



**BREAST
CANCER
INITIATIVE^{2.5}**
Making breast health a global priority

PALLIATIVE CARE

Palliative Care During Treatment for Breast Cancer

Knowledge Summary



Palliative Care During Treatment for Breast Cancer

INTRODUCTION

WHO defines palliative care as “an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.” Palliative care may be referred to as supportive care, symptom management or comfort care. For the purposes of this series the term palliative care is used throughout.

Breast cancer patients require palliative care for the prevention and management of physical as well as psychosocial adverse effects of cancer and its treatments. Emphasis on quality of life is a primary goal of care when considering treatment options and managing treatment-related complications. In low-resource settings, the capacity to manage side effects and toxicities should be a factor in the selection of treatment options for breast cancer. Patient education and counseling are part of treatment planning and should include information about potential treatment-related side effects.

Breast cancer treatments can be complex and have acute as well as delayed side effects. Introducing palliative care at the time of diagnosis can promote patient–clinician dialogue and adherence to treatment, improve the management of treatment-related toxicities or complications, improve quality of life and address the psychosocial and spiritual needs in a culturally sensitive manner. Medical management during active breast cancer treatment requires a multidisciplinary approach that includes surgical wound management and monitoring the side effects of systemic therapy and radiotherapy.

For management purposes, treatment-related complications can be categorized into: pharmacologic toxicities (i.e., musculoskeletal, gastrointestinal, skin and nail complications [including chemotherapy extravasation], nervous system toxicities, hematologic toxicities and general symptoms of fatigue, insomnia, non-specific pain and anxiety) women’s health complications (early menopause, reproductive health, body image and sexual health) and psychological and social complications.

KEY SUMMARY

Components of palliative care for breast cancer

- Palliative care is an integral part of cancer care and should be introduced to patients at the time of diagnosis.
- Palliative care for breast cancer during treatment includes pain management, symptomatic relief from treatment-related toxicities and management of psychosocial aspects related to breast cancer treatment.
- The type of palliative care required will vary based on the type of treatment provided.

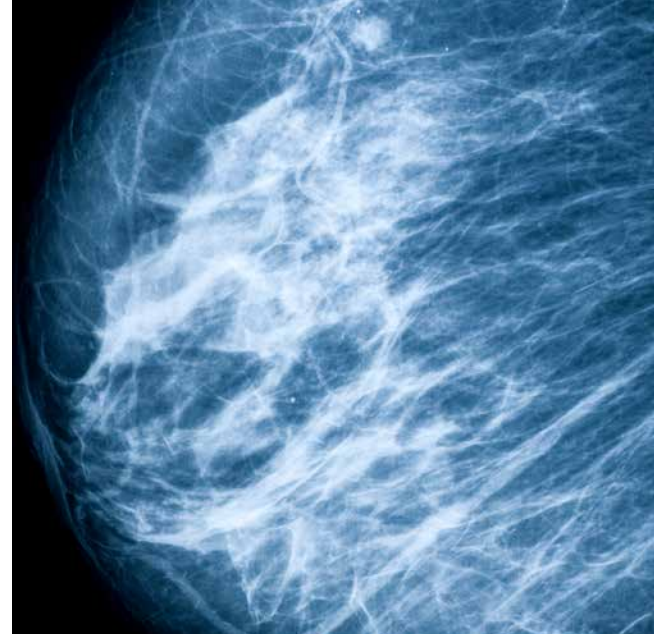
- Pharmacologic treatment-related toxicities vary in type and severity based on the agents used, how they are administered [the dosage and duration of treatment] and patient factors.
- Surgical treatment complications may develop during the course of treatment—such as lymphedema and wound complications—that will need to be anticipated, minimized and managed.
- Radiotherapy toxicities vary in type and severity based on the type, dosage and duration of radiotherapy and must be anticipated, minimized, and managed.
- Treatments can affect reproductive health and other women’s health issues. The psychosocial impact of treatment should be anticipated and addressed.

Health systems and workforce capacity

- A palliative care team (inpatient and outpatient) may consist of physicians, nurses, social workers, psychologists, spiritual counselors, volunteers, pharmacists, traditional healers and religious leaders. If palliative care is provided by community volunteers or family members, training should be provided.
- Palliative care services can be provided in a hospital, community-based or home-based.
- Develop, implement and update practice guidelines for the management of treatment-related toxicities.
- Train health professionals in the management of treatment-related toxicities and best practices in the management of treatment-related complications.
- Ensure health professionals are trained in culturally sensitive patient–clinician communication skills and the psychosocial aspects of breast cancer care.
- Emphasize the advantages of palliative care services during and after treatment in addition to information about the detection and diagnosis of breast cancer and available treatments in community awareness and patient and family education programs.

Resource-stratified pathways across the continuum of care

- Basic palliative care services are essential to any breast cancer program.
- Follow a defined resource-stratified pathway to allow for coordinated incremental program improvement across the continuum of care.
- Programs should be based on outcome goals, identified barriers, needs and available resources.



POINTS FOR POLICYMAKERS:

OVERVIEW

Preplanning

- Identify existing available treatments and palliative care services available for breast cancer care.
- Identify stakeholders, key decision-makers and champions.
- Identify who will lead the process to plan and deliver palliative care services to meet the needs of women being treated for breast cancer.

Planning Step 1: Where are we now?

Investigate and assess

- Conduct a self-assessment using standardized tools. Toolkits are available to assess and support palliative care program development; assessments can be performed without prohibitive costs.
- Assessment tools have been developed to identify treatment-related physical and psychosocial complications. These tools can be used to improve patient-provider com-

munication, strengthen referral systems and inform future health system supportive care expansion.

- Assessments should determine who is providing services (e.g., family members, community volunteers, health workers), as well as the population covered by existing services.

Planning Step 2: Where do we want to be?

Set objectives and priorities

- Offer palliative care focused on symptom management and quality of life to all women.
- Basic palliative care services can be introduced at a low cost and can reduce long-term costs on the health system. Even the most basic palliative care services can improve overall patient health and quality of life.

Planning Step 3: How do we get there?

Implement and evaluate

- Developing a resource-stratified approach to palliative care should be part of long-term breast cancer program planning and requires consideration of available treatments, their anticipated toxicities/complications and available services [see Tables 1-3].

WHAT WE KNOW

Musculoskeletal toxicities: Both surgical and systemic treatments can be associated with musculoskeletal complications. Surgical complications include lymphedema, which can affect the majority of women, and manifest as swelling, stiffness, pain, numbness or nerve injury in the arm. Lymphedema can develop soon after surgery, or its onset may be delayed. Lymphedema can significantly affect short- and long-term quality of life for breast cancer patients and may persist for many years after surgery in about one-third of patients. Postmastectomy pain can be equally debilitating, consisting of burning, aching and tight constriction of the axilla or chest wall with scar sensitivity [see *Survivorship Care after Curative Treatment for Breast Cancer*]. Systemic musculoskeletal toxicities include bone loss and arthralgia, which are more common symptoms in a subset of patients including those who have chemotherapy-induced ovarian failure and patients who are treated with aromatase inhibitors. There is a significantly higher risk of osteoporosis and fractures in postmenopausal breast cancer survivors.

The treatment of musculoskeletal complications can vary based on available resources but, at a minimum, should include counseling about appropriate range of motion exercises. To minimize the risk of decreased shoulder mobility and chronic lymphedema after surgery, range of motion exercises should begin soon after the completion of axillary surgery. Some musculoskeletal symptoms, such as pain, can be alleviated with analgesics including nonsteroidal anti-inflammatory drugs. When available, a physical therapist should be integrated into multidisciplinary breast cancer care teams. When additional resources are available, bone mineral density should be monitored and pharmacologic management of bone mineral density considered. Pain management strategies for musculoskeletal pain should follow the WHO Cancer Pain Ladder recommendations. Morphine should be available and accessible.

Gastrointestinal toxicities: Gastrointestinal (GI) toxicities can be extensive, complex and debilitating. Treatment-related GI toxicities include mucositis, nausea, vomiting, esophagitis, diarrhea and constipation. Mucositis is reported to affect 35–40% of patients receiving systemic therapy, often developing soon after treatment initiation, peaking on the seventh day and resolving 10–14 days after the completion of chemotherapy. Symptom severity can range from mild mouth soreness to severe pain and inability to tolerate oral intake of liquids and solid foods. Treatment-related GI symptoms may be further complicated by bacterial or parasitic infections. Weight gain and loss are associated with breast cancer treatments and should be monitored during treatment. Significant weight loss or weight gain during treatment may require dose adjustments of the anticancer agents. Studies have reported that 50–96% of breast cancer patients gain weight during and after treatment.

Aggressive surveillance, early intervention and consultation with a dietician [if available] can minimize GI symptoms. Most health systems have access to basic GI symptom management interventions such as hydration therapies [oral and IV with electrolyte repletion] and medicines, including antiemetics,

corticosteroids and anti-antidiarrheal agents. All patients should be monitored for symptoms of mucositis and counseled on patient-initiated symptom management strategies such as the avoidance of irritants, the use of ice chips or rinsing the mouth with a 0.9% saline and sodium bicarbonate solution. When health system resources are available, more advanced pharmacologic treatments include selective-serotonin antagonists for nausea, H2 antagonists to counteract steroid side effects, antacids and stimulant laxatives and topical agents for mucositis. Newer pharmacologic agents such as NK-1 antagonists, should be integrated into the treatment plan as they become available. Because the management of GI toxicities may include advice that affects a patient's lifestyle, including diet and daily activities, health professionals must be trained in culturally sensitive consultation [see Table 2].

Skin and nail toxicities/complications: Skin toxicities can occur with chemotherapy or radiation therapy and range from mild skin reactions to serious moist desquamation [skin peeling]. Up to 90% of women who undergo radiotherapy for breast cancer will develop evidence of radiation-induced dermatitis. Acute radiation-induced dermatitis may be diagnosed during therapy and resolves within one to two weeks after treatment completion. Subacute radiation-induced dermatitis arises within weeks to months after completing radiation therapy. The severity of reaction depends on patient factors [e.g., smoking, poor nutritional status] and treatment-related factors [e.g., total radiation dose, type of external beam employed and volume of tissue exposed].

Clinical presentation of nail toxicities varies depending on the nail structure affected and the severity of the reaction. The symptoms are generally mild and transient, disappearing after withdrawal or cessation of the suspected therapeutic agent. Taxanes and anthracyclines [i.e., antineoplastics] are most commonly implicated. Other possible skin toxicities include alopecia [hair loss] and hand-and-foot syndrome. The likelihood of alopecia depends on the agent used. Alopecia significantly affects psychosocial wellbeing including emotional functioning, depressive symptoms, how women view themselves and how they are treated by society.

Chemotherapy extravasation [leakage from a blood vessel into the surrounding tissue], particularly with intravenous anthracycline chemotherapy, can lead to tissue necrosis and is a serious complication. The symptoms can be difficult to verify because they vary and may be delayed. Common immediate symptoms include: swelling, pain or redness at the site of tissue infiltration followed by gradual blistering and necrosis. Treatment generally consists of surgical debridement and wound care. If resources are available, central line access and management of chemotherapy should be available, as well as consultation with a dermatologist [see Table 2].

Nervous system toxicities: Peripheral neuropathy [nerve damage], neuropathic pain and cognitive function changes can occur during treatment for breast cancer through a variety of pathophysiologic mechanisms. Up to 40% of women will develop peripheral neuropathy, depending on the agents used. Taxanes cause both sensory and motor peripheral neuropathy

which are usually mild to moderate in severity and related to dosing and scheduling. Neuropathic pain with taxane infusions usually resolves within 3–7 days but can persist as long as two years after treatment. Health professional education should include knowledge of the differences between nociceptive pain [from tissue damage] and neuropathic pain, neuropathy risk factors, dosing factors and common patient factors [e.g., alcoholism, poor nutrition].

Management of nervous system toxicities includes pharmacologic intervention and counseling. Neuropathic pain and peripheral neuropathies can be managed with local and systemic pharmacologic pain medicines such as those listed in the WHO Cancer Pain Ladder, including morphine, anticonvulsants, antidepressants and topical agents. Physical therapy and multidisciplinary care can be helpful. Counseling and education should be incorporated into all therapies for nervous system complications.

Hematologic toxicities: Chemotherapy can result in myelosuppression, a condition where bone marrow activity is decreased, resulting in fewer white blood cells, red blood cells and platelets. Myelosuppression is commonly seen in patients undergoing combination chemotherapy. A reduction in marrow production may be seen 7–14 days after each chemotherapy cycle but usually resolves before initiation of the next cycle. This treatment effect becomes significant when the decrease is severe or prolonged, resulting in neutropenia, which can increase a patient's susceptibility to infections, bleeding, anemia and/or hypoxia. Clinical monitoring for hematologic complications is required during treatment and should include physical exams and laboratory studies [e.g., complete blood count]. Patients with breast cancer are also susceptible to thromboembolic complications. Up to 15% of breast cancer patients present with venous thromboembolism during the course of their disease, a risk that is particularly high with perioperative neoadjuvant and adjuvant chemotherapy.

Broad-spectrum antibiotics should be available to treat febrile neutropenia; antifungal agents should also be available. Transfusions can help manage treatment-related symptomatic anemia and bleeding, if available. Therapies for myelosuppression require higher-level resources [e.g. granulocyte growth factors and iron therapy]. In high resource settings, prophylactic treatment with granulocyte growth factors is recommended for select chemotherapy regimens that have a 20% or greater incidence of febrile neutropenia [e.g., anthracycline and docetaxel containing regimens]. Platelet transfusions should also be considered in select cases if resources are available [see Table 3]. Selection of a chemotherapy regimen must consider the potential life-threatening toxicities and available resources to manage toxicities.

Fatigue, insomnia and nonspecific pain: Cancer-related fatigue can be debilitating and occur during systemic therapy or radiotherapy and affect over 80% of breast cancer patients. Insomnia is also frequently reported during breast cancer treatment. Vasomotor symptoms may influence insomnia, anxiety and mood, particularly for younger patients. For many

patients fatigue and insomnia resolve after treatment cessation. Nonspecific pain affects approximately 60% of breast cancer patients during treatment. Evaluation of and counseling for fatigue, insomnia and nonspecific pain should be part of routine care during treatment. Standardized assessment tools are available and can ensure appropriate evaluation and aid in follow up counseling.

Treatment of fatigue starts with the correction of contributing factors such as anemia, pain, depression, hypoxia or fluid/electrolyte imbalances. In most cases no underlying etiology is identified. Exercise has been shown to improve fatigue. Pharmacologic interventions have not demonstrated a reliable impact on cancer-related fatigue [see Table 3].

Women's health issues: Specific women's health issues that are affected by breast cancer treatment include early menopause, reproductive health [including fertility], body image and sexual health. Surgical treatments for breast cancer can vary by disease stage and range from whole breast removal to removing only a small portion of the breast [lumpectomy]. Breast surgery can cause a woman to reassess her body image. For select high-risk women, removal of the ovaries is sometimes considered as adjuvant treatment. Hormonal therapy or hormonal manipulation through ovarian suppression or ablation can result in ovarian failure. Chemotherapy-induced amenorrhea [abnormal absence of menstruation] can be a side effect of cytotoxic chemotherapy and result in temporary or permanent ovarian failure. Risk factors for amenorrhea are patient age at the time of treatment and the duration of chemotherapy. Short- and long-term sequelae to ovarian failure include early menopausal symptoms, increased risk of osteoporosis and increased risk of cardiovascular disease. Fertility preservation is an important consideration for many younger women. Breast cancer treatment can also affect sexual health and psychosocial health. When resources are available, sexual health and psychosocial aspects of breast cancer and breast cancer treatment should be addressed.

Pretreatment counseling must include the impact of different treatment options on reproductive health and body image as part of patient-centered decision-making. Chemotherapy options and fertility clinics, if available, should be discussed prior to initiating therapy. Medical management of early menopausal symptoms should be available and will vary based on health system resources. This should include symptom management for early menopausal symptoms [e.g., hot flashes, vaginal dryness, sexual dysfunction, dyspareunia [painful sexual intercourse], depression, sleep disturbance] and risk reduction for osteoporosis, cardiovascular disease and amenorrhea. Patient and partner education regarding early menopause, body image, sexual function and reproductive health should be available. Behavioral therapy is a more advanced intervention that can produce improvements in sexuality [see *Survivorship Care after Curative Treatment for Breast Cancer*]. For many treatment-related women's health complications, patient and partner education are primary interventions [see Table 3].

WHAT WORKS

Matching treatment resources with palliative care resources:

The introduction of new treatment modalities should be coordinated with the development of palliative care interventions to manage the toxicities or complications of new treatments. For example, if trastuzumab is made available, monitoring for cardiotoxicity must also be established. The goal is to have both a full range of treatment and a full range of supportive care services available to manage any potential treatment-related side effects. The psychosocial complications of breast cancer and breast cancer treatment should also be considered and addressed.

Health professional training: Effective care of breast cancer patients during treatment requires health professionals trained in the recognition and management of treatment-related complications or toxicities. Health professionals must be up-to-date on clinical practice guidelines for treatment-related palliative care, including the management of treatment-related toxicities, women's health complications and psychosocial aspects of care. Health professionals should be trained on informal and formal assessment tools and referral strategies for professional counseling by community social workers or mental health professionals. Training for health care providers should include communication skills and health and cultural literacy. Health professionals must be aware of available referrals for patient support including peer support in the community or professional support within the health system.

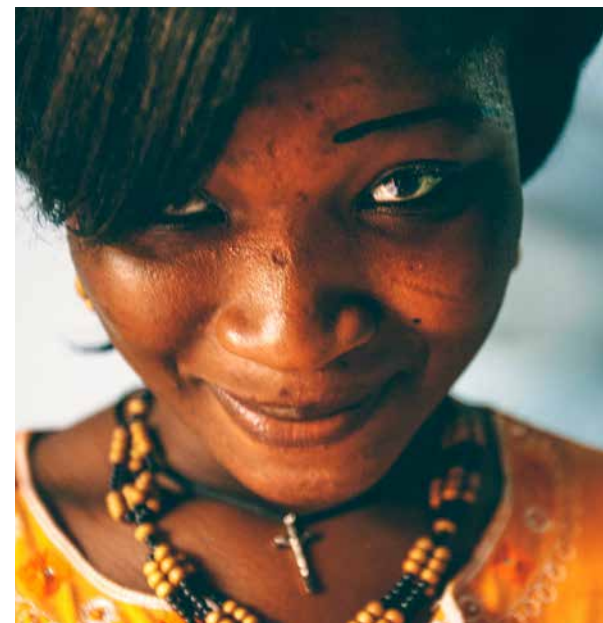
Community and family engagement: Volunteers and cancer survivors can be trained to offer peer support. Breast cancer advocates and breast cancer survivors can play a pivotal role in reducing the stigma and fear associated with breast cancer and breast cancer treatments. Social aspects of care to consider include available family support and transportation, potential social strain related to changes in a patient's role at home or at work, financial constraints and community acceptance versus stigmatization related to breast cancer

diagnosis and treatment. Social services, such as counseling for employment and financial and legal conditions, should be part of care when resources are available. Spiritual wellbeing can also affect a patient's experience of healing and recovering. Supportive spiritual services can be integrated into existing programs and should consider the direct involvement of accepted religious leaders within the community both in the inpatient and outpatient setting.

Patient education: Patient education and counseling—tailored to a specific woman's needs—can improve patient adherence to treatment, pain management and patient satisfaction with cancer care. Educational programs should be designed to strengthen health literacy and dispel myths that may affect adherence to therapy. Programs should also address the risks and benefits of treatment options and palliative treatment versus curative treatment. Local and cultural understanding of health should shape educational and counseling strategies. Counseling should be part of patient and family education when resources are available [see Table 1].

Psychosocial screening and risk assessment: Anxiety and depression affect quality of life. Processes to identify and screen for distress allows women with evidence of psychosocial distress to be appropriately evaluated and treated. Health professionals should be aware of screening tools and available patient support services. Assessment tools can identify a patient's risk for physical complications and psychosocial issues related to treatment. Patient factors associated with higher levels of distress include lower education levels, prior/concurrent psychopathology, severe physical symptoms and recurrent disease. Screening for distress can be integrated into breast cancer care through patient-clinician interactions.

Cultural sensitivity: A core tenet of health professional cultural competency is understanding cultural family dynamics, including traditional gender roles and the type of social support within a culture or community. A patient's desire for a provider of a certain gender should be respected and accommodated.



PLANNING STEP 1: WHERE ARE WE NOW?

Investigate and assess

Assess the breast cancer burden and palliative care needs

- Assess palliative care capacity in relation to the number of breast cancer patients under active treatment and in follow up care.

Assess existing palliative care resources

- Review existing policies, protocols and guidelines for the provision of services as well as the training of health care providers.
- Consider expanding and incorporating existing palliative care services into breast cancer programs.
- Include family caregivers in palliative care planning. Educational and support services should be available to caregivers.
- Assess palliative care services that may currently exist within the health system that could be extended to support the physical management of many cancer treatment-related toxicities.
- Assessments should determine who is providing services (e.g., family members, community volunteers, health workers) as well as the population covered by existing services.

Assess patient access and barriers to providing palliative care

- Identify structural, sociocultural, personal and financial barriers to accessing palliative care.
- Structural barriers may include a lack of available staff or limited health professional education and training in appropriate pain assessment and management, a lack of government commitment and obstacles to obtaining adequate opioids and other pain-relief medications (e.g., the regulatory and legal environment).

- Sociocultural and personal barriers may include concepts of health, psychosocial distress, spiritual wellbeing and misconceptions among health professional and patients about the use of pain medications.
- Review patient-provider communication and patient education practices. Ineffective communication between health professionals and patients, as well as inadequate patient counseling can increase barriers to patient adherence and to effective care.
- Consider focus groups with patients to understand social or cultural barriers to participating in palliative care.
- Assess outreach to rural or hard-to-reach communities and marginalized populations.
- Engage community leaders in program development to help ensure activities are implemented in a manner relevant to and with the support of the community.

Assess health system capacity

- Assess human resource capacity for providing palliative care services.
- Integration of palliative care into breast cancer programs requires an interdisciplinary team approach.
- Assess health professional training in palliative care, including assessment and management of metastatic disease symptoms (including referrals as needed), assessment and management of pain symptoms and assessment and management of psychosocial and spiritual aspects of metastatic disease.
- Evaluating and managing psychosocial complications during treatment may require training existing health care professionals and partnering with community services.
- Assess the referral system and coordination of care between active cancer treatment and palliative care services.

Assess monitoring and evaluation capacity

- Review monitoring of treatment-related complications as a routine part of breast cancer care, including monitoring for psychosocial complications, reproductive or sexual health issues, surgical complications, e.g. [lymphedema] and systemic therapy complications, e.g. [musculoskeletal, gastrointestinal, nervous system, hematologic and skin and nail toxicities] as well as of pain management.
- Quality assurance programs should be in place to reduce treatment-related complications of surgical procedures, radiotherapy and systemic therapy.

PLANNING STEP 2: WHERE DO WE WANT TO BE?

Set objectives and priorities

Define target population and approach

- Use available data on cancer incidence and demographic data to determine the services most needed and match the palliative care services to the treatment options available.
- All patients receiving treatment for breast cancer are at risk of treatment-related toxicities and may have unmet palliative care needs, including pain management needs.

Identify community and health system partnerships

- Identify partners and other resources within the health care system that can be leveraged to provide palliative care for breast cancer [e.g., community health workers trained in palliative care for HIV/AIDS patients]
- Examine existing and potential collaborations with survivor and advocacy groups. Advocacy groups can provide a range of support from the promotion of programs to direct provision of palliative services.
- Stakeholders should be included in palliative care program planning: policymakers, regulatory bodies, health professionals, advocates, spiritual leaders and caregivers.
- Community stakeholders should be engaged in program planning to ensure culturally appropriate supportive care is available that accommodates local customs as needed.

Identify gaps and barriers

- Identify attitudes and misconceptions about palliative care services and pain management. Barriers often include political, regulatory, medical and societal barriers and thus require political support.
- Coordinate palliative care services with other care services along a resource-stratified pathway to avoid deficits in essential supportive care services.

Set achievable objectives

- Identify specific palliative care services that should be available for breast cancer patients [e.g., pain control, management of site-specific metastases, psychosocial support]
- Develop or update guidelines as needed and establish clear protocols for the provision of care.
- Include evaluation for psychosocial issues as well as treatment-related toxicities and complications as routine part of patient care.
- Access to pain medication and management of psychosocial distress are ethical issues and should be considered health priorities for every health system.
- Educate health professionals through guideline development and continuing education programs.

Set priorities and determine feasibility of interventions

- Follow a resource-stratified pathway to ensure basic supportive care services are available and increase supportive care services in a coordinated manner as more resources become available.
- Emphasize integration of services and expansion of existing services.
- Phased implementation or demonstration projects with measurable outcomes may help ensure feasibility prior to large-scale implementation.

PLANNING STEP 3: HOW DO WE GET THERE?

Implement and evaluate

Establish financial support and partnerships

- An interdisciplinary and multisector approach can optimally address palliative care needs in a community and should include policymakers, advocates, community and spiritual leaders and health care providers.
- Partner with medical and education institutions to integrate training into existing programs.
- Public and patient education efforts and health professional training programs can help generate support and momentum for palliative care programs.
- Advocacy groups can be a valuable resource to augment palliative care services. Advocacy groups can raise community awareness regarding palliative care services or provide direct patient support, such as peer counseling. Advocacy groups can play a pivotal role in encouraging health systems to adopt palliative care services.

Implement and disseminate

- Use a multidisciplinary team approach to optimize care.
- Ensure the availability of essential medicines for the management of pain and other symptoms. Safe and reliable access to pain medication is essential to effective palliative care.
- Expand and adapt existing education programs to include palliative care training.
- Develop palliative care programs within primary care networks.
- Train community volunteers and family caregivers to provide palliative care support.
- Raising the public profile of palliative care can help inform populations about available services and promote palliative care as an important community and health system priority. Implementation of palliative care interventions requires community support, political will and health system investment.
- As resources allow, programs should be developed to reduce patient access barriers, which can, for example, include transportation and accommodation subsidies.

Monitor and evaluate

- Monitor programs for quality of service, coverage of existing needs, sustainability and access to financial resources.
- Collect data on breast cancer recurrence and treatment-related complications to inform future program direction and breast cancer treatment quality control programs.

CONCLUSION

Palliative care in parallel to active treatment for breast cancer should be part of treatment planning. The risks and benefits of treatment options as well as the distinction between palliative treatment and curative treatment must be carefully reviewed and discussed with the patient and her family before treatment. All breast cancer programs should have access to basic pain control and palliation of treatment-related toxicities before initiating treatment.

Once a basic palliative care capacity has been established, progression along a resource-stratified pathway can be implemented by matching the introduction of new treatments with availability of palliative care services to manage treatment-related complications. Although investment in palliative care may or may not have high financial costs, the human resource demands can be significant because most palliative care services require effective patient counseling and education. Engaging, supporting and integrating support groups into care can also help offset some demands on human resources and provide additional benefits to patients.

Table 1. Resource allocations during breast cancer treatment: health professional and patient education.

	Basic	Limited	Enhanced	Maximal
Health professional education ^a	Appropriate use of CPG Women's health issues Psychosocial consideration ^a Spiritual consideration ^a Health literacy, cultural literacy, communication skills	Women's health issues (sexual health) Psychosocial impact of breast cancer/treatment (individual and community)	Psychosocial screening methods	
Patient education ^b	TX-related toxicities and other TX side-effects Fatigue, insomnia Reproductive health, fertility and body image Psychosocial issues Spiritual issues	Sexual health Psychosocial impact of breast cancer and TX		
Psychosocial aspects	Patient and family education (treatment-related) Psychosocial consideration ^a Peer support by trained volunteers	Psychosocial assessment, including depression Patient and family support groups Psychosocial support by health professionals	Screening and referrals for depression/distress by mental health specialist Psychosocial counseling by mental health specialist Prescription drugs for depression	Psychiatrist-, psychologist-, or social-worker-coordinated mental health care
Spiritual aspects	Spiritual consideration ^a Spiritual support: community-based			

Abbreviations: **CPG**, clinical practice guidelines; **TX**, treatment.

^a The term 'health professional' is used to acknowledge the range in medical and other professionals who provide supportive care services in LMICs. When specialists were identified as a required resource, it is assumed that a specialist has a certification for their area of expertise.

^b Patient, family and/or partner education may be the primary intervention for some supportive care services.

^c Consideration is a term used in this table to refer to basic patient evaluation through patient-provider interactions, including dialogue, observations and other appropriate means of evaluation.

NOTE: The Basic, Limited, Enhanced and Maximal table stratification scheme implies incrementally increasing resource allocation; for example, if a resource is listed at a Basic level it is expected to be available also at Limited, Enhanced and Maximal levels.

Source: 2013 BHGI consensus statements with permission from Elsevier.

Table 2. Resource allocations during breast cancer treatment: treatment-related toxicities

	Basic	Limited	Enhanced	Maximal
Musculoskeletal toxicities	Basic physical activity: e.g., aerobic, range of motion Pain management ^a , including morphine	PT focused on early lymphedema, shoulder mobility, and pain management Other drug therapy for pain	Other nonmorphine opioids BMD assessment for at-risk patients Bone-modifying agents Drug therapy: NK-1 antagonists, PPIs Mucositis support: opioid analgesics for severe mucositis Individualized education by certified dietitian	
Gastrointestinal toxicities	Oral/IV hydration and electrolyte replacement Antiemetic drugs, anti-diarrheal medications, stool softeners, laxatives Mucositis support: e.g., ice chips Anxiety symptom management Consideration of parasitic and/or bacterial infection	Drug therapy: 5HT3 blockers, H2 antagonists, antacids, stimulant laxatives Mucositis support: topical agents Anti-anxiety drugs Consultation with a certified dietitian		
Skin toxicities, chemotherapy extravasation	Patient and family education ^b	Topical agents: e.g., steroid- or zinc-containing skin creams Debridement surgery Coordinated patient care	Consultation with dermatology specialist Central line access/management	Dexrazoxane
Nervous system toxicities	Pain management ^a , including morphine Topical agents Patient and family education ^b	PT: functional limitations Drug therapy for pain	Anesthetics for nerve blockage Consultation with neurology specialist for pain management and cognitive problems	

Abbreviations: **PT**, physical therapy; **BMD**, bone mineral density; **NK-1**, neurokinin-1; **PPIs**, proton pump inhibitors; **IV**, intravenous; **5HT3** blockers, 5-hydroxytryptamine receptor3 blockers; H2 antagonists, histamine H2 receptor blockers.

^a Pain management should follow the WHO Cancer Pain Ladder recommendations.

^b Patient and family education may be the primary intervention for some supportive care services.

NOTE: The Basic, Limited, Enhanced and Maximal table stratification scheme implies incrementally increasing resource allocation; for example, if a resource is listed at a Basic level it is expected to be available also at Limited, Enhanced and Maximal levels.

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Table 3. Resource allocations during breast cancer treatment: hematologic toxicities, fatigue, insomnia, nonspecific pain, women’s health issues and monitoring

	Basic	Limited	Enhanced	Maximal
Hematologic toxicity and infections	Antibiotics: broad spectrum	Antifungals Red blood cell transfusion Infectious disease consultation for febrile neutropenia	Growth factors; granulocyte growth factors Platelet transfusion Iron therapy	
Fatigue, insomnia, and nonspecific pain	Pain management ^a , including morphine Patient and family education ^b			Fertility clinic (i.e., assisted reproduction) Egg/embryo freezing
Women’s health issues	Patient and family education: early menopause, body image, reproductive health/fertility	Management of menopausal symptoms ^c Patient and partner education: sexual health	Extensive lab support: bone density tests	
Monitoring	Physical exam, CBC, potassium and sodium, urea, bilirubin and transaminase, and when needed, CXR, UA, microbiology Check for early lymphedema, nausea and vomiting, constipation and diarrhea, fatigue, insomnia and pain	Other blood chemistry and liver function tests Renal function assessment Nonimaging cardiovascular assessment		

Abbreviations: **CBC**, complete blood count; **CXR**, chest x-ray; **UA**, urine analysis.

^a Pain management should follow the WHO Cancer Pain Ladder recommendations.

^b Patient and family education may be the primary intervention for some supportive care services.

^c Women’s health issues for breast cancer patients include menopause, body image, reproductive health, including fertility, and sexual health; educational efforts should include partners.

NOTE: The Basic, Limited, Enhanced and Maximal table stratification scheme implies incrementally increasing resource allocation; for example, if a resource is listed at a Basic level it is expected to be available also at Limited, Enhanced and Maximal levels.

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