk factors: genetic factors, family history, personal history, hormonal and reproductive factors, age, weight, alcohol consumption</li> <li>Signs and symptoms: breast masses, skin thickening or rash, enlarged lymph nodes, persistent breast pain (general pain should be monitored, focal pain evaluated), nipple discharge, nipple inversion, warmth or redness, complex cysts</li> <li>Know your normal: a woman should know what is normal for her body and recognize any unusual or unexpected change</li> <li>Risk reduction/lifestyle modifications: breastfeeding, physical activity, avoidance of harmful use of alcohol. Note, at this time prospective data, specifically from LMICs, are not available to validate the effects of specific lifestyle modifications.</li> </ul> </li> <li>Most breast masses are discovered by women themselves, although not usually through formal breast self-exam (BSE)</li> <li>Studies on formal BSE training as a screening method showed that training on BSE led to increased breast biopsies without reducing breast cancer mortality</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>Train healthcare workers at all levels in accordance with the protocols and guidelines for care and referral</li> <li>Primary/District: Provide breast health awareness training to primary care providers. Post information, including sign/symptoms and the referral process, in office and public places of care facilities</li> <li>Regional/Zonal: Provide breast health awareness training to primary care providers. Post information, including sign/symptoms and the referral process, in office and public places of care facilities</li> <li>It is not recommended to allocate resources to training on BSE</li> </ul>

The MoHCDGEC, in collaboration with Susan G. Komen and T-MARC, has developed a series of educational materials in Swahili tailored to the culture of Tanzania. The materials consist of breast health awareness cards and posters, and a tri-fold brochure targeted to the general population to address the most common myths and misconceptions regarding breast cancer. The brochure can be found in Appendix 3 at the end of the document. <https://ww5.komen.org/translations.html> Additionally, common myths and misconceptions about breast cancer are outlined in Appendix 2.



### 3.3 Clinical Breast Examination

Clinical breast examination (CBE) is a thorough examination of the chest and underarm area by a qualified health professional. A properly conducted CBE, combined with the patient’s detailed medical history can help to determine the level of suspicion for breast cancer (Knowledge Summaries: Early detection. Breast Health Awareness and Clinical Breast Exam, 2017).

<b>Definition</b>	<ul style="list-style-type: none"> <li>Clinical breast examinations (CBE) performed by a trained health professional involve a physical examination of the breasts and underarms with proper positioning of the patient for breast palpation (upright and lying flat).</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>The diagnostic goal of CBE is to evaluate breast complaints for appropriate triage and improve diagnosis. CBE, as part of a breast health awareness education program, can improve timely presentation for follow up.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>CBE should be offered to any woman with a breast finding that she identifies as abnormal for her.</li> <li>CBE for symptomatic women is the recommended approach to early diagnosis in settings where screening mammography is not available.</li> <li>Incorporate CBE into standard medical school curricula and training programs.</li> <li>Employ quality assurance measures to ensure that health professionals are proficient in CBE and know how women with an abnormal CBE can access diagnostic services.</li> <li>CBE should be performed by a health care provider, including non-physicians trained in the technique of CBE</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>CBE should be offered to all women with a breast health concern, independent of their age.</li> <li>CBE for women without symptoms or concerns should be performed as part of breast health awareness.</li> <li>Primary/District/Regional/Zonal: Provide CBE training to primary care providers and specialists. Post information components of breast health care visit on facility walls.</li> </ul>

CBE for symptomatic women is the recommended approach to early diagnosis in settings where screening mammography is not available. Its effectiveness is dependent upon the skills of the examiner, and thus the MoHCDGEC strongly recommends they be performed by a skilled health care provider.

CBE should be part of routine breast health care or part of any evaluation for a woman that presents with a breast concern; see Table 3 on the next page. Studies on the effectiveness of CBE in finding breast lumps report that it can detect masses not reported by women, though it may miss small tumors that can be detected by mammography.

For women without symptoms, CBE should only be performed in the context of breast health awareness and not as a screening tool. Randomized trials demonstrating decreased mortality from screening with CBE alone are lacking.

Screening with CBE is only supported by indirect evidence from studies in which a CBE was included with mammography in breast cancer screening. A meta-analysis demonstrated that CBE contributed to cancer detection independently from mammography, with sensitivity and specificity of CBE estimated at 54 % and 94 %, respectively (Chisato Hamashima, 2015).



CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER *continued***Table 3.** Components of breast health care clinical visit. Adapted from BCI2.5 website (Knowledge Summaries: Early detection. Breast Health Awareness and Clinical Breast Exam, 2017)

<b>History of the present illness</b>	Pain: duration, location, timing, related symptoms (tenderness, fever, nipple discharge) Mass: duration, change, related symptoms (pain, tenderness, fever, nipple discharge) Nipple discharge (pathology if bloody, unilateral, involves single duct, watery, woman >50 yrs old) frequency, spontaneity, medications Appearance: dimpling, swelling, darkening skin retraction or thickening, nipple inversion Other: recent breast trauma, pregnancy
<b>Past medical and surgical history</b>	Prior breast health diagnoses or procedures Lymphoma with chest irradiation Endocrine disorders
<b>Medications and allergies</b>	Postmenopausal hormone replacement therapy Neuropsychotropic medications
<b>Social history</b>	Prior exposures (e.g., radiation)
<b>Family history</b>	History of breast, ovarian, prostate cancers History of previous breast biopsy
<b>Review of systems</b>	Risk factors for breast cancer (e.g., estrogen exposure) Hormone factors at time of examination (e.g. time in menstrual cycle, pregnancy, lactation) Symptoms of metastatic disease (e.g. bone, back, or leg pain; abdominal pain; nausea; jaundice; dyspnea or cough)
<b>Physical exam</b>	Vital signs: fever, tachycardia Breast examination (abnormalities including laterality and position from nipple, described as clock face hours as examiner faces patient) Visual inspections (upright and supine): contour changes, asymmetry, signs of infection, ulceration, skin changes, nipple ulceration, scarring, color (erythema) Palpation: vertical strip search pattern, varying levels of pressure, use of 3 finger pads in circular motion (1–2 cm circles), at least 3 minutes per breast from clavicle to infra-mammary fold, mid-sternum to mid-axillary line; supine then upright with ipsilateral arm on forehead, checking size, shape, consistency, mobility, texture Nipple discharge: spontaneous, color, involved ducts Adenopathy: lymph node evaluation of axilla, supraclavicular, and infra-clavicular fossa

Source: Institute for Clinical Systems Improvement, 2012; Klein, 2005; Saslow, 2004.



**3.4 Diagnostic Breast Imaging**

<b>Definition</b>	<ul style="list-style-type: none"> <li>Diagnostic breast imaging is the use of imaging tools (ultrasound or mammogram) to assess breast concerns or symptomatic palpable masses, not as a screening method among asymptomatic women.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>The goals of the diagnostic or follow up imaging studies (ultrasound and/or mammography) are to further distinguish benign from malignant masses, guide biopsy techniques, and inform surgical management.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>Diagnostic Ultrasound:                             <ul style="list-style-type: none"> <li>Distinguish cysts from solid masses and identify enlarged lymph nodes.</li> <li>Guide biopsy techniques, inform surgical management and potentially identify additional lesions in the same breast or opposite breast.</li> </ul> </li> <li>Diagnostic mammography:                             <ul style="list-style-type: none"> <li>Screen patients who present with concerns for breast cancer after CBE or screening mammography.</li> </ul> </li> <li>Evaluate the extent of disease in the affected breast and evaluate the opposite breast.</li> <li>Any suspicious finding on CBE should be biopsied regardless of mammogram findings because imaging tests may be falsely negative.</li> <li>Biopsy and pathology studies should occur after imaging studies because swelling or bleeding from the biopsy procedure will interfere with imaging studies.</li> <li>Fine needle aspiration (FNA) with cytology analysis may identify women at the primary point of care who need to be referred immediately for definitive diagnosis and treatment.</li> <li>If a triple diagnosis exam approach (CBE, ultrasound or mammogram and FNA biopsy) reveals any findings of concern, the next diagnostic step is a tissue-based biopsy (core needle, incisional or excisional) and imaging studies for staging as appropriate.</li> <li>Imaging for metastatic disease is not recommended for tumors less than 5 cm in diameter unless there are clinical or laboratory findings consistent with metastatic disease or four or more positive axillary lymph nodes.</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>District: Consider breast imaging using ultrasound if ultrasound is present, used routinely, and adapted to appropriate frequency (linear transducer &gt;7.5 MHz) for breast tissue; provide training. Consider FNA only at the district level and specific situations where core biopsy is not feasible. Core needle biopsy at district (when available), regional and national levels. Triple evaluation</li> <li>Regional: Adapt ultrasound units for breast imaging and introduce ultrasound-guided core needle biopsy. FNA has been successfully implemented for patient triage at low cost with rapid throughput but requires specialized services and skills different from standard surgical pathology services. (Ly A, 2016)</li> <li>Zonal: Diagnostic ultrasound and mammography using BI-RADS.</li> </ul>



**3.5 Diagnostic Studies, Pathology and Staging**

<b>Definition</b>	<ul style="list-style-type: none"> <li>Accurate clinical and pathologic workup of a biopsy sample is required for a definitive diagnosis, to include staging and tumor receptor status (estrogen receptor, progesterone receptor and HER2) for informed prognosis and treatment decisions.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>Timely and accurate diagnosis to inform appropriate treatment.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>All women with a suspected breast mass require an accurate pathologic diagnosis before initiating treatment, even when the clinical findings are strongly suggestive of cancer. The success of an effective breast health care program is directly related to the availability and quality of breast pathology.</li> <li>Proper handling of the tissue during the pre-analytic phase and timely processing are essential to the quality and validity of the results and subsequent treatment.</li> <li>Breast cancer early diagnosis programs should be implemented and integrated with accessible diagnostic services.</li> <li>Benign breast conditions are four times more prevalent than breast cancer. Therefore, obtaining a diagnostic biopsy rather than performing open surgery for diagnosis of breast lumps will reduce cost and morbidity.</li> <li>Timely reporting of breast diagnostic tests to the appropriate provider and patient is critical to improving outcomes.</li> <li>Health system needs to ensure that patients referred for biopsy actually follow through and obtain the procedure.</li> <li>Staging criteria are available online from the American Joint Commission on Cancer (AJCC) at <a href="https://cancerstaging.org/Pages/default.aspx">https://cancerstaging.org/Pages/default.aspx</a></li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li><b>Regional:</b> Clinical assessment, tissue sampling (ultrasound guided core biopsy), tumor-nodes-metastases (TNM) staging and estrogen-receptor status. Results should be recorded and communicated to the referring doctor.</li> <li><b>Zonal:</b> Routine determination of TNM staging and estrogen receptor immunohistochemistry (IHC) testing to determine potential benefit from endocrine therapy (oral tamoxifen/aromatase inhibitors). Diagnostic imaging. Patient navigation.</li> <li><b>National:</b> Routine determination of TNM staging to distinguish early, locally advanced and metastatic cases. Perform estrogen receptor IHC testing to determine potential benefit from endocrine therapy (oral tamoxifen/aromatase inhibitors). Build in-house diagnostic and surgery capacity at ORCI. Provide effective patient navigation.</li> </ul>



CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER *continued*

Biopsy techniques (see Table 4) require specific training and expertise to ensure proper tissue sampling. Each technique carries specific advantages and disadvantages, relating to costs and resource requirements; these are important to consider since the improper handling of tissue during the pre-analytic phase will affect the quality and validity of the diagnosis.

Table 4. Biopsy techniques

TECHNIQUE	DESCRIPTION	ADVANTAGE	DISADVANTAGE
<b>Surgical biopsy</b>	A definitive diagnosis can be made and biomarkers can be obtained on the biopsy specimen. Health systems need to ensure that patients referred for biopsy follow up and obtain the procedure.	Provides definitive diagnosis. Can often be performed with local anesthesia.	Often requires multiple visits for surgical biopsy procedure and another surgical visit (once cancer is diagnosed) for treatment and axillary staging. Increases the potential for a patient to be lost to the system.
<b>Fine needle aspiration cytology (FNAC)</b>	A small, hollow needle and syringe are used to obtain cells from a palpable breast lump for examination under a microscope by a cytopathologist. FNAC is not currently suitable for the evaluation of asymptomatic women without a palpable lump.	Rapid, safe and usually less-painful than a surgical biopsy or a core needle biopsy in women with a palpable breast lesion. In some cases, a preliminary interpretation of a potential cancerous lesion is possible at the time of FNAC, which may facilitate patient flow and assist in treatment planning.	The incidence of false negative results has been estimated to be 4–27%. Thus, the absence of cancer cells upon FNAC does not rule out invasive cancer, and a tissue based biopsy (large core needle or surgical) may be needed if FNAC results are nondiagnostic or negative. Must be read by trained breast cytologist.
<b>Core needle biopsy (CNB)</b>	Consists of the removal of a tissue specimen with a hollow cutting needle (usually 14 gauge). Obtaining 4 specimens with a 14-gauge needle usually provides enough tissue for diagnosis.	Lower sampling error and larger volume of tissue retrieved, compared to FNAC, allows pathologist to document invasive versus in situ disease, grade tumor accurately and perform tumor biomarker tests. CNB does not require a trained cytopathologist. CNB is less costly than a surgical biopsy and can demonstrate benign findings that may spare women unnecessary surgical biopsies.	False negative results can occur with core needle biopsies, especially if insufficient tissue is obtained.
<b>Image-guided biopsy</b>	Image-guided tissue sampling is required when the CBE is normal and an abnormality is seen only with screening imaging. It can be done under mammographic (i.e., stereotactic) or ultrasound guidance.	Generally, ultrasound guided CNB is faster and better tolerated than stereotactic techniques, but there may be sampling limitations. Stereotactic biopsy is effective and can be performed at the same or lower cost than needle-localized surgical biopsy with less morbidity.	



CHAPTER 3. EARLY DIAGNOSIS OF BREAST CANCER *continued*

Accurate diagnosis and staging (see Table 5) are essential in determining appropriate treatment planning.

**Table 5.** Staging of breast cancer (adapted from Susan G. Komen <https://ww5.komen.org/BreastCancer/StagingofBreastCancer.html>)

Stage of breast cancer	Description
<b>Stage 0</b>	Carcinoma in situ (DCIS)
<b>Stage I</b>	Invasive breast cancer with tumor up to 2cm and no axillary lymph nodes involved
<b>Stage II</b>	Invasive breast cancer with one of the following: <ul style="list-style-type: none"> <li>- Tumor &lt;2cm with spread to axillary lymph nodes;</li> <li>- No tumor in the breast but cancer cells in axillary lymph nodes;</li> <li>- Tumor 2 to 5 cm with spread to axillary lymph nodes; or</li> <li>- Tumor &gt;5cm without spread to axillary lymph nodes</li> </ul>
<b>Stage III</b>	Tumor has spread to axillary nodes which are clumped together, has spread locally to the chest wall or the skin of the breast or to infra and supra-clavicular nodes
<b>Stage IV</b>	Distant metastasis (M)

Note: Histological staging or classification is used as prognostic factor

**3.6 Management of Fibromas, and Simple and Complex Cysts**

<b>Key issue</b>	<ul style="list-style-type: none"> <li>• Benign (non-cancerous) lesions can be classified histologically into three categories: nonproliferative (e.g. simple breast cyst, papillary apocrine change, mild hyperplasia of usual type), proliferative without atypia (e.g. usual ductal) and atypical hyperplasia.</li> <li>• Benign breast conditions are four times more prevalent than breast cancer.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>• Identification of benign tumors vs. malignant tumors.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>• Most breast lumps in premenopausal women are benign and do not require treatment.</li> <li>• Fibroid breast tumors, fibroadenoma, are benign growths that can occur in one or both breasts (most common in women aged 20-30). They are non-invasive tumors, usually round and hard with defined edges like a marble and are unlikely to develop into cancer. A lumpectomy may be performed to remove the mass. If not removed, they should be monitored for growth. They may also shrink over time.</li> <li>• Fibrosis are non-cancerous benign changes in breast tissue most common among women of reproductive age. They feel rubbery to the touch.</li> <li>• Cysts are fluid-filled benign round movable sacs in the breast most often found in women in their 40's. Monthly hormonal changes can cause cysts to grow in size and become painful before menstrual periods.                             <ul style="list-style-type: none"> <li>- Diagnosis: FNA, ultrasound and biopsies may be needed to determine that such lumps are not cancer.</li> <li>- Treatment: cysts may be drained with a needle and may also go away with time.</li> </ul> </li> <li>• Neither fibrosis nor cysts increase risk of later developing breast cancer.</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>• Image and sample (when indicated) the lesions. If they are conclusively determined to be benign, no treatment is indicated.</li> </ul>



## CHAPTER 4. POPULATION BASED SCREENING PROGRAMS

In limited resources settings, WHO only recommends the implementation of population-based screening programs when capacities for confirmation of diagnoses, and treatment and follow up of those with abnormal results exist, and when resources are sufficient to meet a series of established conditions (shown on page 8 of the 2014 WHO position paper on mammography screening found at [http://apps.who.int/iris/bitstream/10665/137339/1/9789241507936\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/137339/1/9789241507936_eng.pdf)).

WHO considers an effective, organized screening program to be one in which the participation rate (number of invitees screened) of the target population is over 70%. In the short-term, good measures of program effectiveness are low rates of false positives, false negatives and recall rates. Long-term measures include a reduction in the percentage of women presenting with late-stage disease. A program's long-term success is determined by a reduction in breast cancer mortality ascertained through population-based registry data.

### 4.1 Screening Mammography

Mammography is the only screening method proven to be effective. Screening mammography has been shown to decrease breast cancer mortality in high-resource settings when used annually or biennially in women aged 40–74. Organized population-based screening mammography programs can reduce breast cancer mortality by 18–53%

Although there is evidence that organized population-based mammography screening programs can reduce breast cancer mortality by around 20% across all age groups in a screened versus an unscreened group, in general the benefits outweigh the harm (over diagnosis and overtreatment, among others) by only a narrow margin, particularly in younger and older women. Mammography screening is complex and resource intensive and no research has been conducted on its effectiveness in low resource settings.

<b>Definition</b>	<ul style="list-style-type: none"> <li>Mammography uses X-rays to image the breast and identify malignant changes. It can be used as a diagnostic tool to examine symptomatic women and as well as a screening method in asymptomatic women.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>To detect and diagnose breast cancer in its earliest stages when treatment is most effective and outcomes are better.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>Prerequisites to mammography screening include a robust referral system to track and follow up with patients, quality control of equipment and readings to ensure low false positive and false negative rates, and services to confirm diagnoses and provide treatment. Resources are also needed to ensure quality performance of the imagers (technicians and radiologists) and to maintain mammography equipment.</li> <li>The success of screening mammography depends upon having an organized program that achieves high screening coverage of women in the at-risk age group, followed by prompt diagnosis and treatment for women with abnormal results.</li> <li>Screening mammography is not recommended in settings with health systems lacking the required prerequisites or adequate capacity.</li> <li>Screening mammography programs can be implemented once the effective use of diagnostic mammography and subsequent management (treatment) of palpable and nonpalpable disease is established.</li> <li>To date, there are no data available from LMICs demonstrating the efficacy of mammography screening programs. Health care systems in limited resource settings should focus efforts on increasing health system capacity for breast cancer diagnosis and treatment, as well as providing education and awareness to health professionals and the general population.</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>Population-based screening mammography is not recommended in Tanzania at this time. Population-based screening can be introduced when diagnostic imaging, pathology services and referral for surgery and specialized treatment are established and functioning.</li> <li>In facilities or programs where these services are available, accessible and functioning, opportunistic screening can be a viable option in accordance with the recommendations from the WHO position paper.</li> </ul>

### 4.2 Other Screening Methods

Although sometimes presented as potential screening methods, there are no randomized clinical trials demonstrating decreased mortality using ultrasound or CBE alone. Although ultrasound imaging is not recommended as a screening modality, it is important as a diagnostic tool for evaluating breast findings, such as masses or thickenings.



CHAPTER 5. SERVICE DELIVERY AND PROGRAM COORDINATION

5.1 Health System Level and Services

Service delivery is the visible part of health care, the interface between the community and the health sector. Services will be provided at all levels of the health care system in static, mobile and outreach services from communities, primary health care facilities, and council, referral and national hospitals.

The main focus will be on quality and equitable access to breast health care in order to improve outcomes using an integrated approach with other reproductive and child health services. The Ministry of Health Community Development Gender Elderly and Children (MoHCDGEC) has prioritized integration of Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) services and documented it in several policy documents (2014a, Health Sector Strategic Plan III). Figure 4 shows the health care pyramid in Tanzania.

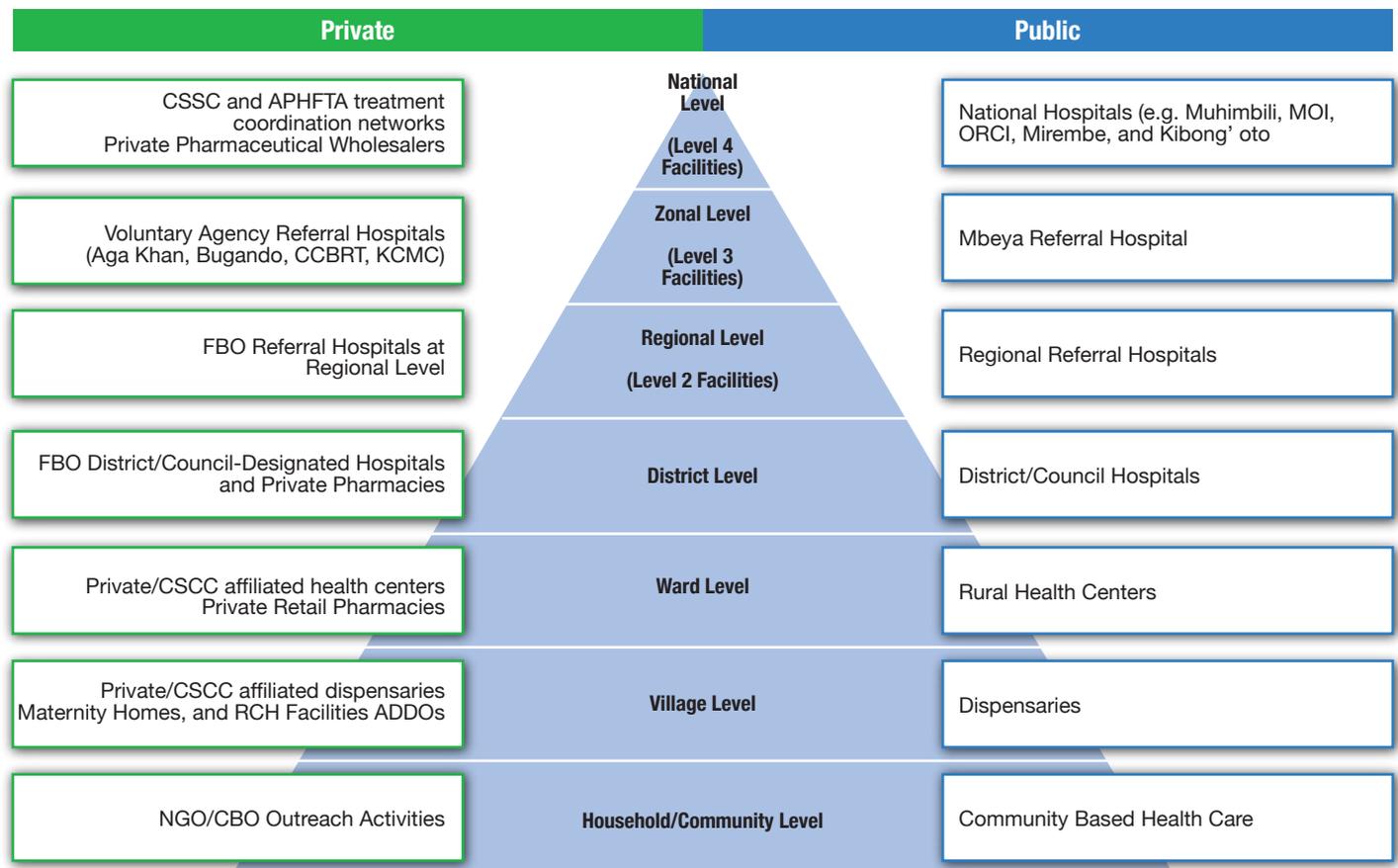


Figure 4: The health care pyramid in Tanzania in the public and private settings (2014a, Health Sector Strategic Plan III)



CHAPTER 5. SERVICE DELIVERY AND PROGRAM COORDINATION *continued*

In the health facility setting, services should be provided by health workers who have demonstrated competency according to the national standards. Supervision and clinical mentorship should be provided at each level of the health care system, per existing mechanisms. Table 6 outlines the services associated with each of the service delivery levels.

**Table 6.** Health System Level and Associated Services

DELIVERY LEVEL	SERVICE		
<b>National Level &amp; Specialized</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Breast health awareness</li> <li>- Clinical breast examination</li> <li>- Ultrasound, diagnostic mammography</li> <li>- Biopsy</li> <li>- Hystopathology &amp; citopathology</li> </ul>	<b>TREATMENT</b> <ul style="list-style-type: none"> <li>- Surgery</li> <li>- Radiotherapy</li> <li>- Chemotherapy</li> <li>- Hormonal therapy</li> <li>- Rehabilitation</li> </ul>	<b>ADDITIONAL FUNCTIONS</b> <ul style="list-style-type: none"> <li>- Communication with primary and secondary care levels, counter referrals</li> <li>- Supportive, palliative and survivorship care</li> </ul>
<b>Zonal Level</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Breast health awareness</li> <li>- Clinical breast examination</li> <li>- Ultrasound, diagnostic mammography</li> <li>- Biopsy</li> <li>- Hystopathology &amp; citopathology</li> </ul>	<b>TREATMENT</b> <ul style="list-style-type: none"> <li>- Surgery</li> <li>- Radiotherapy</li> <li>- Chemotherapy</li> <li>- Hormonal therapy</li> <li>- Rehabilitation</li> </ul>	<b>ADDITIONAL FUNCTIONS</b> <ul style="list-style-type: none"> <li>- Communication with primary and secondary care levels, counter referrals</li> <li>- Supportive, palliative and survivorship care</li> </ul>
<b>Regional Level</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Breast health awareness</li> <li>- Clinical breast examination</li> <li>- Ultrasound, diagnostic mammography</li> <li>- Biopsy by trained oncology nurse/provider as available</li> <li>- Hystopathology &amp; citopathology</li> </ul>	<b>TREATMENT</b> <ul style="list-style-type: none"> <li>- Surgery</li> <li>- Outpatient chemotherapy</li> <li>- Hormonal therapy</li> </ul>	<b>ADDITIONAL FUNCTIONS</b> <ul style="list-style-type: none"> <li>- Coordination with primary care level</li> <li>- Supportive, palliative and survivorship care</li> </ul>
<b>District Level</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Recognition of breast cancer signs and symptoms</li> <li>- Breast health awareness</li> <li>- Clinical breast examination</li> <li>- Clinical evaluation</li> <li>- Prompt referral of suspicious cases</li> <li>- Ultrasound</li> <li>- FNAC and/or Biopsy (only if health care provider is trained)</li> <li>- Surgery for cancer diagnosis (should not be confused with doing a mastectomy for diagnosis)</li> </ul>	<b>TREATMENT</b> <ul style="list-style-type: none"> <li>- Patient education and rehabilitation</li> </ul>	<b>ADDITIONAL FUNCTIONS</b> <ul style="list-style-type: none"> <li>- Breast health education and awareness</li> <li>- Supportive, palliative and survivorship care</li> <li>- Coordination of services across facilities</li> </ul>
<b>Health Center</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Breast health awareness</li> <li>- Clinical breast examination</li> <li>- Prompt referral of suspicious cases</li> </ul>		
<b>Dispensary</b>	<b>DIAGNOSIS</b> <ul style="list-style-type: none"> <li>- Recognition of signs and symptoms of breast cancer</li> <li>- Breast health awareness (nurse and clinical officer)</li> <li>- Appropriate clinical evaluation, including clinical breast examination (nurse and clinical officer)</li> <li>- Prompt referral of suspicious cases</li> </ul>		
<b>Community</b>	<ul style="list-style-type: none"> <li>- Breast health awareness</li> <li>- Addressing stigma; identification of barriers to accessing care</li> <li>- Community health workers, community leaders and cancer advocates engagement</li> <li>- Clinical breast examination (community health workers)</li> </ul>		
NOTE: Social workers can provide breast health awareness at all levels. Nurses should be trained to provide breast health awareness and perform clinical breast examinations.			



## 5.2 Role of Facilities

At all levels, health care facilities will support the implementation and use of these National Guidelines for Early Diagnosis of Breast Cancer and Referral for Treatment.

**Table 7.** Role of facilities at the different health system level

HEALTH SYSTEM LEVEL	ROLE
<b>National level</b>	<p>Provide normative and strategic guidance, policy formulation, dissemination of this document, and programmatic support to regions and councils in the implementation of the national guidelines. In addition, the national level will do the following:</p> <ul style="list-style-type: none"> <li>- Develop an educational resource package.</li> <li>- Create and maintain a cadre of trainers and sustain the practice.</li> <li>- Define clear roles for trainers at each level.</li> <li>- Oversee and coordinate the quality of the program.</li> <li>- Set breast cancer service performance standards and coordinate the roll out process.</li> <li>- Coordinate semi-annual/annual dissemination meetings.</li> <li>- Advocate and mobilize resources for a clinical mentoring system.</li> <li>- Develop a database to collect information about national trainers and their competency areas.</li> <li>- Develop a tool to evaluate the clinical mentorship system.</li> <li>- To collaborate with PO-RALG to solicit resources for implementation at various levels.</li> </ul>
<b>Zonal level</b>	<p>Provide support to regional hospitals for the early diagnosis program providing services to the referrals accordingly to the national guidelines.</p>
<b>Regional level</b>	<p>Through the Regional Health Management Team (RHMT) will support the following:</p> <ul style="list-style-type: none"> <li>- Mobilize training materials and establish laboratory skills.</li> <li>- Support use of new national guidelines and emerging technologies.</li> <li>- Coordinate regional level training, implementation activities and reporting.</li> <li>- Mobilize, advocate and coordinate partner support.</li> <li>- Provide coordination and support program activities at the council level.</li> <li>- Identify a member of the RHMT to coordinate the breast cancer program, preferably the Regional Reproductive and Child Health Coordinator (RRCHCO), envisioning integration in the future with the CECAP Program.</li> <li>- Coordinate screening and outreach activities at the community level in collaboration with the Council Health Management Team (CHMT).</li> </ul>
<b>Council level</b>	<p>To serve as the implementation hubs supporting the following activities:</p> <ul style="list-style-type: none"> <li>- Identify potential providers to be trained as trainers, and service providers to be trained to deliver service.</li> <li>- The District Council Reproductive and Child Health Coordinator (DRCHCO) will coordinate all council program activities.</li> <li>- The CHMT will incorporate activities in the Comprehensive Council Health Plan (CCHP) under the RMNCAH priority area in collaboration with stakeholders.</li> <li>- Assess internal and external resource availability and enlist the support of partners.</li> <li>- Maintain an updated inventory of trainers and providers, including replacements and new recruitments.</li> <li>- Schedule quarterly joint supportive supervision and mentorship activities to reinforce effective coordination. Coordinate mass screening and outreach activities at the community level in consultation with the RHMT.</li> </ul>



CHAPTER 5. SERVICE DELIVERY AND PROGRAM COORDINATION *continued*Table 7. Role of facilities at the different health system level *continued*

HEALTH SYSTEM LEVEL	ROLE
<b>Health facilities</b>	<p>The role of health facilities in the early diagnosis program include:</p> <ul style="list-style-type: none"> <li>- Identify training and service provision needs.</li> <li>- Maintain communication with the council to coordinate training activities.</li> <li>- Ensure that all Health Management Information System (HMIS) reports are accurately completed at the proper time and the data is used to identify gaps.</li> <li>- Assign experienced competent, practicing health care providers from within, or from any other health facility, to conduct clinical mentoring activities.</li> <li>- Arrange, coordinate and manage records of clinical mentoring sessions at the facility and oversee implementation of recommendations by the mentoring team.</li> <li>- Coordinate outreach activities at the community level in consultation with the CHMT.</li> </ul>
<b>Community</b>	<p>The community health worker (CHW) role is limited to non-clinical preventive services including community sensitization, community mobilization, reinforcement of breast health awareness and behaviour changes, counselling, support and referral.</p> <p>The CHW supervisor has the following mentoring roles:</p> <ul style="list-style-type: none"> <li>- Ensure all community health activity action plans and reporting tools are accurately completed as scheduled.</li> <li>- Support the CHW in maintaining and updating community level service records, including tracking the number of suspected cancer cases and deaths.</li> <li>- Support CHW understanding of community health priority intervention efforts, targets, and intended outcomes for the breast cancer program.</li> <li>- Support knowledge, attitudes and participation of villages, opinion leaders and influencers within the community on breast cancer outreach campaigns.</li> </ul>

### 5.3 Coordination of the ACA Program

It is essential that the program be well coordinated and standardized throughout the country to ensure high quality in service delivery. The coordination of service delivery and training activities related to breast cancer control will be done by the MoHCDGEC through the Reproductive and Child Health section and the Reproductive Health Cancer Unit at various levels. The Ministry will maintain an inventory of people trained, including trainers and service providers.

The MoHCDGEC recommends integration of breast cancer services with cervical cancer services and other reproductive health services to promote efficiency, and improve access and coverage of services. In line with this approach, the recommendations in Table 7 below provide guidance on the parties responsible for coordination of services related to the early diagnosis of breast cancer program at the various levels of the integrated health care systems.

Table 7. Coordination of the breast cancer program at the different levels of the health system

<b>RHMT/Regional Levels</b>	RRCHCO-Regional Reproductive and Child Health Coordinator
<b>CHMT/District Level</b>	DRCHCO-District Reproductive and Child Health Coordinator
<b>Facility Level</b>	RCH I/Charge in collaboration with trained provider in breast cancer early diagnosis and treatment services



## CHAPTER 6. REFERRAL PATHWAY AND PATIENT NAVIGATION

### 6.1 Effective Referral System

An effective referral system is an essential component of a comprehensive national breast cancer early diagnosis program. The current national referral system, from dispensaries to national specialized hospitals, will be used. Patients should be referred using existing national referral forms which should be available in all facilities; service providers must be well-oriented on how to use these referral forms.

#### DEPENDING ON THE SERVICE DELIVERY LEVEL, CASES TO BE REFERRED INCLUDE:

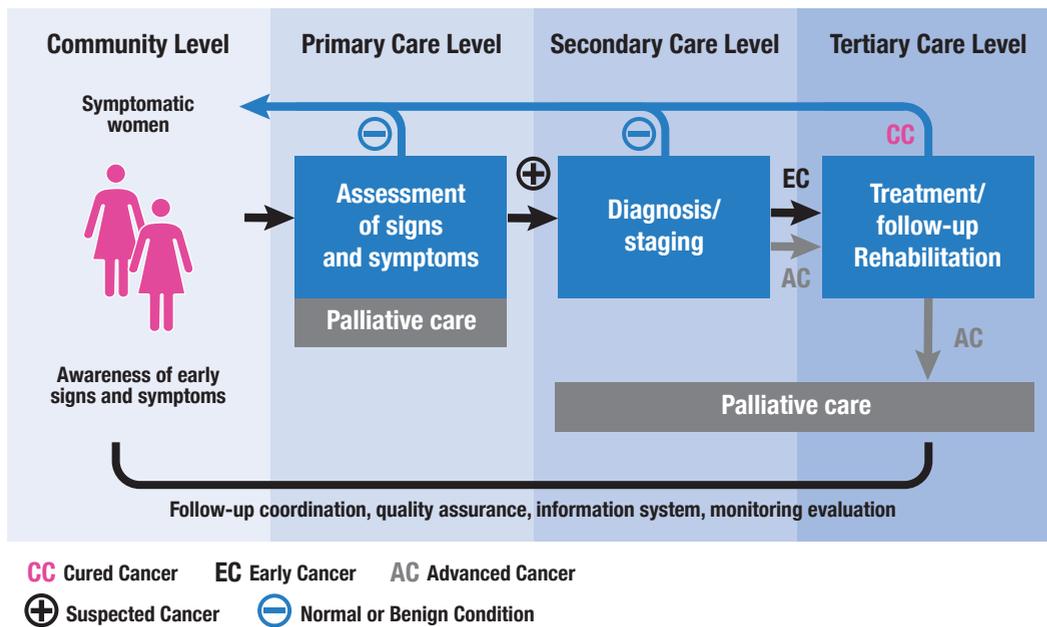
- Patients with abnormal breast changes and/or lesions, including:
  - breast lump, or any change in the shape or consistency of the breast
  - breast lump that has enlarged and/or is fixed and hard
  - other breast problems (i.e. eczematous skin changes, nipple retraction, peau d' orange, ulceration, unilateral nipple discharge – particularly bloody discharge, lump in the axilla) with or without palpable lump
- Patients with suspicion of breast cancer.
- Patients who need diagnostic services.
- Patients who need treatment (surgery, chemotherapy or radiotherapy).
- Patients who need a second opinion regarding diagnosis.

Effective and timely referral to diagnosis and treatment is a crucial piece of early diagnosis of breast cancer.

### 6.2 Referral Pathways

<b>Definition</b>	<ul style="list-style-type: none"> <li>• Referral pathways provide links between primary care and advanced diagnostic and treatment services.</li> <li>• They facilitate the flow of patient and patient information across all levels of care.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>• Minimize delays, reduce unnecessary clinical visits, improve communication, facilitate access and provide coordinated, efficient patient-centric care.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>• An effective referral system is an essential component of a comprehensive national breast cancer early diagnosis and treatment program.</li> <li>• Reducing the number of unnecessary visits to providers and institutions, as well as diagnostic steps, can help reduce the risk of miscommunication and corresponding lack of follow up.</li> <li>• Links between primary care facilities and higher levels of care are essential for referral, counter-referral and information transfer.</li> <li>• Providers should be trained in the referral process and use of referral forms.</li> <li>• Patients should be referred to the next level of care using national referral forms, which should be available in all facilities.</li> <li>• An effective method of tracking patients, such as a breast health card or a mobile phone application is needed to minimize redundancies in obtaining patient histories as they move through the health system.</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>• Referral pathway:                             <ul style="list-style-type: none"> <li>- Woman presents at primary care facility with a breast concern.</li> <li>- Primary care facility promptly refers to regional level for diagnostic imaging and biopsy.</li> <li>- Refers to regional/zonal level for treatment if applicable and relays diagnosis to primary care setting.</li> <li>- Refers for palliative care as needed.</li> <li>- Follow up in each level of according to the services provided. Data on diagnosis should flow back to the primary provider who detected the abnormality.</li> </ul> </li> </ul>





**Figure 5:** WHO recommendation for referral of suspected breast cancer (Adapted from Package of essential noncommunicable (PEN) disease interventions for primary health care in low-resource settings. ([http://www.who.int/ncds/management/Early\\_diagnosis\\_system\\_copy.pdf?ua=1](http://www.who.int/ncds/management/Early_diagnosis_system_copy.pdf?ua=1)))

Cancer care is complex and can last months or years, requiring a series of tests, and rounds of treatment and follow-up, as shown in Figure 5. Navigating this process can be challenging for patients and their families especially when referral networks fail, services are not coordinated, or patients face delays, lack information about their treatment, and/or must travel long distances. Patient navigation refers to how patients, their families and caregivers access and navigate available health services.

Patient navigators are health professionals (nurses, physicians, social workers) or trained community workers or volunteers (breast cancer survivors, advocates) who assist patients in navigating the system by helping with appointment scheduling and coordination of care. More sophisticated patient navigation services may include arranging financial support, facilitating communication among providers, and ensuring patients adhere to treatment recommendations. Coordination of services, strong referral networks, patient navigators and other structural changes will improve patient access to timely breast cancer diagnosis and treatment.

Although patient navigation is not systematically provided in the public health care system, implementation of the guidelines will offer an opportunity to identify bottlenecks in the system and help develop navigation services where they are most needed.



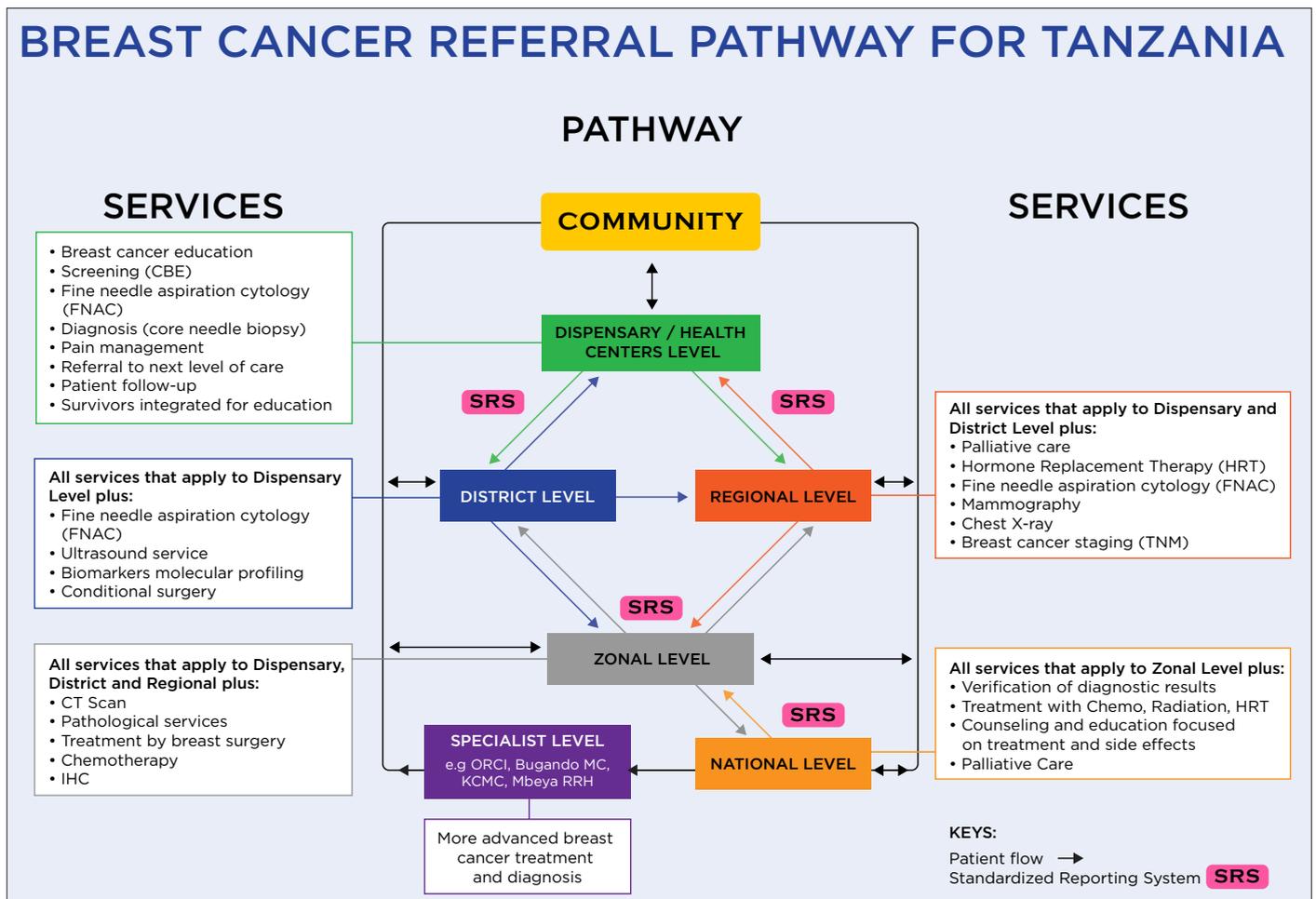


Figure 6: Breast Cancer Referral Pathway for Tanzania



## CHAPTER 7. COMMUNITY BREAST HEALTH AWARENESS AND EDUCATION

**7.1 Community Awareness and Education**

There are a broad range of community-based programs for cancer prevention in Tanzania. However, relatively few communities benefit from comprehensive interventions that focus on breast cancer control. To strengthen the capacity of the community to promote the early detection of breast cancer, the MoHCDGEC has developed a Community Health Strategy that ensures effective and active community engagement in the design, planning, implementation, monitoring and evaluation of health promotion interventions, and is also linked with the Non-Communicable Disease (NCD) unit.

Building community awareness involves exchanging information with different segments of the community to enhance knowledge and understanding, and promote behavior change; it is an essential component of improving breast cancer outcomes. The community should be aware of specific breast cancer signs and symptoms, understand the urgency of these symptoms, overcome fear or stigma associated with breast cancer, and be able to access informed primary care services where they can be evaluated and referred appropriately for diagnosis and treatment. Thus, awareness and education for breast cancer control must be based in scientific evidence and translate into appropriate health seeking behavior. In parallel, breast health services must be accessible, affordable and offered in a respectful, thorough and considerate manner.

The MoHCDGEC recommends that program planners, policy makers and supervisors oversee the development of a path for continuous capacity building and professionalization of health professionals. Especially CHWs, to develop and deliver health promotion strategies at the community level. Educational sessions can provide information about breast cancer, dispell myths and misconceptions, and help individuals understand what actions to take.

Successful educational interventions will depend on the support and ownership of the community, as well as an inclusive social and policy environment for community participation at national, district, and local levels.

**7.2 Community Engagement**

Community engagement refers to the process of getting community members involved in decisions that affect them, including the planning, development, management, and evaluation of health services, as well as activities which aim to improve health or reduce health inequalities.

Addressing breast cancer control in Tanzania requires that the community is informed, educated and empowered to make decisions about their breast health. To this effect, the Community Health Strategy should engage the community in dialogue and decision-making to improve the relevance and efficiency of breast cancer control interventions. The effectiveness is likely to depend upon identification of explicit methods for involving individuals and communities, clearly defined roles and responsibilities, training for policymakers and clients, and adequate funding.

Raising awareness about breast cancer where there is no effective diagnosis or treatment program is not ethical and is likely to reinforce beliefs that the disease is not treatable. The following key interventions should be promoted to implement the community-based component of the early diagnosis program once there is a trained workforce with informed frontline health workers linked to accessible diagnosis and treatment services.

**Key educational interventions to improve community breast health awareness and education:**

- Engage local government authorities and community leaders, and partner with both community based organizations (CBOs) and faith based organizations (FBOs). Sensitized community leaders provide positive responses and create an environment for women and men to seek services.
- Involve community leaders, influencers and champions, including CHWs, CBDs, TBAs, Traditional Healers, and Village Health Committees, as key players to mobilize the community and raise awareness about breast cancer.
- Use behavior change messages to increase awareness, ability and motivation to use breast health services.
- Develop, adapt and print training and educational materials, including job aids and referral pathways, for distribution to service providers and community members.
- Execute a breast cancer awareness road show: service providers, e.g. nurses, visit communities and offer free information about the importance of early detection as well as ways to reduce the risk of breast cancer.
- Train community leaders, health providers, supervisors, managers, and CHWs in techniques that will help them engage with the community, such as participatory discussions and life skills techniques.



CHAPTER 7. COMMUNITY BREAST HEALTH AWARENESS AND EDUCATION *continued*

Table 7. Identifies health care and administrative involvement in community awareness of breast cancer control.

HEALTH SYSTEM LEVEL		
LEVEL	RESPONSIBLE	
Community	CHWs, Community leaders	<ul style="list-style-type: none"> <li>• CHW can raise awareness at village meetings, in small groups or one-on-one</li> <li>• Nurses can raise awareness at ANC, or other specialized clinics</li> <li>• Breast cancer survivors, in collaboration with clinicians, can also help raise awareness</li> <li>• NGOs can help support the CHWs</li> </ul>
Dispensary	CHWs, HCPs, CBOs	
Health Centre Services	CHWs, HCPs	
District Hospital Services	CHBCs, HCPs, CHMTs	
Regional Hospital Services	HCPs, Clinicians, Nurses, SWOs, RHTMs, RC, RAS, CHWs	
Referral Specialized Hospital	HCPs	
All levels	CBOs, CSOs, Professional Associations, FBOs, Partners (Local / International), Media, Policy makers, Program Planners, Supervisors	
ADMINISTRATIVE LEVEL		
Village	Involve Ward Executive Officer (WEO)	<ul style="list-style-type: none"> <li>• Advocacy</li> <li>• Community sensitization</li> <li>• Community mobilization to promote early detection and treatment services</li> <li>• Organization of community breast awareness activities</li> <li>• Organization of campaigns to promote breast cancer early detection through mass media channels</li> <li>• Fundraising</li> </ul>
Ward	Involve WEO and counsellor	
District	Involve DMO, DRCHCO, CHMT	
Regional	Involve RHMT, RMO, RRCHO, DAC	
Zonal	Involve Director, Reproductive Health Focal Person, Diagnostics Dept.	

### 7.3 Demand Creation

Demand creation will be conducted only when the system is in place to provide diagnosis and management of palpable disease, and can handle an increase in the number of women requiring services.

#### Strategies to generate demand and community support:

- Reach the target audience with tailored, safe, accurate, current, consistent, and evidence-based breast cancer information and educational materials, using a variety of communication channels. These messages can range from one-on-one communication, small group discussions, educational health talks in clinics, community meetings, women's groups, health campaigns, community services and religious meetings.
- Leverage internal MoHCDGEC protocols and partners such as CBOs to expand the training to a broader network of outreach educators.
- Advocate for the inclusion of breast cancer awareness initiatives in existing health programs and higher learning institutions.
- Conduct social mobilization for breast cancer, particularly in communities that are hard to reach or have underserved groups.
- Build awareness through social media.
- Post printed material in health facilities, market places, mosques, churches and other public places.
- Promote breast health interventions and information through mass media channels such as community radio programs, bill boards and television advertisements and talk shows.



### 7.4 Facility and Community Links

The ACA Program for the early diagnosis of breast cancer should focus on making the initial connection between community members and health facilities so that individuals with signs or symptoms of breast cancer are quickly evaluated by a health care provider at the entry point to the health care system to establish if cancer may be present. Patients with suspicious findings should be connected to an appropriate facility for diagnostic tests, pathological confirmation and staging studies, then linked to care and finally receive follow up as necessary.

The MoHCDGEC also recommends strengthening community and facility links through existing structures to improve referrals, increase follow up for patients diagnosed with breast cancer, and enhance quality of care. Strengthening partnerships and linkages between health facilities and communities can significantly improve equitable access to care without duplication of services. Sustainable improvement of service delivery is essential to improved breast cancer outcomes.



CHAPTER 8. PSYCHOSOCIAL SUPPORT FOR PATIENTS AND SURVIVORS

8.1 Psychosocial Support

Women with advanced breast cancer frequently experience psychological distress because of their illness and its treatment. This distress may manifest as depression, anxiety, difficulty coping and social isolation. It is recommended that psychosocial support be offered to all patients diagnosed with breast cancer.

<b>Definition</b>	<ul style="list-style-type: none"> <li>Psychosocial support addresses both the psychological and social needs of breast cancer patients.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>Psychosocial support activities seek to facilitate communication, re-establish the social support in the community or family, and support the patient’s efforts to actively respond to the impact of the disease.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>Cancer affects all dimensions of a person’s life: physical, psychological, social and spiritual. Counseling and social support can help patients and their caregivers cope more effectively with each stage of the disease and enhance quality of life</li> <li>It is important to assist patients in making informed decisions, promote self-management and coping skills, and reduce depression, anxiety and pain;</li> <li>Long-term stress can also have physiologic effects such as lower immune responses, fatigue and insomnia, all of which may impact health outcomes. Addressing a patient’s mental health can improve their physical outcome and survival rate</li> <li>Engaging breast cancer survivors in supportive care can help reduce psychosocial barriers to treatment</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li>Breast cancer patients and survivors can receive psychosocial support from different professionals with multidisciplinary backgrounds including professionals working at the social welfare unit, mental health specialists, psychologists, nutritionists, palliative care specialists, physicians and oncologists. Services may vary from peer to peer support, information, and counseling services, to material and financial assistance</li> <li>Patients and caregivers should be fully informed about diagnosis, treatment options and plans.</li> <li>Track the number of patients using these services and how effective the services are in addressing patient psychosocial needs.</li> </ul>

Currently, organized psychosocial support is not provided in the public health care system. The implementation of the ACA Program for the early diagnosis of breast cancer will offer the opportunity build these services within the health system structure where they are most needed.



### 8.2 Peer Support

Peer support programs have been developed to help patients at all stages of breast cancer and have shown to be effective in both one-on-one and group support settings. Peer support programs help patients cope with diagnosis and treatment and have been found to improve cancer patients' satisfaction with medical care, increase knowledge, improve coping strategies, provide a sense of hope, improve personal relationships, expand social support, and improve mood. Peer support can offer acceptance by others in a similar situation as well as a sense of normalcy, and can diminish feelings of social isolation. (Marlyn Allicock, 2014). Such programs require training cancer survivors who are no longer in active treatment in the tenets of peer support, coordination and ongoing monitoring of these survivors, and support and resources for peer mentors. Peer support programs do not include the provision of medical advice.

#### Key elements of peer support:

- Active listening and communication
- Concern, empathy, respect, trust
- Team work, cooperation, problem solving
- Discussion of experiences
- Support to find one's own solutions
- Use of one's own experiences in support

### 8.3 Patient Counseling

Counseling should be provided by professionals and peer mentors who have been trained to provide these services and have specifically been trained on counseling.

#### Patient counseling may include but not be limited to the following:

- Listening and providing comfort to distressed people
- Providing emotional and practical support
- Providing the information requested by the patient or caregiver
- Helping patients to solve problems
- Helping patients to access basic services
- Referring breast cancer patients to more specialized care if needed
- Acting with the help-seeker but not acting for him/her

### 8.4 Support for Caregivers

Caregivers (family members, friends or others) play a key role in breast cancer care, providing the patient with physical and emotional support.

Like patients themselves, caregivers face stress from an uncertain future, financial worries, difficult decisions and lifestyle changes. Unfortunately, services focus on patients and often overlook caregivers. Caregivers should make sure they take care of their own needs while caring for their loved one.



CHAPTER 9. HEALTH SYSTEM STRENGTHENING

This section provides guidance for program managers and supervisors to improve the health care system in the context of the ACA Program for the early diagnosis of breast cancer. The approach should adhere to the (modified) system building blocks, as frequently used in publications of the World Health Organization (see figure 7 below). The Program, in collaboration with other partners, should work jointly to improve these building blocks and manage their interaction to achieve more equitable and sustained improvements across breast cancer control services and health outcomes.

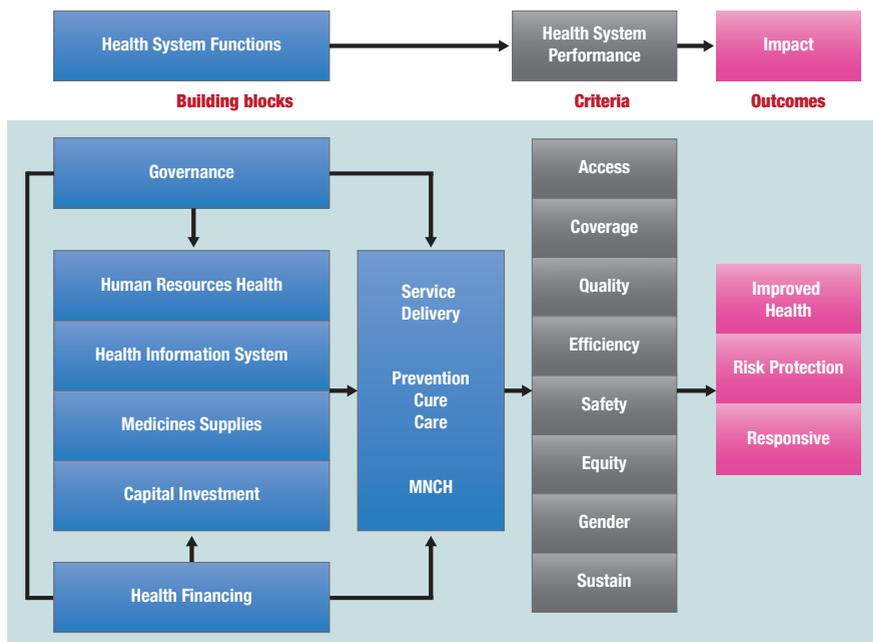


Figure 7: Building Blocks of the Health and Social Welfare System

Tanzania’s health care system faces shortages of healthcare providers, especially those trained in detecting, diagnosing and treating cancer. Integrating breast cancer care programs into maternal or reproductive health care services is potentially synergistic but with an already strained system, it may create additional barriers unless human resource allocations are adequately addressed. Introducing or expanding existing programs without providing additional healthcare providers will result in burnout as health professionals will encounter more challenging working conditions, higher workload and inadequate infrastructure to perform their work.

Strengthening the health care workforce should incorporate human resource capacity building that underpins improvement of patient access to care, e.g., training health care providers in breast cancer risk factors, clinical breast exams, diagnosis, treatment and proper referral procedures. Staff should be competent and productive to be able to deliver effective, safe and quality breast health care and breast cancer treatment services. The Program should ensure equitable access to essential diagnostic and treatment services for breast cancer control for quality, safety, efficacy and cost-effectiveness. Services should include outreach to and education for all communities.

The MoHCDGEC recommends a well-functioning health information system linked with existing District Health Information System (DHIS-2) software in data collection, reporting, analysis, and dissemination and use of reliable and timely information on early detection and treatment of breast cancer program.

Leadership and governance should also be strengthened at all levels by ensuring strategic breast cancer policy frameworks are updated and integrated with existing RCH and NCD program efforts. The health financing system will be reinforced to raise adequate funds using existing financial resources to ensure patients have access to needed breast cancer diagnostic and treatment services, and are protected from financial crisis as a result of having to pay for care.



CHAPTER 10. IMPLEMENTATION

A resource-adapted phased implementation approach can guide systematic improvements in breast cancer early diagnosis and treatment.

Strategically customized phased implementation programs can be developed for selected countries or regions to improve breast cancer outcomes following some basic steps shown in the table below. However, before implementation can begin, certain foundational elements must be established. Formal situational assessment permits the design of patient triage and referral systems to optimally utilize existing resources and infrastructure. Resource-appropriate protocols and guidelines must be adopted, while healthcare personnel must be trained to perform their essential roles. Only then can structured programs be organized into functional care units that allow patients to successfully navigate the system along defined clinical pathways and receive the proper diagnosis and treatment required to cure their newly detected cancers.

<b>Definition</b>	<ul style="list-style-type: none"> <li>Phased implementation is the process of systematic and iterative improvements - each phase consisting of assessment, planning, implementation and reassessment - to strengthen the breast health system throughout the cancer care continuum using evidence-based guidelines and resource-adapted strategies.</li> </ul>
<b>Goal</b>	<ul style="list-style-type: none"> <li>The goal of phased implementation is to strengthen the cancer care continuum, and improve early diagnosis as a prerequisite to improved breast cancer outcomes.</li> </ul>
<b>Principles</b>	<ul style="list-style-type: none"> <li>A resource-adapted phased implementation approach can guide systematic improvements in breast cancer early diagnosis and treatment. This approach is based on the establishment of successful and systematic management of clinically detectable (palpable) breast disease before implementation of screening programs.</li> </ul>
<b>Recommended Strategy</b>	<ul style="list-style-type: none"> <li><b>Baseline assessment and planning:</b> A situational analysis is performed to provide the framework for developing standardized protocols, establishing triage and referral pathways, adopting resource-appropriate guidelines and creating an informed and properly trained health care workforce.</li> <li><b>Management of palpable disease:</b> A systematic approach to guide patients with palpable (symptomatic) breast disease through a process of clinical evaluation, diagnostic imaging and tissue sampling to accurately distinguish benign from malignant breast disease.</li> <li><b>Strengthening of patient pathways:</b> Care pathways to reduce access barriers are created or strengthened. These organized pathways guide patient navigation through the system, promote clinical assessment of palpable masses, provide tissue sampling of suspicious masses and initiate prompt treatment for lesions proven to be malignant.</li> <li><b>Training and education scale up:</b> Educational programs to heighten public breast cancer awareness are expanded while health care personnel are trained in clinical assessment and clinical breast examination (CBE) to promote early diagnosis of clinically detectable disease.</li> <li><b>Image-based screening:</b> Imaging (ultrasound and mammography) is first used for diagnostic work-up of palpable disease. Once this is well established and functional, image-based diagnostic systems can potentially be upgraded (technology and training) for the management of non-palpable disease as a prerequisite to image-based (mammographic) screening.</li> </ul>



## CHAPTER 11. MONITORING AND EVALUATION OF BREAST CANCER EARLY DETECTION AND TREATMENT PROGRAM

### 11.1 Overview of Program Monitoring

This section provides guidance for program managers, health care providers and supervisors to improve program monitoring.

**Monitoring and evaluation (M&E) refers to all processes that track performance and achievement of intended results and help management to:**

- Make informed decisions regarding program management and service delivery,
- Evaluate the extent to which the ACA Program for the early diagnosis of breast cancer is achieving desired outcomes and impact, and
- Determine the extent to which the program is meeting the intended targets and goals, and make corrections accordingly.

**This program will be guided by:**

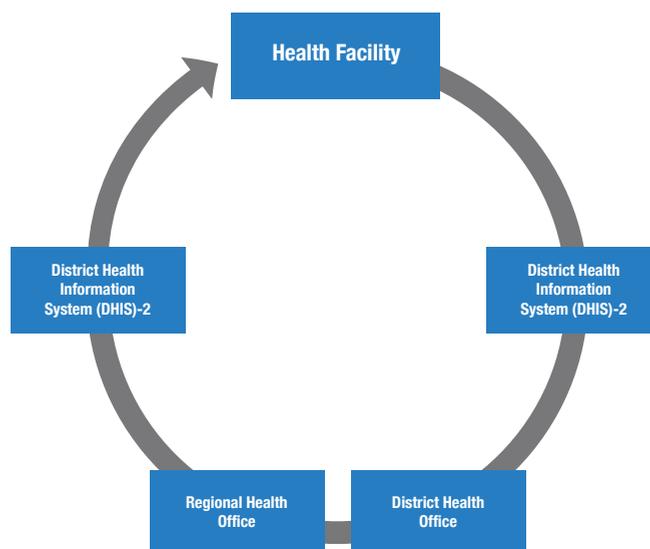
- Clearly defined and measurable indicators,
- Standard data collection tools, cancer registries, and monthly summary forms approved by the MoHCDGEC,
- Clear guidelines for data management,
- Effective scheduled data collection of essential information, and
- Generation of regular monitoring reports at the facility level.

The M&E system will detail the approaches to monitor, evaluate and report the activities based on specific objectives linked with the existing Health Management and Information System (HMIS).

The program will use an existing system protocol which is operational from the facility to central level for data collection and reporting. The customized District Health Information System (DHIS-2) software will be used with key information to monitor the program. The quality of analysis of available information requires further coordination by the Regional Health Management Team (RHMT), Council Health Management Team (CHMT) at Regional and District levels and through the RHCa unit at national level.

### 11.2 Data Flow

Provision of breast cancer early diagnosis will be instituted at all levels of health care service delivery. It is imperative that primary health care providers recognize the signs and symptoms of breast cancer and then generate a referral for diagnosis, treatment and management of suspicious lesions as required. The location of the patient will determine whether the referral is to a District, Regional, Zonal or National level facility. Existing referral forms in the facility should be used. Figure 8 outlines recommendations for data flow from facility to central level and should be integrated with existing HMIS system within RCH services.



**Figure 8:** Data flow from facility to central level.

## CHAPTER 11. MONITORING AND EVALUATION OF BREAST CANCER EARLY DETECTION AND TREATMENT PROGRAM *continued*

### 11.3 Program Indicators

The ACA Program for the early diagnosis of breast cancer will track key performance indicators through the MoHCDGEC's existing HMIS. The Program should track the following key program indicators outlined in Table 8.

**Table 8.** Key Program Indicators

Indicator	Descriptions/Calculations
1. Number of primary care facilities that provide breast health services; 1 – Dispensary/Health Centre 2 – District 3 – Regional 4 – Zonal 5 – National	Number of primary health facilities that can effectively provide breast health services: – Breast health awareness – Recognition of signs and symptoms of breast cancer – Appropriate clinical evaluation – Early and effective referral of suspicious cases – Patient education and rehabilitation
2. Number of district-level facilities that offer breast ultrasound imaging services and/or mammography	Mention the name of health facility/facilities per District Council/Region
3. Number of regional-level facilities that offer core needle biopsy services	Mention the name of health facility per Region
4. Number of facilities that offer pathology services	Mention the name of health facility that offer the services
5. Number of referral specialized hospitals that offer chemo/radiotherapy services	Mention the name of health facility that offer the services
6. Number of health care providers trained on CBE	Cumulative by Region/District Council
7. Number and percentage of patients with signs and symptoms that indicate suspicion of breast cancer	Numerator: number of women with suspicious breast cancer that present at the primary care facility Denominator: total number of women seen at the health facility
8. Number and percentage of patients with benign breast problems i.e. fibroadenoma, breast cysts, mastitis	Numerator: number of women with benign breast conditions Denominator: number of patients with breast concerns that are given a CBE
9. Number and percentage of patients with breast concerns that are referred to a higher level of care/appropriate level of care	Numerator: Number of patients with an abnormal clinical breast exam who were referred for further management at a higher-level facility (district, regional, zonal, national) Denominator: number of patients with breast concerns that are given a CBE
10. Number of patients who were diagnosed/confirmed with breast cancer	Numerator: number of patients with breast cancer Denominator: number of patients with breast concerns that are given a CBE
11. Number and percentage of patients who were diagnosed with breast cancer at a regional facility who were referred for treatment at a higher level of care	Numerator: number of patients with breast cancer diagnosed at a regional level facility and referred to a higher level of care Denominator: total number of patients with breast cancer diagnosed
12. Number and percentage of patients diagnosed with breast cancer and offered treatment (surgery, radiotherapy, chemotherapy or combination of therapies)	Numerator: total number of patients diagnosed with breast cancer that start treatment Denominator: total number of women diagnosed with breast cancer
13. Number and percentage of patients with breast concerns that are examined and confirmed with breast cancer diagnosis at the higher level of care (Zonal Level/ Specialized Facility)	Numerator: number of patients with breast concerns that are examined and confirmed with breast cancer diagnosis at the higher level of care/ appropriate level of care Denominator: number of patients with breast concerns that are given a CBE
14. Number and percentage of deaths due to breast cancer	Numerator: total number of women diagnosed with breast cancer who died from the disease Denominator: total number of patients diagnosed with breast cancer



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## APPENDIX 1: BREAST CANCER SIGNS AND SYMPTOMS

- The warning signs of breast cancer are not the same for all women.
- The most common symptom of breast cancer is a new lump or mass.
- Other possible symptoms of breast cancer include:
  - Swelling of all or part of a breast even if no distinct lump is felt
  - Skin irritation or dimpling
  - Breast or nipple pain
  - Nipple retraction (turning inward)
  - Redness, scaliness, or thickening of the nipple or breast skin
  - Nipple discharge (other than breast milk)
- Sometimes a breast cancer can spread to lymph nodes under the arm or around the collar bone and cause a lump or swelling there, even before the original tumor in the breast tissue is large enough to be felt. Swollen lymph nodes should be checked by a health care provider.
- In late stages, common presentations include:
  - Ulceration
  - Enlarged lymph nodes in the armpit and neck
- Signs and symptoms of distant metastasis such as un-resolving cough, weight lost, shortness of breath, bone pain and pathological fractures may also be present. Pain is usually a late symptom.
- Breast cancer can also occur or be diagnosed during pregnancy.



## APPENDIX 2: COMMON MYTHS AND MISCONCEPTIONS

- **Breast pain is a symptom of breast cancer.** That's rarely the case; breast cancer, especially early breast cancer, usually does not cause pain and may exhibit no noticeable symptoms. Most aches, pains or tenderness can be attributed to things like fibrocystic breast changes, the rise and fall of hormones or a fluid-filled sac (a cyst), which can feel firm or squishy and can be aspirated by a doctor to withdraw the fluid causing the pain.
- **You're only at risk if breast cancer runs in your family.** Roughly 70% of women diagnosed with breast cancer have no identifiable risk factors for the disease. But the family-history risks are these: If a first-degree relative (a parent, sibling, or child) has had or has breast cancer, your risk of developing the disease increases. Having two first-degree relatives with the disease increases your risk even more. Only 5 to 10 percent of all breast cancers are hereditary (due to mutations in genes associated with the disease).
- **Monthly self-exams don't make a difference.** Breast self awareness or breast health awareness have replaced our recommendation for self exam. Awareness includes reporting any changes in your breast tissue to your healthcare provider. But the best way to know if there are changes is to check yourself regularly, preferably the week after your menstrual cycle. Check particularly for breast lumps that may feel hard, like a frozen pea or lima bean. Awareness also includes knowing your family history and updating it yearly, and knowing about behaviors that will reduce your risk. Despite recent evidence discounting the importance of regular breast checks, many experts still believe in them. Mammography, clinical exams, and ultrasound are possible screening methods, yet none of them is perfect, so it's wise to increase your chance of early detection by becoming familiar with your own breasts and reporting any changes, like lumps, swelling, dimpling or discharge, to your doctor.
- **Only women get breast cancer.** Although women do account for the vast majority of breast cancers, men are susceptible, too. With men, their cancers are usually linked to a strong family history or genetic causes and are usually seen in later stages, since men are not typically screened for breast cancer.
- **A lump is the only sign of breast cancer.** While a lump may indicate breast cancer or other benign breast conditions, there are other changes that could indicate cancer, like skin irritation or dimpling; swelling, nipple retraction or discharge (other than breast milk); redness, scaliness, or thickening of the nipple or breast skin. Women should know that a mammogram can pick up a cancer before any symptom is felt or seen at all.
- **Only your mother's family history of breast cancer is important.** Your father's family history is just as important, especially the women on his side of the family.
- **Women with lumpy, fibrocystic breasts are more at risk.** Once thought a factor in increasing your risk, it is no longer seen as a connection. Lumpy breasts do, however, make it more difficult to differentiate normal tissue from cancerous tissue, so ask your doctor if you might be helped further by adding an ultrasound to your mammogram screenings.
- **Brassieres and deodorant.** Two major breast cancer myths are that underwire brassieres and deodorant cause breast cancer. With regard to underwire bras, there is no scientific evidence that they cause cancer. Neither bra type nor bra tightness have any correlation to breast cancer risk. The American Cancer Society discredits the breast cancer myth that deodorant increases breast cancer risk. There has yet to be a link to show that use of antiperspirants containing parabens increase a woman's risk for breast cancer
- **Mammography causes breast cancer.** It is true that mammograms involve radiation, but the amount of radiation is small enough that the risks of exposure are minimal considering the positive benefits that mammograms can have in detecting a breast cancer. Mammograms often detect lumps before they can be felt or noticed. The earlier these lumps are detected, whether by mammography or other methods like clinical breast examination, or ultrasound, the better the chance a woman has for survival.



APPENDIX 3: EDUCATIONAL MATERIALS



Uvumi: Saratani ya matiti mara zote huwa na uvimbe.

**UKWELI:**

- Mara nyingi saratani huwa na uvimbe; lakini mara nyingine saratani ya matiti hutokea bila uvimbe wowote.
- Kuna dalili nyingine zinazoweza kuashiria uwepo wa saratani ya matiti.
  - Uvimbe, joto, wekundu au weusi kwenye titi
  - Ngozi kujikunja au kuwa na vijitundu na kuonekana kama ganda la nje la chungwa
  - Kubadilika kwa ukubwa au umbo la titi
  - Kuwa na chuchu inayowasha au iliyochubuka
  - Chuchu au sehemu nyingine za titi kubonyea ndani
  - Chuchu kutoa majimaji, damu au usaha
  - Maumivu muda wote kwenye chuchu

Uvumi: Saratani ya matiti huambukiza.

**UKWELI:**

- Saratani ya matiti haiambukizwi. Mtu hawezi kuambukizwa saratani na mtu mwingine mwenye saratani.
- Saratani haiwezi kuambukizwa kwa njia ya ngono, busu, kugusana, kushiriki chakula au kwa njia ya hewa.

Uvumi: Wanaume hawawezi kupata saratani ya titi.

**UKWELI:**

- Saratani ya matiti ni nadra wanaume, lakini hutokea.

Uvumi: Unaweza kupona saratani ya matiti kwa kutumia tiba asili, tiba mbadala au maombi.

**UKWELI:**

- Utafiti haujathibitisha kwamba tiba asili, tiba mbadala au maombi huponya saratani ya matiti.
- Endapo utaona dalili zozote zisizo za kawaida, wahi kituo cha kutolea huduma za afya kwa ushauri na unasihii.



**Ujumbe wa Uhamasisho wa Kibinafsi Kuhusu Matiti**

**1. Fahamu visababishi**

- Kurithi
- Umri mkubwa
- Kupata mtoto wa kwanza baada ya umri wa miaka 35
- Uzito mkubwa
- Kutokufanya mazoezi
- Matumizi ya tumbaku au pombe

**2. Fahamu hali ya kawaida kwako**

- Fahamu hali ya kawaida ya matiti yako kwa kujitazama kwenye kioo au kujigusa
- Ukigundua mabadiliko yoyote, nenda kituo cha afya kilicho karibu nawe

**3. Pata huduma za uchunguzi**

Huduma za uchunguzi unazoweza kufanyiwa ni pamoja na kipimo cha mamogramu, kutoa ute au kinyama (biopsy) kutoka katika uvimbe.

**4. Zingatia mtindo bora wa maisha ili kulinda afya yako**

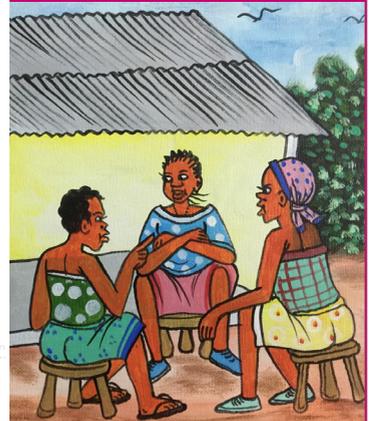
- Zingatia uzito kulingana na ushauri wa mtaalamu wa afya
- Fanya mazoezi ya mwili mara kwa mara
- Punguza unywaji wa pombe
- Nyonyesha kwa kuzingatia ushauri wa wataalamu
- Tumia matunda na mboga mboga kila siku
- Epuka matumizi ya tumbaku

susan G. Komen. T-MARC TANZANIA. Imetayarishwa na Wizara ya Afya, Maendeleo ya Jamii, Jinsia, Wazee na Watoto kwa Ushirikiano wa T-MARC Tanzania na Susan G. Komen.



Wizara ya Afya, Maendeleo ya Jamii, Jinsia, Wazee na Watoto

**Ukweli Kuhusu Saratani ya Matiti na Imani potofu Zinazovumishwa**



**Mifano ya imani potofu zinazoenezwa Mara Nyingi Kuhusu Saratani ya Matiti**

Huduma za uchunguzi na matibabu ya saratani ya matiti uhusisha hatua mbalimbali. Hivyo ni muhimu kwa jamii kufahamu ukweli kuhusu saratani ya matiti na kuhudhuria mapema katika vituo vya kutolea huduma za afya kwa uchunguzi na unasihii.

**Fahamu ukweli kuhusu saratani ya titi**

Kuna hisia na maswali mengi kuhusu ugonjwa huu.

Uvumi: Mionzi inayotolewa kwa ajili ya tiba ya saratani ya matiti husababisha hatari zaidi kuliko manufaa.

**UKWELI:**

- Matibabu ya mionzi hutumika kuangamiza chembechembe za saratani.
- Lengo la matibabu ya mionzi ni kuangamiza chembechembe za saratani zilizobakia ndani au karibu na titi baada ya upasuaji.
- Kuharibiwa kwa tishu ya kawaida kunaweza kusababisha athari mbadala. Athari nyingi huisha baada ya wiki chache baada ya kumaliza matibabu.
- Mionzi ni njia muafaka wa kutibu saratani.

Uvumi: Ukipata saratani ya matiti utakufa.

**UKWELI:**

- Idadi ya vifo vinavyotokana na saratani ya matiti vinaweza kupungua kufuatia utambuzi wa mapema na maboresho ya matibabu.
- Saratani ya matiti ikitambuliwa mapema na kutibiwa ipasavyo, uwezekano wa kupona ni mkubwa.

Uvumi: Virutubisho vya lisho na miti shamba inaweza kuponya saratani ya matiti.

**UKWELI:**

- Virutubisho vya lisho na miti shamba havijathibitishwa kisayansi kutibu saratani ya matiti.
- Matibabu ya saratani ya matiti hujumuisha upasuaji, mionzi, tiba ya dripu (chemotherapy) na tiba ya kutumia vichocho (hormone).



Uvumi: Kuwa mzee au msichana siwezi kupata saratani ya matiti.

**UKWELI:**

- Ingawa umri ni kigezo kinachojulikana cha hatari ya kupata saratani ya matiti, wanawake wazee na wasichana wanaweza pia kupata saratani ya matiti.

Uvumi: Kama kuna historia ya saratani ya matiti katika familia, na mimi nitapata; kama bakuna historia mimi sitapata.

**UKWELI:**

- Wanawake wote wako katika hatari kubwa zaidi ya kupata saratani ya matiti.
- Kuwa na ndugu mwenye saratani ya matiti huongeza hatari ingawa si lazima upate.
- Unaweza kuwa na saratani ya matiti hata kama huna ndugu aliyewahi kupata ugonjwa huu.





Wizara ya Afya, Maendeleo ya Jamii,  
Jinsia, Wazee na Watoto

## Ujumbe kuhusu kinga na tiba ya saratani ya matiti

### 1. Fahamu visababishi

- Kurithi
- Umri mkubwa
- Kupata mtoto wa kwanza baada ya umri wa miaka 35
- Uzito mkubwa
- Kutokufanya mazoezi
- Matumizi ya tumbaku au pombe

### 2. Fahamu hali ya kawaida kwako

- Fahamu hali ya kawaida ya matiti yako kwa kujitazama kwenye kioo au kujigusa
- Ukigundua mabadiliko yoyote, nenda kituo cha kutolea huduma za afya kilicho karibu nawe

### 3. Pata huduma za uchunguzi

Huduma za uchunguzi unazoweza kufanyiwa ni pamoja na kipimo cha mamogramu, kutoa ute au kinyama (biopsy) kutoka katika uvimbe

### 4. Zingatia mtindo bora wa maisha ili kulinda afya yako

- Zingatia uzito kulingana na ushauri wa mtaalamu wa afya
- Fanya mazoezi ya mwili mara kwa mara
- Punguza unywaji wa pombe
- Nyonyesha kwa kuzingatia ushauri wa wataalamu
- Tumia matunda na mboga mboga kila siku
- Epuka matumizi ya tumbaku

### Mifano ya imani potofu zinazoenezwa mara nyingi kuhusu Saratani ya Matiti

**Uvumi:** Mionzi inayotolewa kwa ajili ya tiba ya saratani ya matiti husababisha hatari zaidi kuliko manufaa.

**UKWELI:**

- Matibabu ya mionzi hutumika kuangamiza chembechembe za saratani.
- Lengo la matibabu ya mionzi ni kuangamiza chembechembe za saratani zilizobakia ndani au karibu na titi baada ya upasuaji.
- Matibabu ya mionzi yanaweza kusabisha athari ndogondogo ambazo huisha wiki chache baada ya kumaliza matibabu.
- Mionzi ni njia muafaka wa kutibu saratani.

**Uvumi:** Kama kuma historia ya saratani ya matiti katika familia, na mimi nitapata; kama hakuna historia mimi sitapata.

**UKWELI:**

- Wanawake wote wako katika hatari zaidi ya kupata saratani ya matiti.
- Kuwa na ndugu mwenye Saratani ya matiti huongeza hatari ingawa si lazima upate.
- Unaweza kuwa na Saratani ya matiti hata kama huna ndugu aliyewahi kupata ugonjwa huu.

**Uvumi:** Saratani ya matiti mara zote huwa na uvimbe.

**UKWELI:**

- Mara nyingi saratani huwa na uvimbe; lakini mara nyingine saratani ya matiti hutokea bila uvimbe wowote.
- Kuna dalili nyingine 7 zinazoweza kuashiria uwepo wa saratani ya matiti.

Soma upande mwingine upate vielezo au picha.



Wizara ya Afya, Maendeleo ya Jamii,  
Jinsia, Wazee na Watoto

## Fahamu hali ya Kawaida Kwako

Dalili za saratani ya matiti hazifanani kwa wanawake wote. Ukigundua mabadiliko yoyote, nenda kituo cha afya kilicho karibu nawe.

### Mabadiliko ya matiti yanayopaswa kutolewa taarifa ni pamoja na:

- Uvimbe, fundo gumu kama mbegu ndani ya titi au kwapani



- Uvimbe, joto, wekundu au weusi kwenye titi



- Kubadilika kwa ukubwa au umbo la titi



- Ngozi kujikunja au kuwa na vijitundu na kuonekana kama ganda la nje la chungwa



- Kuwa na chuchu inayowasha au iliyochubuka



- Chuchu au sehemu nyingine za titi kubonyea ndani



- Chuchu kutoa majimaji, damu au usaha



- Maumivu muda wote kwenye chuchu



### Zungumza na mtoa huduma za afya upate maelezo zaidi



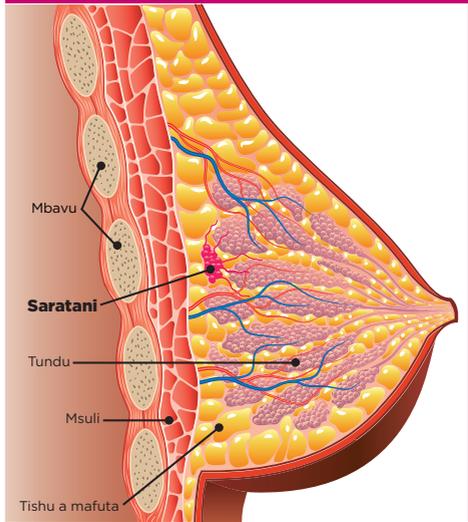
Imetayarishwa na Wizara ya Afya, Maendeleo ya Jamii, Jinsia, Wazee na Watoto kwa Ushirikiano wa T-MARC Tanzania na Susan G. Komen.



APPENDIX 3: EDUCATIONAL MATERIALS *continued*



## Utambuzi wa Saratani ya Matiti



### Utambuzi wa Saratani ya Matiti

#### 4. Aina za matibabu

- Upasuaji hufanywa kuondoa uvimbe kwenye titi. Upasuaji ndiyo njia ya matibabu inayotakiwa kufanyika pamoja na tiba ya dripu, tiba ya mionzi au tiba ya vichocheo.
- Tiba ya dripu hutumia dawa kuua chembechembe za saratani zinazoweza kuwa popote mwilini. Tiba hii hupunguza hatari ya kuenea kwa saratani mwilini, au kurejea baadaye.
- Tiba ya mionzi hutumia nishati ya juu kuangamiza chembechembe za saratani zinazoweza kusalia katika matiti baada ya upasuaji. Tiba hii pia hupunguza hatari ya kurejea kwa saratani.
- Tiba ya vichocheo hutumia dawa kupunguza kasi au kusitisha ukuaji wa aina maalum ya uvimbe.
- Huduma ya tiba shufaa inaweza kutumika kwa kuboresha ubora wa maisha kwa wagonjwa (na familia zao) wanaokabiliwa na ugonjwa wa saratani. Huduma shufaa inalenga kumuhudumia mgonjwa kwa ujumla wake katika usimamizi na kuzuia dalili na madhara ya saratani na tiba yake.

#### Ninapaswa kufanya nini?

- Ikiwa una saratani ya matiti na unahitaji matibabu, uliza maswali yafuatayo:
- Nina chaguo gani la matibabu?
  - Utanipendekeza nini na kwa nini?
  - Nitapokea matibabu mara ngapi?
  - Ni athari gani ninazoweza kupata?
  - Ninapaswa kufanya nini kupunguza athari hizi zitakazojitokeza?
  - Nina muda kiasi gani wa kuamua aina ya matibabu ninayotaka?

#### 5. Zingatia mtindo bora wa maisha ili kulinda afya yako

- Zingatia uzito kulingana na ushauri wa mtaalamu wa afya
- Fanya mazoezi ya mwili mara kwa mara
- Punguza unywaji wa pombe
- Nyonyesha kwa kuzingatia ushauri wa wataalamu
- Tumia matunda na mboga mboga kila siku
- Epuka matumizi ya tumbaku

#### Kumbuka

Ikiwa una saratani ya matiti na maumivu au dalili nyingine, nenda kituo cha kutolea huduma za afya kwa ushauri na uchunguzi zaidi.



Imetayarishwa na Wizara ya Afya, Maendeleo ya Jamii, Jinsia, Wazee na Watoto kwa Ushirikiano wa T-MARC Tanzania na Susan G. Komen.

**Saratani ya matiti ni nini:** Ni chembechembe hai katika matiti ambazo hugawanyika na kukua bila udhibiti wa kawaida. Chembechembe hizi za saratani zinaweza kusambaa kutoka matiti hadi sehemu nyingine za mwili. Ni muhimu kwa mwanamke kufahamu dalili ili kuweza kuchukua hatua mapema.

#### 1. Fahamu visababishi

- Kurithi
- Umri mkubwa
- Kutopata mtoto au kupata mtoto wa kwanza baada ya umri wa miaka 35
- Uzito mkubwa
- Kutokufanya mazoezi
- Matumizi ya tumbaku au pombe
- Kuanza ukomohedhi baada ya umri wa miaka 55
- Kuwa na hedhi ya kwanza kabla ya umri wa miaka 12

#### Ninapaswa kufanya nini?

- Zungumza na familia yako uje kuhusu historia ya afya katika familia yako.
- Zungumza na daktari kuhusu hatari yako ya kupata saratani ya matiti.



#### 2. Fahamu Hali ya Kawaida Kwako

Dalili za saratani ya matiti zinatofautiana kati ya mwanamke na mwanamke.



#### Ninapaswa kufanya nini?

- Fahamu hali ya kawaida ya matiti yako kwa kujitazama kwenye kioo au kujigusa.
- Ukigundua mabadiliko yoyote, nenda kituo cha kutolea huduma za afya kilicho karibu nawe.

#### 3. Pata huduma za uchunguzi

Huduma za uchunguzi unazoweza kufanyiwa ni pamoja na kipimo cha mamogramu au kukata kinyama (biopsy) kutoka katika uvimbe.

#### Mamogramu:

Ni picha ya eksirei ya matiti inayoweza kutambua saratani katika hatua yake ya awali, wakati ikiwa ndogo mno kuweza kutambuliwa kwa kugusa.

#### Ninapaswa kufanya nini?

Zungumza na daktari uje wakati bora zaidi wa kufanyiwa uchunguzi wa kimatibabu wa matiti na mamogramu.

#### Kutoa kinyama (Biopsy):

Ukipata uvimbe kwenye au mabadiliko mengine yoyote ya matiti, au mabadiliko yoyote ya hali isiyo ya kawaida baada ya kipimo cha mamogramu, huenda ukahitaji kutolewa kinyama kwa uchunguzi zaidi. Kutoa kinyama ni uchunguzi unaofanywa kwa kuondoa sampuli ndogo ya tishu kwenye sehemu iliyoathirwa. Majibu ya kinyama ndio njia pekee ya kuthibitisha kuwa una saratani.

#### Ninapaswa kufanya nini?

- Ukikitaji kufanyiwa uchunguzi wa kutoa kinyama, muulize daktari maswali yafuatayo:
- Kinahitajika kwa nini?
  - Huduma hii hutolewa wapi?
  - Nitapata majibu lini?
  - Ni nini kitakachotokea baadaye?



## APPENDIX 4: BREAST CANCER TREATMENT OVERVIEW

There are five standard treatment options for breast cancer patients categorized as local or systemic.

**Local therapy** – removes the cancer from a limited (local) area, such as the breast, chest wall or lymph nodes in the underarm area. Because systemic therapy is used in addition to (or as an adjunct to) breast surgery, these treatments are often called adjuvant therapy.

1. **Surgery:** The goal of breast cancer surgery is to remove the entire tumor from the breast. Some of the lymph nodes from the underarm area (axillary nodes) may also be removed to see if cancer cells are present. There are two basic types of surgery to remove breast cancer:
  - **Lumpectomy** (also called breast-conserving surgery, partial mastectomy or wide excision). The tumor and a small rim of normal tissue around the tumor are removed, but the rest of the breast remains intact.
  - **Mastectomy.** The entire breast is removed.
2. **Radiation therapy:** Radiation therapy is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells or keep them from growing. The goal of radiation therapy is to kill any cancer cells that might be left in or around the breast after surgery.

**Systemic therapy** – aims to get rid of cancer cells that may have spread from the breast to other parts of the body.

3. **Chemotherapy:** Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. It can be given by mouth, intramuscular or intravenous to enter the bloodstream (systemic) or it can be given directly into an organ, spinal fluid or body cavity (regional). For people with early breast cancer, chemotherapy is usually given after breast surgery, but before radiation therapy. In women with large tumors who need a mastectomy, chemotherapy may be used before surgery, this may shrink the tumor enough that lumpectomy becomes an option.
4. **Hormone Therapy:** Hormones are substances made by glands in the body and circulated in the bloodstream. Some breast cancer cells need estrogen and/or progesterone (female hormones) to grow. Hormone therapy slows or stops the growth of these tumors by preventing the cancer cells from getting the hormones. If tests show that the cancer cells have places where hormones can attach (receptors), drugs, surgery, or radiation therapy is used to reduce the production of hormones or block them from working. Hormone therapy is usually given after breast surgery, but in some postmenopausal women it can be given before breast surgery. Hormone therapy uses drugs such as tamoxifen, aromatase inhibitors and others.
5. **Targeted Therapy:** Targeted therapy is a type of treatment that uses drugs or other substances to identify and attack specific cancer cells or pathway involved in the development of cancer cells without harming normal cells. Monoclonal antibodies, tyrosine kinase inhibitors, cyclin-dependent kinase inhibitors, mammalian target of rapamycin (mTOR) inhibitors, and PARP inhibitors are types of targeted therapies used in the treatment of breast cancer.

You can learn more about these treatments and their side effects on Susan G. Komen website [ww5.komen.org](http://ww5.komen.org) or NCI website <https://www.cancer.gov>



## APPENDIX 5: GLOSSARY

### **Adjuvant (systemic) therapy**

Treatment given after surgery and radiation to treat breast cancer that may have spread to other parts of the body. It may include chemotherapy, targeted therapy and/or hormone therapy.

### **Alternative therapy**

Therapies used instead of standard treatments. They are different from integrative and complementary therapies, which are used in addition to standard treatments.

### **Axillary lymph nodes**

Lymph nodes in the underarm area. Lymph nodes are small groups of immune cells that filter lymph fluid within the lymphatic system.

### **Aromatase inhibitor**

Hormone therapy drugs that lower estrogen levels in the body by blocking aromatase, an enzyme that converts other hormones into estrogen. Aromatase inhibitors are used to treat postmenopausal women with hormone-receptor positive breast cancer.

### **Benign**

Non-cancerous.

### **Biopsy**

Removal of tissue or cells to be tested for cancer cells.

### **BRCA1 and BRCA2 gene mutation (Breast Cancer genes)**

A mutation (change) in one gene can increase a person's risk of breast, ovarian and certain other cancers.

### **Chemotherapy**

The use of drugs to kill cancer cells.

### **Clinical breast exam**

A physical exam done by a health care provider to check the look and feel of the breasts and underarm for any lumps or changes.

### **Clinical trials**

Research with people who volunteer to take part in a study. These studies usually test the benefits of possible new ways to prevent, detect, diagnose or treat disease.

### **Complementary therapies (integrative therapies)**

Therapies (such as acupuncture or massage) used in addition to standard medical treatments. Complementary therapies are not used to treat cancer, but they may help improve quality of life and relieve some side effects of treatment or the cancer itself. When complementary therapies are combined with standard medical care, they are often called integrative therapies.

### **Cysts**

Fluid-filled sacs that are almost always benign.

### **Ductal carcinoma in situ (DCIS)**

A non-invasive breast cancer that begins in the milk ducts of the breast, but has not invaded nearby breast tissue. Also called stage 0 or pre-invasive breast carcinoma.

### **Estrogen**

A female hormone produced by the ovaries and adrenal glands that is important to reproduction. Some cancers need estrogen to grow.



**APPENDIX 5: GLOSSARY** *continued*

**Fibrocystic condition (fibrocystic changes)**

A general term used to describe a benign breast condition that may cause painful cysts or lumpy breasts.

**HER2/neu**

A protein that appears in high numbers on the surface of the breast cancer cells of about 15 to 20 percent of breast cancer tumors. Tumors with high levels of HER2/neu can be treated with the targeted therapy drug trastuzumab (Herceptin).

**Hormone receptors**

Specific proteins found on some cancer cells. Hormones in the body attach to these proteins. A high number of hormone receptors on a breast cancer cell often means that the cancer cell needs the hormone to grow.

**Hormone therapy**

Treatment that works by keeping cancer cells with hormone receptors from getting the hormones they need to grow.

**Invasive breast cancer**

Cancer that has spread from the original location (milk ducts or lobules) into the surrounding breast tissue and possibly into the lymph nodes. Invasive ductal cancer begins in the milk ducts. Invasive lobular cancer begins in the lobules of the breast.

**Lobular carcinoma in situ (LCIS)**

A condition where abnormal cells grow in the lobules of the breast. LCIS increases the risk of breast cancer.

**Lumpectomy (breast conserving surgery)**

Surgery that removes only part of the breast — the part containing and closely surrounding the tumor.

**Lymphedema**

Swelling due to poor draining of lymph fluid that can occur after surgery to remove lymph nodes or after radiation to the area. It most often occurs in the upper limbs (arm, hands, fingers), but can occur in other parts of the body.

**Malignant**

Cancerous.

**Mammogram**

An X-ray image of the breast. Mammography is the best screening tool used today to find breast cancer early.

**Mastectomy**

Surgical removal of the entire breast. Depending on the procedure, it may also include removal of the lining of the chest muscles and some of the lymph nodes in the underarm area.

**Menopausal hormone use (menopausal hormone therapy; hormone replacement therapy)**

The use of hormone pills that contain estrogen (with or without progestin) to ease symptoms of menopause.

**Metastasis**

The spread of cancer from the breast to other parts of the body (most often the lungs, liver, bones or brain).

**Neoadjuvant therapy**

Chemotherapy or hormone therapy given before surgery to shrink a tumor.

**Oncologist**

A specialized doctor who treats people with cancer.

**Palliative care**

The combination of symptom and pain management therapies used to comfort and support those with a life-threatening illness.



**APPENDIX 5: GLOSSARY** *continued*

**Progesterone**

A natural hormone made by the body that is important in menstrual cycles and pregnancy.

**Progestin**

Any substance (laboratory-made or natural) that has some or all of the effects of progesterone in the body. It is used in birth control pills, menopausal hormone therapy and other types of hormone treatment.

**Prognosis**

The chance of recovery (survival).

**Prosthesis (breast)**

An artificial breast form that can be worn under clothing after a mastectomy.

**Radiation therapy (radiotherapy)**

Treatment using high energy X-rays to destroy cancer cells.

**Reconstructive surgery (breast reconstruction)**

Plastic surgery to restore the look and feel of the breast after mastectomy.

**Recurrence (relapse) Return of cancer.**

Local recurrence is the return of cancer to the same breast or the same side chest wall. Distant recurrence (metastasis) is the return of cancer that has spread to other parts of the body, such as the lungs, liver, bones or brain.

**Risk factor**

A characteristic that increases or decreases a person's chances of getting breast cancer.

**Stages of cancer**

A numbering system (from 0 to IV) that indicates the extent of cancer within the body. It is used to help determine treatment options and prognosis.

**Targeted therapy**

Drug therapies designed to attack specific molecular agents or pathways involved in the development of cancer.

**Triple negative breast cancer**

Cancer that is Estrogen receptor-negative (ER-negative), Progesterone receptor-negative (PR-negative) and HER2- negative.

**Tumor**

An abnormal growth or mass of tissue which may be benign or malignant.

