



Women's Cancers in the English Caribbean:

**BREAST CANCER SERVICES AND  
RESOURCES NEEDED FOR  
IMPROVED OUTCOMES**

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*The* Breast Health Global Initiative

[www.bhgi.info](http://www.bhgi.info)

**BREAST  
CANCER  
INITIATIVE 2.5**

Making breast health a global priority

[www.BCI25.org](http://www.BCI25.org)



# BREAST CANCER RESOURCES

- Global Breast Cancer Trends
- Adapting to Existing Resources
- Prioritization in Cancer Control



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# GLOBAL CANCER TRENDS (IARC)

## HUMAN DEVELOPMENT INDEX (2008-2030)

	Men			Women			Scenario-based prediction for 2030*
	Medium HDI	High HDI	Very high HDI	Medium HDI	High HDI	Very high HDI	
Stomach	-2.7%	-2.6%	-2.8%	-1.9%	-2.5%	-2.5%	2.5% annual decrease in all HDI areas per year
Cervix uteri	..	..	..	-1.8%	-1.2%	-2.6%	2% annual decrease in all HDI areas per year
Lung	-1.5%	-1.3%	-1.6%	-0.5%	0.5%	1.8%	1% annual decrease in high HDI and very high HDI areas (men) 1% annual increase in high HDI and very high HDI areas (women)
Liver	0.1%	0.2%	2.5%	-0.4%	0.4%	2.1%	Difficult to generalise, assume no change
Colorectum	1.5%	2.8%	0.6%	1.5%	1.8%	0.3%	1% annual increase in all HDI areas per year
Breast	..	..	..	2.1%	2.6%	1.6%	2% annual increase in all HDI areas per year
Prostate	3.2%	7.0%	4.4%	..	..	..	3% annual increase in all HDI areas per year

- 12.7 million cases in 2008 predicted to rise to 22.2 million by 2030
- Reductions in infection-related cancers are offset by increases in cancers associated with reproductive, dietary and hormonal factors

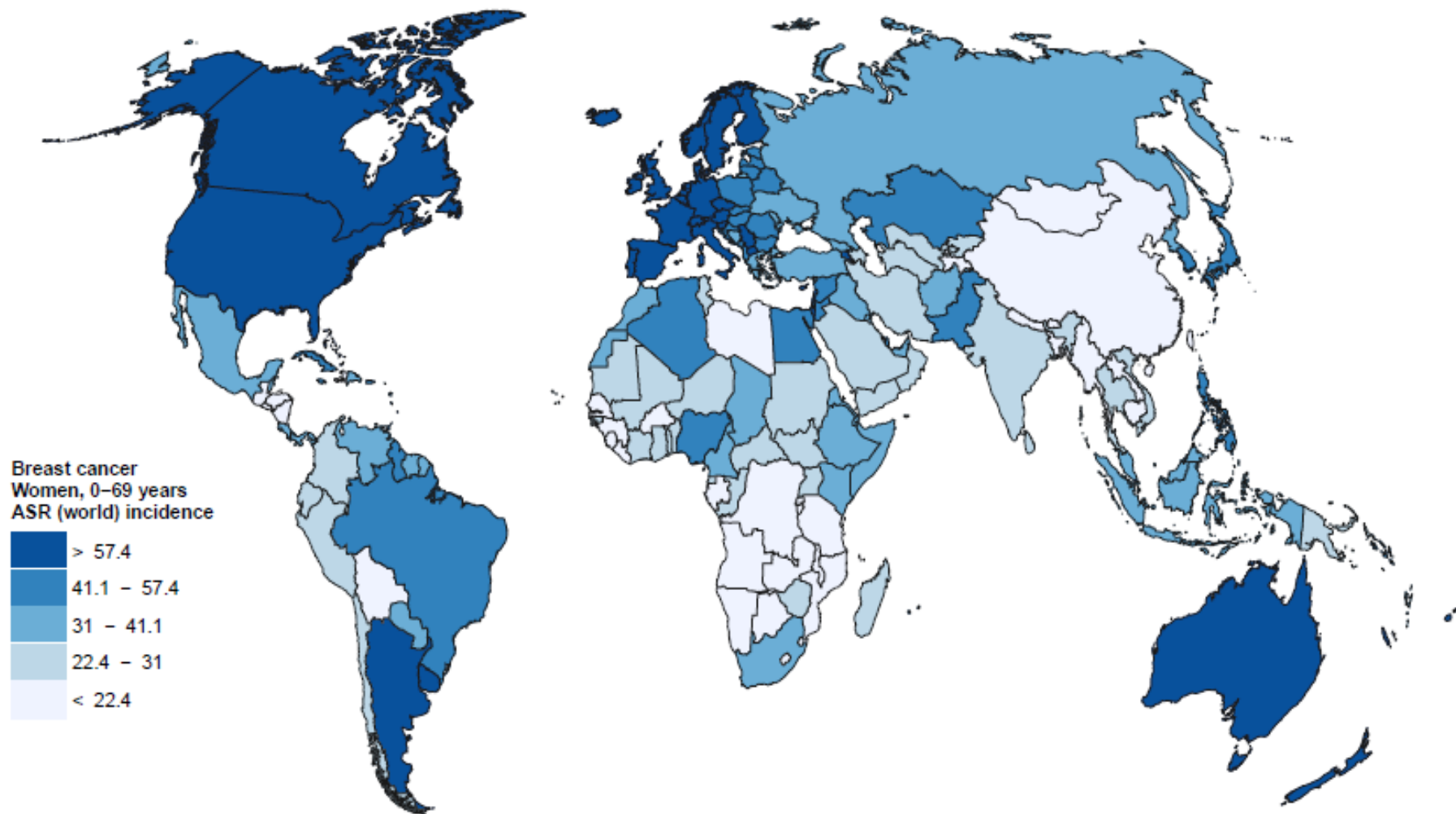


# GLOBAL BREAST CANCER BURDEN INCIDENCE AND MORTALITY: 2015-2024

- Most common cancer among women
  - ❖ 19.7 million cases in next decade
  - ❖ 10.6 million cases in less developed countries
  - ❖ By 2020, over 1 million cases per year in LMCs
- Most common cancer killer among women
  - ❖ 5.8 million women will die in next decade
  - ❖ 3.9 million deaths in less developed countries
  - ❖ >1.5 million deaths premature and preventable



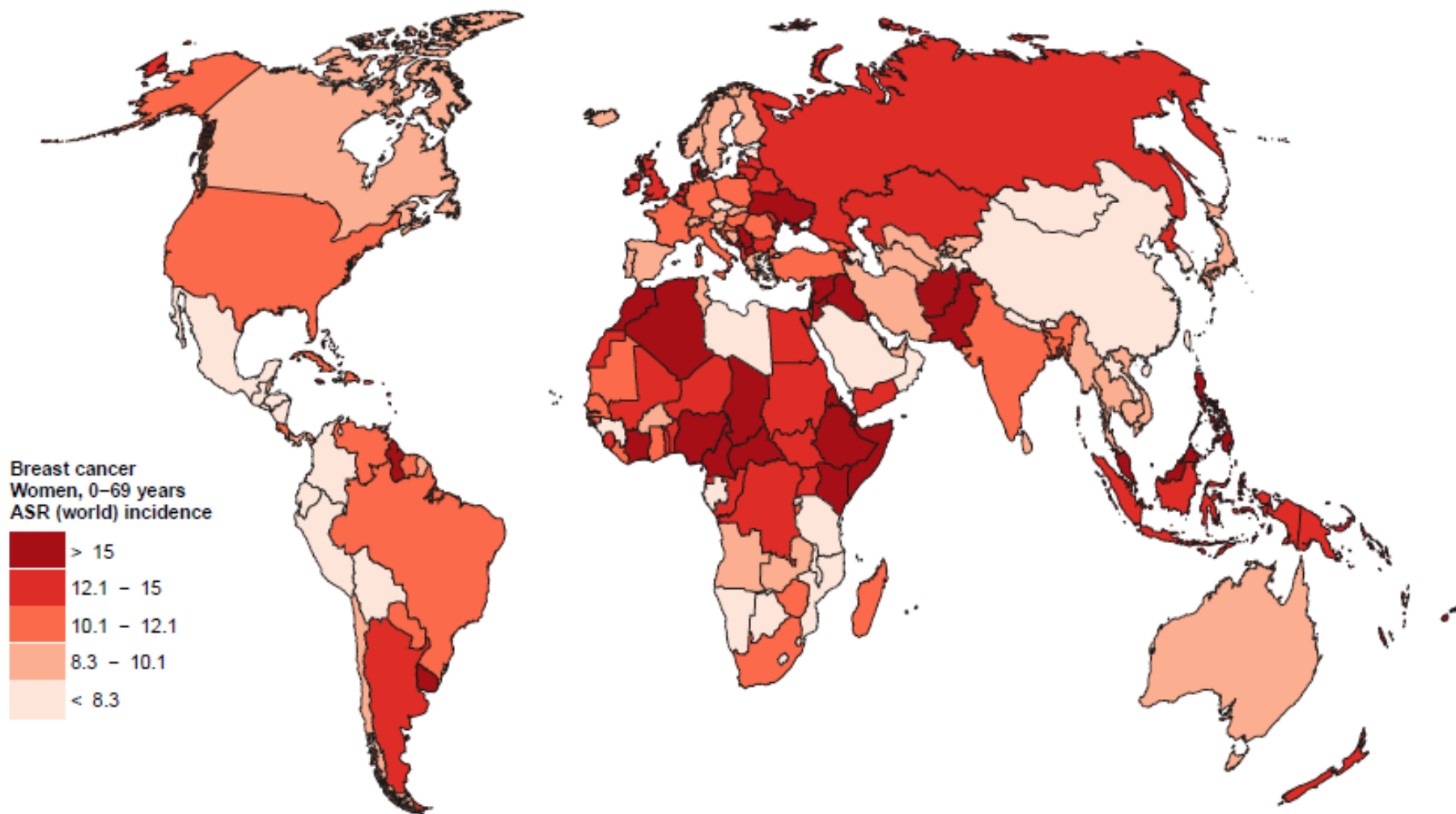
# BREAST CANCER GLOBAL INCIDENCE



SOURCE: Globocan 2012 (IARC)



# BREAST CANCER GLOBAL MORTALITY



SOURCE: Globocan 2012 (IARC)





# BREAST CANCER RESOURCES

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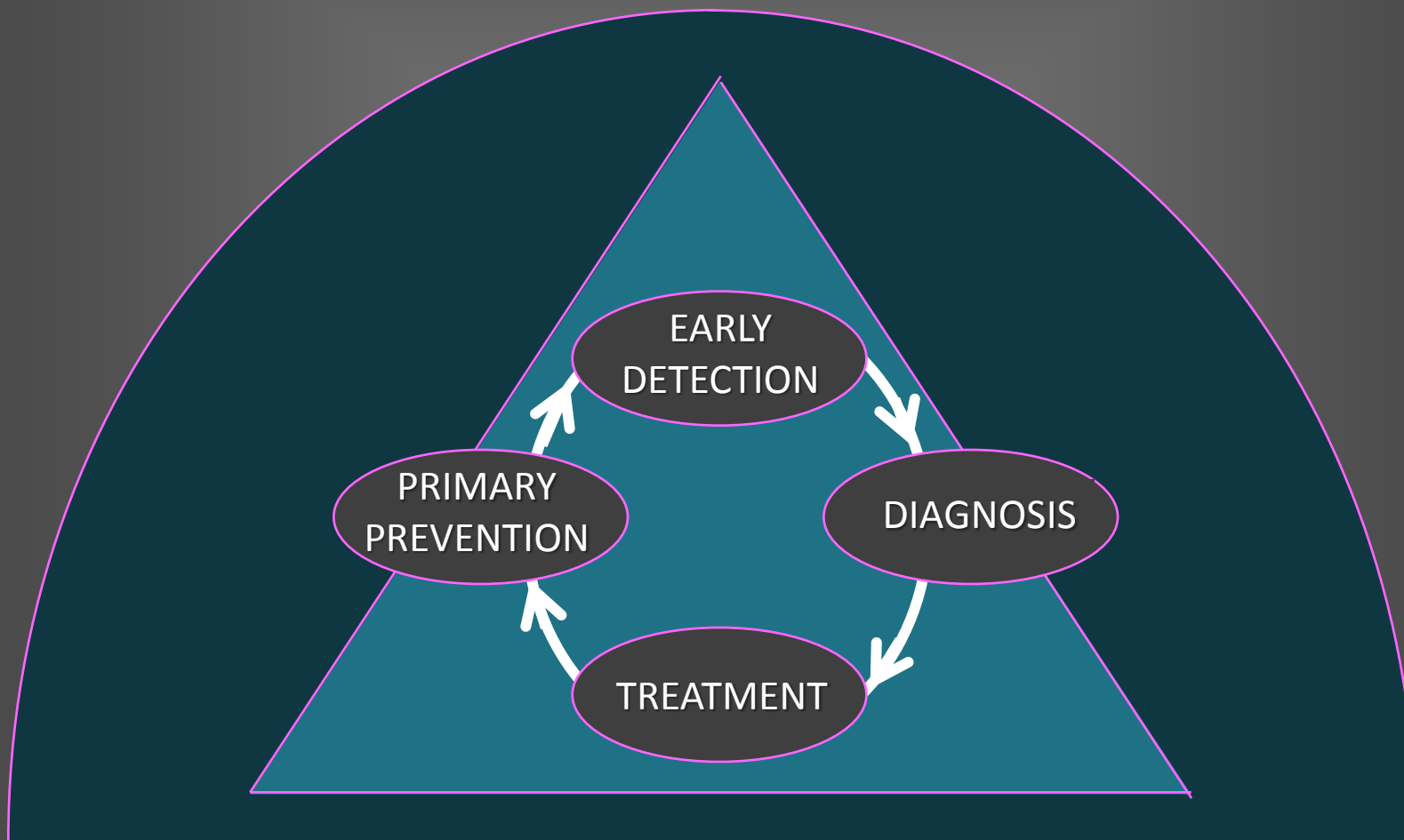


# BREAST CANCER RESOURCES

- Global Breast Cancer Trends
- Adapting to Existing Resources
- Prioritization in Cancer Control



# CANCER CONTROL STRATEGIES DISEASE-BASED APPROACH



# CANCER CONTROL STRATEGIES

## PRIMARY PREVENTION

Population-Attributable Fraction (PAF) reflects potential prevention impact

Etiology	Carcinogenic risk factor (associated PAF)	Overall PAF (%)	Risk reduction programs	Key multisectoral partners	Estimated cost-effectiveness
Infectious etiologies	HPV (cervical cancer 90–100%)* Hepatitis B and C (HCC 77%)* <i>H. pylori</i> (gastric cancer 75%)*	18	Vaccinations	Health care workers Pharmaceutical companies Legislative bodies	Very cost-effective
Behavioral factors	Tobacco (30%)† Obesity (20%)† Diet (5%)† Alcohol (4%)†	66	Tobacco cessation Exercise programs Public education and outreach	General population (health literacy) Legislative bodies Health care workers	Very cost-effective
Environmental factors	Air pollution Aflatoxins	4	Environmental regulations	Legislative bodies Business sector	Potentially cost-effective
Clinical interventions	Chemoprevention (such as tamoxifen, aspirin, celecoxib, or finasteride) Surgical procedures (such as prophylactic mastectomy or prophylactic oophorectomy)	N/A	Insurance coverage for correctly selected individuals at elevated risk	Health care workers Pharmaceutical companies General population	Cost-effective



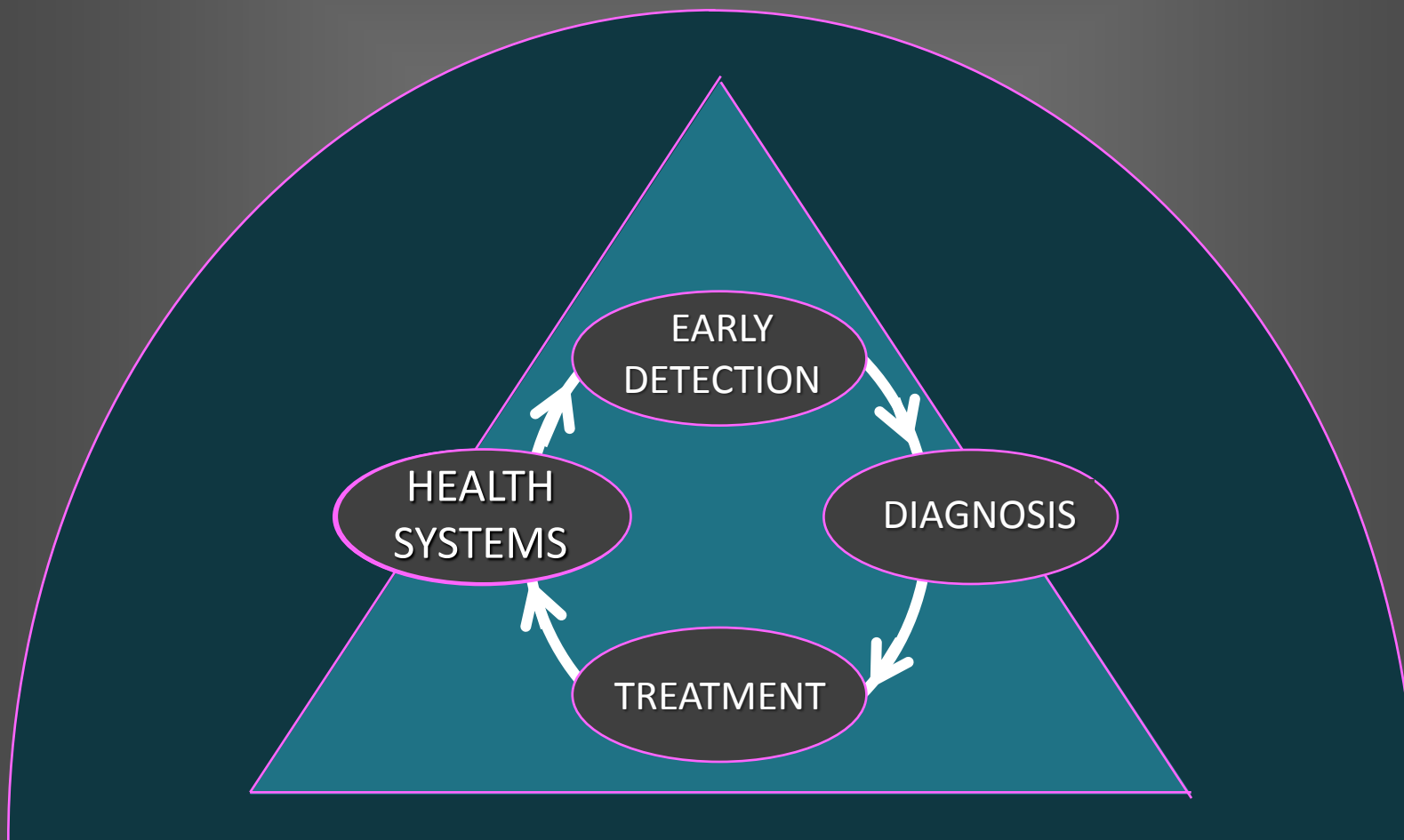
# CANCER CONTROL STRATEGIES BREAST CANCER PREVENTION

## Health behaviors associated with reduced breast cancer risk

1. Prolonged lactation
2. Regular physical activity
3. Weight control
4. Avoid excess alcohol intake
5. Avoid prolonged use of exogenous hormones
6. Avoid excessive radiation exposure



# CANCER CONTROL STRATEGIES COMPREHENSIVE APPROACH





# BHGI GUIDELINE DEVELOPMENT

- Comprehensive guidelines by selected expert panels
- Consensus opinions based on evidence review
- Publication of a) consensus and b) individual manuscripts

## GUIDELINE DEVELOPMENT SUMMITS:

Global Summit 2002: Health Care Disparities

Global Summit 2005: Resource Stratification

## GUIDELINE VALIDATION SUMMITS:

Global Summit 2007: Guideline Implementation

Global Summit 2010: Healthcare Delivery

Global Summit 2012: Supportive Care and QOL



# GLOBAL SUMMIT 2005 – BETHESDA

## RESOURCE STRATIFICATION

- **Basic level:** Core resources or fundamental services necessary for any breast health care system to function.
- **Limited level:** Second-tier resources or services that produce major improvements in outcome such as survival.
- **Enhanced level:** Third-tier resources or services that are optional but important, because they increase the number and quality of therapeutic options and patient choice.
- **Maximal level:** Highest-level resources or services used in some high resource countries that have *lower priority* on the basis of extreme cost and/or impracticality.





# BHGI GUIDELINE TABLES

## HEALTH CARE SYSTEMS

Level of resources	Patient and Family Education	Human Resource Capacity Building	Patient Navigation	Cancer Care Facility	Breast Care Center
Basic	General education regarding primary prevention of cancer, early detection and self examination Development of culturally adapted patient and family education services	Primary care provider education re breast cancer detection, diagnosis and treatment Nursing education re cancer patient management and emotional support Pathology technician education re tissue handling and specimen preparation Trained community worker	Field nurse, midwife or healthcare provider triages patients to central facility for diagnosis and treatment	Health facility Operating facility Outpatient care facility Pharmacy Home hospice support External consultation Pathology laboratory	Breast healthcare access integrated into existing healthcare infrastructure
Limited	Group or one-on-one counseling involving family and peer support Education regarding nutrition and complementary therapies	Nursing education re breast cancer diagnosis, treatment and pt management Imaging technician education re imaging technique and quality control Volunteer recruitment corp to support care	On site patient navigator (staff member or nurse) facilitates patient triage through diagnosis and treatment	Clinical information systems Health system network Imaging facility Internal pathology laboratory Radiation therapy	'Breast Center' with clinician, staff and breast imaging access Breast prostheses for mastectomy pts
Enhanced	Education regarding survivorship Lymphedema education Education regarding home care	Organization of national volunteer network Specialized nursing oncology training Home care nursing Physiotherapist & lymphedema therapist On-site cytopathologist	Patient navigation team from each discipline supports patient 'handoff' during key transitions from specialist to specialist to ensure completion of therapy	Centralized referral cancer center(s) Radiation therapy: low energy linear accelerator, electrons, brachytherapy, treatment planning system	Multidisciplinary breast programs Oncology nurse specialists Physician assistants
Maximal		Organization of national medical breast health groups		Satellite (non-centralized or regional) cancer centers	

## EARLY DETECTION

Level of resources	Public Education and Awareness	Detection Methods
Basic	Development of culturally sensitive, linguistically appropriate local education programs for target populations to teach value of early detection, breast cancer risk factors and breast health awareness (education + self-examination)	Clinical history and CBE
Limited	Culturally and linguistically appropriate targeted outreach/education encouraging CBE for age groups at higher risk administered at district/provincial level using healthcare providers in the field	Diagnostic breast US +/- diagnostic mammography in women with positive CBE Mammographic screening of target group*
Enhanced	Regional awareness programs regarding breast health linked to general health and women's health programs	Mammographic screening every 2 years in women ages 50-59 <sup>†</sup> Consider mammographic screening every 12-18 months in women ages 40-49 <sup>†</sup>
Maximal	National awareness campaigns regarding breast health using media	Consider annual mammographic screening in women ages 40 and older Other imaging technologies as appropriate for high-risk groups <sup>†</sup>

## DIAGNOSIS

Level of resources	Clinical	Imaging and Lab Tests	Pathology
Basic	History Physical examination Clinical breast examination (CBE) Tissue sampling for cancer diagnosis (cytologic or histologic) prior to initiation of treatment		Pathology diagnosis obtained for every breast lesion by any available sampling procedure Pathology report containing appropriate diagnostic and prognostic predictive information to include tumor size, lymph node status, histologic type and tumor grade Process to establish hormone receptor status possibly including empiric assessment of response to therapy Determination and reporting of TNM stage
Limited	US-guided FNAB of sonographically suspicious axillary nodes Sentinel lymph node (SLN) biopsy with blue dye <sup>‡</sup>	Diagnostic breast ultrasound (US) Pain chest and skeletal radiography Liver US Blood chemistry profile <sup>§</sup> Complete blood count (CBC) <sup>§</sup>	Determination of ER status by IHC Determination of margin status, DCIS content, presence of LVI Frozen section or touch prep SLN analysis <sup>§</sup>
Enhanced	Image guided breast sampling Preoperative needle localization under mammo and/or US guidance SLN biopsy using radiotracer <sup>‡</sup>	Diagnostic mammography Specimen radiography Bone scan, CT scan Cardiac function monitoring	Measurement of HER-2/neu overexpression or gene amplification <sup>§</sup> Determination of PR status by IHC
Maximal		PET scan, MIBI scan, breast MRI, BRCA1/2 testing Mammographic double reading	IHC staining of sentinel nodes for cytokeratin to detect micrometastases Pathology double reading Gene profiling tests

## STAGE I

Level of resources	Local-Regional Treatment		Systemic Treatment (Adjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy			Oophorectomy in premenopausal women Tamoxifen <sup>‡</sup>	
Limited	Breast conserving surgery <sup>§</sup> Sentinel lymph node (SLN) biopsy with blue dye <sup>‡</sup>		Classical CMF <sup>§</sup> AC, EC, or FAC <sup>§</sup>		
Enhanced	SLN biopsy using radiotracer <sup>‡</sup> Breast reconstruction surgery	Breast-conserving whole-breast irradiation as part of breast-conserving therapy <sup>§</sup>	Taxanes Aromatase inhibitors LH-RH agonists	Aromatase inhibitors LH-RH agonists	Trastuzumab for treating HER-2/ neu positive disease <sup>§</sup>
Maximal			Growth factors Dose-dense chemotherapy		

## STAGE II

Level of resources	Local-Regional Treatment		Systemic Treatment (Adjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy		Classical CMF <sup>‡</sup> AC, EC, or FAC <sup>‡</sup>	Oophorectomy in premenopausal women Tamoxifen <sup>‡</sup>	
Limited	Breast conserving surgery <sup>§</sup> Sentinel lymph node (SLN) biopsy with blue dye <sup>‡</sup>	Postmastectomy irradiation of chest wall and regional nodes for high-risk cases <sup>‡</sup>			
Enhanced	SLN biopsy using radiotracer <sup>‡</sup> Breast reconstruction surgery	Breast-conserving whole-breast irradiation as part of breast-conserving therapy <sup>§</sup>	Taxanes Aromatase inhibitors LH-RH agonists	Aromatase inhibitors LH-RH agonists	Trastuzumab for treating HER-2/ neu positive disease <sup>§</sup>
Maximal			Growth factors Dose-dense chemotherapy		

## LOCALLY ADVANCED

Level of resources	Local-Regional Treatment		Systemic Treatment (Adjuvant or Neoadjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy		Preoperative chemotherapy with AC, EC, FAC or CMF <sup>‡</sup>	Oophorectomy in premenopausal women Tamoxifen <sup>‡</sup>	
Limited		Postmastectomy irradiation of chest wall and regional nodes <sup>‡</sup>			
Enhanced	Breast-conserving surgery Breast reconstruction surgery	Breast-conserving whole-breast irradiation as part of breast-conserving therapy <sup>§</sup>	Taxanes Aromatase inhibitors LH-RH agonists	Aromatase inhibitors LH-RH agonists	Trastuzumab for treating HER-2/ neu positive disease <sup>§</sup>
Maximal			Growth factors Dose-dense chemotherapy		

## METASTATIC

Level of resources	Local-Regional Treatment		Systemic Treatment (Palliative)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Supportive Therapy
Basic	Total mastectomy for ipsilateral breast tumor recurrence after breast conserving surgery <sup>‡</sup>			Oophorectomy in premenopausal women Tamoxifen <sup>‡</sup>	Nonopioid and opioid analgesics and symptom management
Limited		Palliative radiation therapy	Classical CMF <sup>‡</sup> Anthracycline monotherapy or in combination <sup>‡</sup>		
Enhanced			Sequential single agent or combination chemotherapy Trastuzumab Lapatinib	Aromatase inhibitors	Bisphosphonates
Maximal			Bevacizumab	Fulvestrant	Growth factors



# TREATMENT – LOCALLY ADVANCED

Level of resources	Local-Regional Treatment		Systemic Treatment (Adjuvant or Neoadjuvant)		
	Surgery	Radiation Therapy	Chemotherapy	Endocrine Therapy	Biological Therapy
Basic	Modified radical mastectomy	*	Preoperative chemotherapy with AC, EC, FAC or CMF†	Oophorectomy in premenopausal women Tamoxifen‡	
Limited		Postmastectomy irradiation of chest wall and regional nodes*			§
Enhanced	Breast-conserving surgery Breast reconstruction surgery	Breast-conserving whole-breast irradiation as part of breast-conserving therapy	Taxanes	Aromatase inhibitors LH-RH agonists	Trastuzumab for treating HER-2/neu positive disease§
Maximal			Growth factors Dose-dense chemotherapy		



National  
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**NCCN Framework for Resource Stratification of NCCN Guidelines  
(NCCN Framework™)**

# **Invasive Breast Cancer**

## **Enhanced Resources**

Version 3.2015

**NCCN.org**



**NCCN Framework™**

**Continue**

**LOCALLY ADVANCED INVASIVE BREAST CANCER (NON-INFLAMMATORY)**

**CLINICAL STAGE**

**WORKUP**

**Stage IIIA**

T0, N2, M0  
T1, N2, M0  
T2, N2, M0  
T3, N2, M0

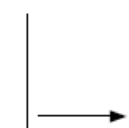


[Stage IIIA patients with T3, N1, M0 disease, see BINV-1](#)



**Stage IIIB**

T4, N0, M0  
T4, N1, M0  
T4, N2, M0



**Stage IIIC**

Any T, N3, M0



- History and physical exam
  - CBC, platelets
  - Liver function tests and alkaline phosphatase
  - Diagnostic bilateral mammogram; ultrasound as necessary
  - Pathology review<sup>a</sup>
  - Determination of tumor ER/PR status and HER2 status<sup>b</sup>
  - Genetic counseling if patient is at high risk for hereditary breast cancer<sup>c</sup>
  - Breast MRI<sup>d</sup> (optional), with special consideration for mammographically occult tumors
  - Fertility counseling if premenopausal<sup>e</sup>
- Consider systemic staging (particularly if signs and symptoms are present):
- Chest diagnostic CT
  - Abdominal ± pelvic diagnostic CT or MRI
  - Bone scan or sodium fluoride PET/CT<sup>g</sup> (category 2B)
  - FDG PET/CT<sup>h,i</sup> (optional, category 2B)



[See Preoperative Systemic Therapy \(BINV-15\)](#)



<sup>a</sup>The panel endorses the College of American Pathologists Protocol for pathology reporting for all invasive and noninvasive carcinomas of the breast.  
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<sup>g</sup>If FDG PET/CT is performed and clearly indicates bone metastasis, on both the PET and CT component, bone scan or sodium fluoride PET/CT may not be needed.

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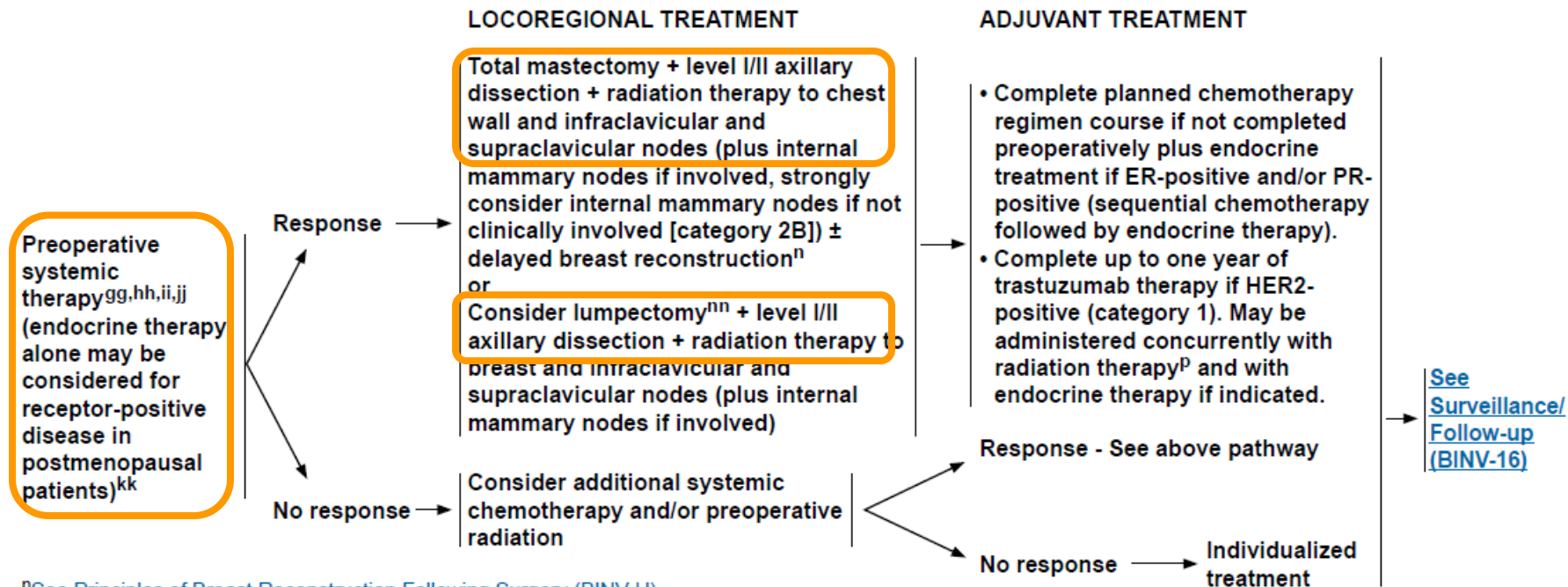
<sup>i</sup>FDG PET/CT may also be helpful in identifying unsuspected regional nodal disease and/or distant metastases in locally advanced breast cancer when used in addition to standard staging studies.

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PREOPERATIVE SYSTEMIC THERAPY FOR LOCALLY ADVANCED INVASIVE BREAST CANCER (NON-INFLAMMATORY)



<sup>n</sup>See Principles of Breast Reconstruction Following Surgery (BINV-H).

<sup>p</sup>See Principles of Radiation Therapy (BINV-I).

<sup>gg</sup>A number of chemotherapy regimens have activity in the preoperative setting. In general, those chemotherapy regimens recommended in the adjuvant setting may be considered in the preoperative setting. See Neoadjuvant/Adjuvant Chemotherapy (BINV-K). If treated with endocrine therapy, an aromatase inhibitor is preferred for postmenopausal women.

<sup>hh</sup>Patients with HER2-positive tumors should be treated with preoperative systemic incorporating trastuzumab for at least 9 weeks of preoperative therapy. See Neoadjuvant/Adjuvant Chemotherapy (BINV-K).

<sup>ii</sup>A pertuzumab-containing regimen may be administered preoperatively to patients with greater than or equal to T2 or greater than or equal to N1, HER2-positive breast cancer.

<sup>jj</sup>Administration of all chemotherapy prior to surgery is preferred.

<sup>kk</sup>See Definition of Menopause (BINV-L).

<sup>nn</sup>For patients with skin and/or chest wall involvement (T4 non-inflammatory) prior to neoadjuvant therapy, breast conservation may be performed in carefully selected patients based on a multidisciplinary assessment of local recurrence risk. In addition to standard contraindications to breast conservation (see BINV-G), exclusion criteria for breast conservation include: inflammatory (T4d) disease before neoadjuvant therapy and incomplete resolution of skin involvement after neoadjuvant therapy.

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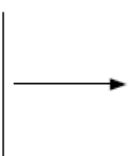
**LOCALLY ADVANCED INVASIVE BREAST CANCER (NON-INFLAMMATORY)**

**CLINICAL STAGE**

**WORKUP**

**Stage IIIA**

T0, N2, M0  
T1, N2, M0  
T2, N2, M0  
T3, N2, M0

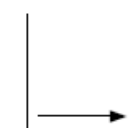


[Stage IIIA patients with T3, N1, M0 disease, see BINV-1](#)



**Stage IIIB**

T4, N0, M0  
T4, N1, M0  
T4, N2, M0



**Stage IIIC**

Any T, N3, M0



- History and physical exam
  - CBC, platelets
  - Liver function tests and alkaline phosphatase
  - Diagnostic bilateral mammogram; ultrasound as necessary
  - Pathology review<sup>a</sup>
  - Determination of tumor ER/PR status and HER2 status<sup>b</sup>
  - Genetic counseling if patient is at high risk for hereditary breast cancer<sup>c</sup>
  - Breast MRI<sup>d</sup> (optional), with special consideration for mammographically occult tumors
  - Fertility counseling if premenopausal<sup>e</sup>
- Consider systemic staging (particularly if signs and symptoms are present):
- Chest diagnostic CT
  - Abdominal ± pelvic diagnostic CT or MRI
  - Bone scan or sodium fluoride PET/CT<sup>g</sup> (category 2B)
  - FDG PET/CT<sup>h,i</sup> (optional, category 2B)



[See Preoperative Systemic Therapy \(BINV-15\)](#)



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**CLINICAL STAGE**

**WORKUP**

**Stage IIIA**

T0, N2, M0  
T1, N2, M0  
T2, N2, M0  
T3, N2, M0



- History and physical exam
- CBC, platelets
- Liver function tests and alkaline phosphatase
- Diagnostic bilateral mammogram; ultrasound as necessary
- Pathology review<sup>a</sup>
- Determination of tumor ER/PR status and HER2 status<sup>b</sup>
- Genetic counseling if patient is at high risk for hereditary breast cancer<sup>c</sup>
- Breast MRI<sup>d</sup> (optional), with special consideration for mammographically occult tumors
- Fertility counseling if premenopausal<sup>e</sup>

[Stage IIIA patients with T3, N1, M0 disease, see BINV-1](#)



**Stage IIIB**

T4, N0, M0  
T4, N1, M0  
T4, N2, M0



Consider systemic staging (particularly if signs and symptoms are present):

- Chest diagnostic CT
- Abdominal ± pelvic diagnostic CT or MRI
- Bone scan or sodium fluoride PET/CT<sup>g</sup> (category 2B)
- FDG PET/CT<sup>h,i</sup> (optional, category 2B)
- *Chest x-ray*
- *Abdominal ultrasound*
- *Plain Radiograph of symptomatic bony sites*

**Stage IIIC**

Any T, N3, M0



[See Preoperative Systemic Therapy \(BINV-15\)](#)

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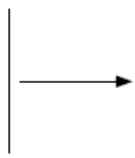
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**WORKUP**

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- T1, N2, M0
- T2, N2, M0
- T3, N2, M0

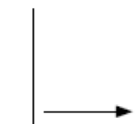


- History and physical exam
- CBC, platelets
- Liver function tests and alkaline phosphatase
- Diagnostic bilateral mammogram; ultrasound as necessary
- Pathology review<sup>a</sup>
- Determination of tumor ER/PR status\* and HER2 status<sup>b</sup>
- Genetic counseling if patient is at high risk for hereditary breast cancer<sup>c</sup>
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[Stage IIIA patients with T3, N1, M0 disease, see BINV-1](#)

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- T4, N0, M0
- T4, N1, M0
- T4, N2, M0

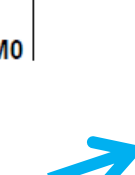


Consider systemic staging (particularly if signs and symptoms are present):

- Chest diagnostic CT
- Abdominal ± pelvic diagnostic CT or MRI
- Bone scan or sodium fluoride PET/CT<sup>g</sup> (category 2B)
- FDG PET/CT<sup>h,i</sup> (optional, category 2B)
- *Chest x-ray*
- *Abdominal ultrasound*
- *Plain Radiograph of symptomatic bony sites*

**Stage IIIC**

- Any T, N3, M0



→ [See Preoperative Systemic Therapy \(BINV-15\)](#)

→ [See Locoregional treatment \(BINV-15\)](#)



*While treatment can be provided in the absence of ER/PR status, it is important to determine ER/PR status for proper drug utilization. Therefore, the NCCN panel believes that ER/PR testing should be available in all treatment centers.*

<sup>a</sup>The panel endorses the College of American Pathologists Protocol for pathology reporting for all invasive and noninvasive carcinomas of the breast.

<http://www.cap.org>.

<sup>b</sup>See Principles of HER2 Testing (BINV-A).

<sup>c</sup>See NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast and Ovarian.

<sup>d</sup>See Principles of Dedicated Breast MRI Testing (BINV-B).

<sup>e</sup>See Fertility and Birth Control (BINV-C).

<sup>g</sup>If FDG PET/CT is performed and clearly indicates bone metastasis, on both the PET and CT component, bone scan or sodium fluoride PET/CT may not be needed.

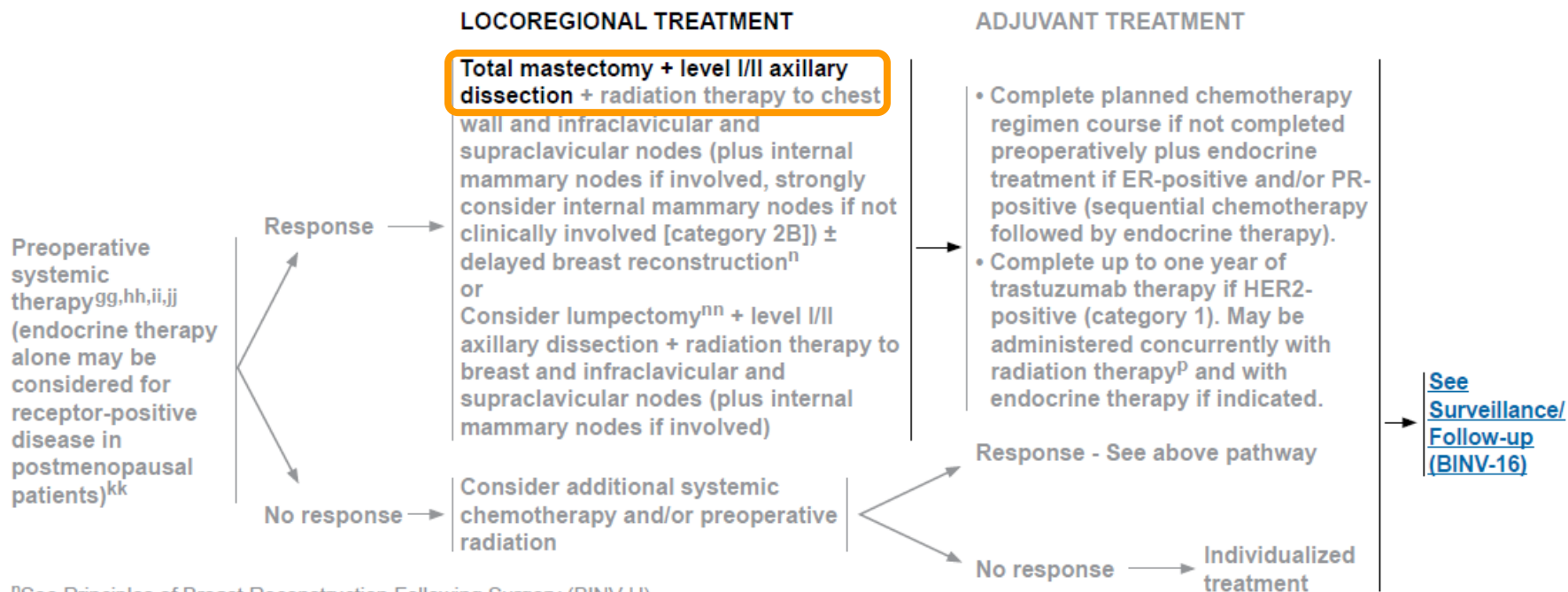
<sup>h</sup>FDG PET/CT can be performed at the same time as diagnostic CT. The use of PET or PET/CT scanning is not indicated in the staging of clinical stage I, II, or operable III breast cancer. FDG PET/CT is most helpful in situations where standard staging studies are equivocal or suspicious, especially in the setting of locally advanced or metastatic disease.

<sup>i</sup>FDG PET/CT may also be helpful in identifying unsuspected regional nodal disease and/or distant metastases in locally advanced breast cancer when used in addition to standard staging studies.

**Note:** This is the NCCN Framework for Resource Stratification of NCCN Guidelines. For definitions of the NCCN Framework™, see page FR-1.  
All recommendations are category 2A unless otherwise indicated.  
Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.



PREOPERATIVE SYSTEMIC THERAPY FOR LOCALLY ADVANCED INVASIVE BREAST CANCER (NON-INFLAMMATORY)



<sup>nn</sup>See Principles of Breast Reconstruction Following Surgery (BINV-H).

<sup>p</sup>See Principles of Radiation Therapy (BINV-I).

<sup>gg</sup>A number of chemotherapy regimens have activity in the preoperative setting. In general, those chemotherapy regimens recommended in the adjuvant setting may be considered in the preoperative setting. See Neoadjuvant/Adjuvant Chemotherapy (BINV-K). If treated with endocrine therapy, an aromatase inhibitor is preferred for postmenopausal women.

<sup>hh</sup>Patients with HER2-positive tumors should be treated with preoperative systemic incorporating trastuzumab for at least 9 weeks of preoperative therapy. See Neoadjuvant/Adjuvant Chemotherapy (BINV-K).

<sup>ii</sup>A pertuzumab-containing regimen may be administered preoperatively to patients with greater than or equal to T2 or greater than or equal to N1, HER2-positive breast cancer.

<sup>jj</sup>Administration of all chemotherapy prior to surgery is preferred.

<sup>kk</sup>See Definition of Menopause (BINV-L).

<sup>nn</sup>For patients with skin and/or chest wall involvement (T4 non-inflammatory) prior to neoadjuvant therapy, breast conservation may be performed in carefully selected patients based on a multidisciplinary assessment of local recurrence risk. In addition to standard contraindications to breast conservation (see BINV-G), exclusion criteria for breast conservation include: inflammatory (T4d) disease before neoadjuvant therapy and incomplete resolution of skin involvement after neoadjuvant therapy.

Note: This is the NCCN Framework for Resource Stratification of NCCN Guidelines. For definitions of the NCCN Framework™, see page FR-1.

All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.



# BREAST CANCER RESOURCES

- Global Breast Cancer Trends
- Adapting to Existing Resources
- Prioritization in Cancer Control



# BREAST CANCER RESOURCES

- Global Breast Cancer Trends
- Adapting to Existing Resources
- Prioritization in Cancer Control

# BREAST CANCER EPIDEMIOLOGY

## STAGE AT DIAGNOSIS: UNITED STATES VS. INDIA

STAGE	EXTENT	5 year SURVIVAL	DISTRIBUTION	
			USA	INDIA
0	Noninvasive	100%	16%	----
I	Early stage disease	100%	40%	1%
II	Early stage disease	86%	34%	23%
III	Locally advanced	57%	6%	52%
IV	Metastatic disease	20%	4%	24%

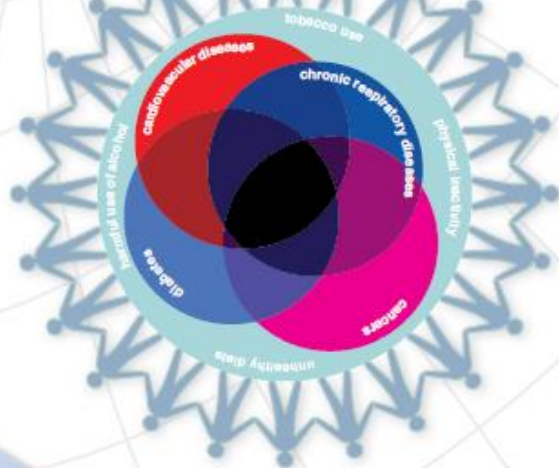
**USA:**  
90% DCIS or early staged invasive disease at diagnosis

**INDIA:**  
76% locally advanced or metastatic at diagnosis

Sources: SEER Survival Monograph (NCI), 2007;  
Chopra, Cancer Institute Chennai, 2001



## Global status report on noncommunicable diseases 2010



- Biennial mammographic screening (50–70 years) with breast cancer treatment are among “**best buys**”
- Could avert 19% of cancer burden
- BUT breast cancer interventions impractical for poorer countries:
  - ❖ **implementation costs**
  - ❖ **limited feasibility of treatment** in primary care setting in LMCs



# BREAST CANCER INITIATIVE 2.5

Making breast health a global priority

BCI 2.5 is a global campaign to reduce disparities in breast cancer outcomes for 2.5 million women by 2025.

# Breast Cancer Initiative 2.5

## Inviting Partners

American Cancer Society

Susan G. Komen for the Cure

Breast Health Global Initiative

Harvard Global Equity Initiative

National Cancer Institute Center for Global Health

Norwegian Cancer Society

Pan American Health Organization (PAHO)

Union for International Cancer Control (UICC)



# Breast cancer care model



Regional Cancer Institute  
(Trujillo)



La Fora Reference Hospital



Health Centers

- Mammography
- Pathology
- Surgery
- Chemotherapy
- Radiotherapy

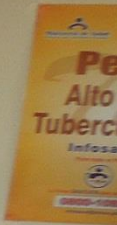
- FNA

- Community education
- CBE

Photos courtesy of Ben Anderson

Slide used with permission from

SESION EDUCATIVA  
PREVENCIÓN DE  
CÁNCER DE MAMA



Peru Site Visit 2012

Public education about breast cancer and breast health

# PLAN DE SUPERVISIÓN HOSPITAL REGIONAL DE LORETO

JUSTIFICACIÓN

OBJETIVOS

METODOLOGÍA

RESULTADOS

INFORME

•Capacitación de proveedores clínicos (obstetrices y médicos) en ECM.

•El 1 y 2 de julio de 2011, un grupo de médicos y enfermeras de INEN, IREN Norte y PATH, asistió a un curso conjunto en ECM y BAAF celebrado en IREN-Norte. Donde ocho obstetrices de la Red de Salud de Pacasmayo y tres médicos del Hospital La Fora recibieron la formación en teoría científica, aplicación práctica y orientación de pacientes con respecto al ECM.





1

Hinchazón, calor, oscurecimiento o enrojecimiento de la mama.



2

Cambio en el tamaño y/o forma de la mama.



3

Hoyuelos o arrugas en la piel.



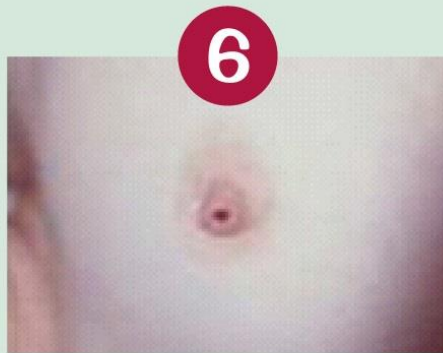
4

Picazón, úlceras o llaga escamosa en la piel o sarpullido en el pezón.



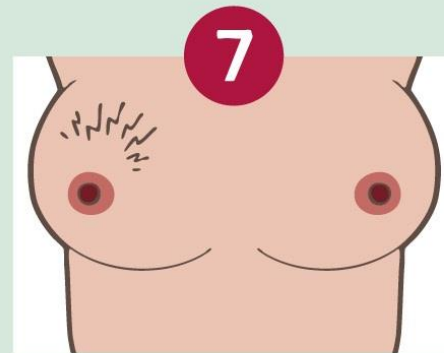
5

Hundimiento del pezón o de otras partes de la mama.



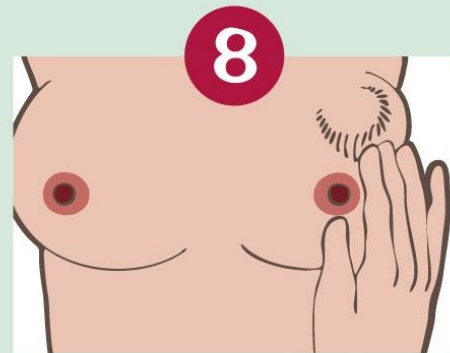
6

Secreción repentina del pezón.



7

Dolor reciente y persistente en alguna parte de la mama.



8

Aparición de alguna masa, bolita dura, o la piel más gruesa dentro de la mama.

**DATOS GENERALES**

Nombre del establecimiento \_\_\_\_\_ N° Historia Clínica \_\_\_\_\_

Primer Apellido \_\_\_\_\_ Segundo Apellido \_\_\_\_\_ Nombres \_\_\_\_\_ DNI \_\_\_\_\_

Dirección \_\_\_\_\_ Distrito \_\_\_\_\_ Teléfono \_\_\_\_\_

Fecha de nacimiento \_\_\_\_/\_\_\_\_/\_\_\_\_ Edad (años) \_\_\_\_\_ Establecimiento que refiere \_\_\_\_\_ Fecha de consulta \_\_\_\_/\_\_\_\_/\_\_\_\_

¿Has escuchado acerca de salud mamaria de un promotor(a) de salud?

No  Sí, en una sesión educativa en el establecimiento de salud  Sí, en una sesión educativa en mi comunidad  Sí, a través del contacto individual con el promotor

**ANAMNESIS**

Motivo de consulta: Por tamizaje  Por síntomas mamarios  Por referencia

Síntomas \_\_\_\_\_

Relación con ciclo menstrual: Sí  NO  Peso: \_\_\_\_\_ Kg. Talla: \_\_\_\_\_ mt.

**ANTECEDENTES MAMARIOS:**

Exámenes previos: Biopsia  Mamografía  Ecografía  Fecha: \_\_\_\_/\_\_\_\_/\_\_\_\_ Resultado: \_\_\_\_\_

Mastitis  Otros: \_\_\_\_\_

Edad menarquia: \_\_\_\_\_ A Edad menopausia: \_\_\_\_\_ A G  P

Uso de anticonceptivos: Sí  NO  Tipo: Oral  Inyectable  Duración: \_\_\_\_\_ M / A

Terapia de reemplaza hormonal: Sí  NO  Edad primer embarazo: \_\_\_\_ Años Lactancia Materna: Sí  NO

**Antecedentes personales y familiares:**

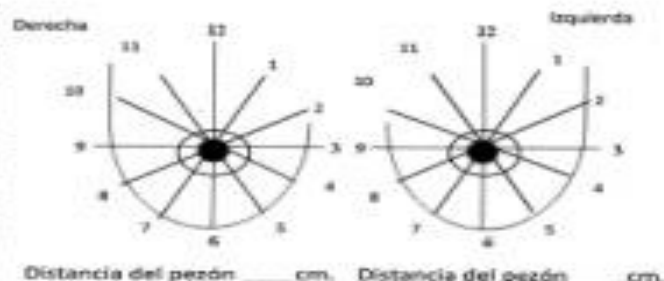
Historia personal de: Cáncer de mama: Sí  NO  Cáncer de ovario: Sí  NO  Otro cáncer: \_\_\_\_\_

Historia de familiar directo de: Cáncer de mama: Sí  NO  Cáncer de ovario: Sí  NO  Otro cáncer: \_\_\_\_\_

Hábitos: Tabaco: Sí  NO  Alcohol: Sí  NO

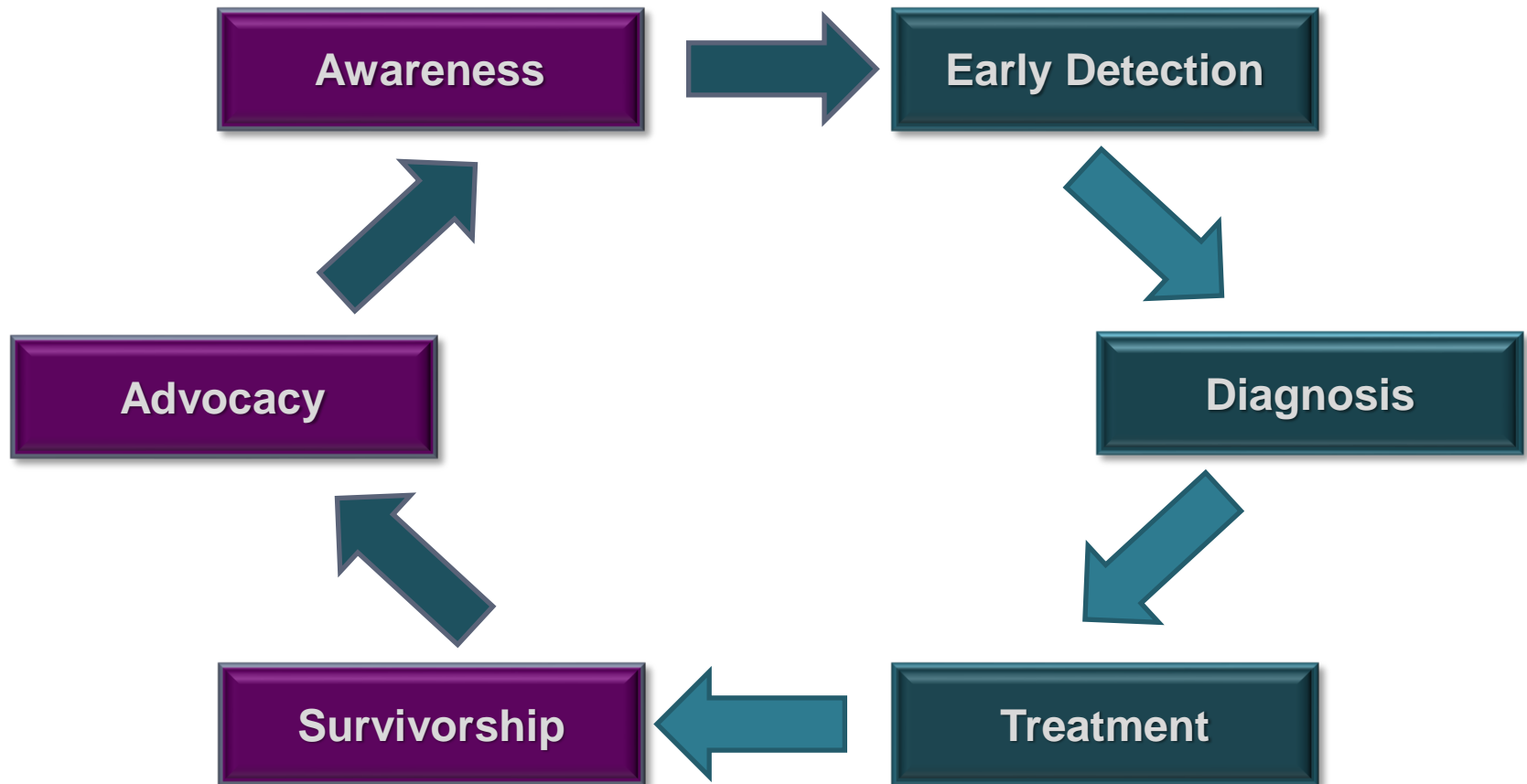
**EXAMEN CLÍNICO DE MAMA:**

CARACTERÍSTICAS DEL TUMOR	Mama Derecha	Mama Izquierda
Tumor palpable	Tamaño Tumor 1 _____ cm Tamaño Tumor 2 _____ cm	_____ cm _____ cm
Consistencia del tumor (blando, duro, pétreo, fluctuante)		
Forma del tumor (redondo, oval, asimétrico)		
Bordes del tumor (regular, irregular)		
Ganglio (axilar, supraclavicular)		
Secreción por pezón (color)		
Retracción (pezón, piel)		
Ecema (pezón, areola)		
Ulceración (pezón, piel)		
Entesa o edema (pezón, piel)		
"Piel de naranja"		



Public Participation

Health Care Delivery



# KNOWLEDGE SUMMARIES

**BCI2.5**  
Making breast cancer a global priority

KNOWLEDGE SUMMARY

**PLANNING:  
PLANNING COMPREHENSIVE BREAST  
CANCER PROGRAMS: CALL TO ACTION**



KNOWLEDGE SUMMARY

**PLANNING:  
IMPROVING ACCESS TO BREAST  
CANCER CARE**

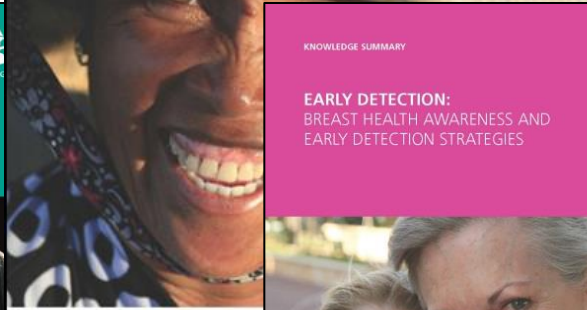


**About this Knowledge Summary (KS):**  
This summary covers planning for breast cancer programs, including important concepts, knowledge summaries and...

**About this Knowledge Summary (KS):**  
This summary discusses how to improve equitable access to breast cancer care by reducing barriers to breast health services. It covers structural, sociocultural, personal and financial barriers to accessing breast cancer detection, treatment and supportive care.

KNOWLEDGE SUMMARY

**PREVENTION:  
BREAST CANCER RISK FACTORS  
AND PREVENTION**



**About this Knowledge Summary (KS):**  
This summary covers the preventive approach to breast cancer, including surgery and lifestyle modifications for breast cancer prevention and counseling are also discussed.

KNOWLEDGE SUMMARY

**EARLY DETECTION:  
BREAST HEALTH AWARENESS AND  
EARLY DETECTION STRATEGIES**



**About this Knowledge Summary (KS):**  
This summary covers the major breast cancer early detection strategies including breast cancer education and awareness (patient, community and health professional education), breast health awareness and breast self detection and clinical breast exams (CBE). A description of how to perform a CBE is included in the Early Diagnosis: Signs and Symptoms summary. A discussion of breast cancer mammographic screening is provided in the Early Detection: Screening Programs for Breast Cancer summary.

KNOWLEDGE SUMMARY

**EARLY DETECTION:  
BREAST PHYSIOLOGY AND  
THE CLINICAL BREAST EXAM (CBE)**



**About this Knowledge Summary (KS):**  
This summary focuses on the clinical aspects of the early detection of breast cancer. The topics addressed include signs and symptoms of breast abnormalities, the importance of performing an accurate clinical breast exam (CBE) as part of breast awareness and early diagnosis, the need for appropriate and timely follow-up, diagnostic imaging, and pathology workup for a suspicious finding. Details about breast health awareness and imaging programs are covered in the two companion modules Early Detection: Breast Health Awareness and Early Detection: Strategies and Early Detection: Diagnosis and Screening with Mammography.

# KNOWLEDGE SUMMARIES



## POINTS FOR POLICYMAKERS

### PLANNING STEP 2: WHERE DO WE WANT TO BE?

#### IDENTIFY OBJECTIVES AND PRIORITIES

##### Identify community and health system partnerships

- Identify partners (non-government organizations, advocates, trusted public figures, medical associations) who can help develop and disseminate breast health awareness messaging.
- Identify key decision makers who can help develop and implement a curriculum for medical training and continuing medical education.

##### Define the target population and approach

- Educational efforts should include health professionals, women and the general public.
- Training primary care health professionals may be a priority if previous breast health training was not provided in medical schools.
- Health professionals may require continuing medical education or “refresher” training in breast cancer prevention, risk factors, signs and symptoms and clinical breast examination (CBE).
- Women can be routinely educated during clinic visits about breast health, including any available breast cancer screening opportunities.

##### Identify gaps and barriers

- Identify prevailing myths or misconceptions regarding the signs and symptoms of breast cancer. Consider conducting focus groups with the target population to better understand prevailing beliefs.
- Identify gaps in knowledge and misconceptions among primary care providers regarding their beliefs about breast cancer. Consider conducting interviews and focus groups with primary care providers.
- Identify structural, sociocultural, personal and financial barriers to patient participation in CBE.

- Identify barriers to provider participation in breast health awareness and CBE, with a focus on non-attendees within the target population.
- Identify barriers to implementing CBE curriculum in medical training and continuing medical education.

##### Set achievable objectives

- Objectives should promote a common goal for early detection: downstaging breast cancer diagnoses to improve cancer outcomes.
- Identify and classify objectives according to the healthcare sector that will manage them (e.g., health system standardization of CBE efforts should be led by clinicians, examiner training of CBE could be led by healthcare organizations; increasing the number of qualified practitioners could be led by sponsoring institutions, academia, and the public sector).
- Develop and disseminate patient and public education messages that are relevant and appropriate to the target community
- Integrate health professional education and training and standardized CBE protocols with widespread dissemination and demonstration of expert clinical breast healthcare skills.
- Address gaps in referral networks to ensure diagnostic follow-up for all breast health complaints (WHO Package of Essential Noncommunicable (PEN) disease interventions for primary care in low-resource settings referral model).
- Report and document clinical findings (contribute data to cancer registry).
- Consider minimizing costs by adapting or supplementing existing programs (e.g., adding breast health education to medical school curriculum and continuing education programs).

##### Set priorities and determine feasibility of interventions

- Implement demonstration or pilot projects with measurable outcomes to assess feasibility.
- Follow a resource-stratified pathway for program development that identifies available resources across the continuum of care.

## HOW DO WE GET THERE?

**Ensure clinical competency in breast health:** Health systems are responsible for the clinical competency of health care staff. Health systems should partner with medical education institutions to ensure that breast health is part of the standard medical curriculum, and that the curriculum for health professionals assigned to work with women at risk for breast cancer includes training in CBE and breast counseling (see Table 1).

**Improve patient and community knowledge of and confidence in breast healthcare:** Breast awareness efforts can improve patient knowledge of breast cancer and the importance of seeking care immediately for a breast complaint. However, if patients do not have confidence that the healthcare system can provide them with timely and affordable care, they may delay presenting for evaluation. In some low-resource settings, there is a lack of trust in the health system and a lack of confidence in the possibility of being cured of cancer, which discourages patients from presenting for evaluation of a breast complaint. NGOs have been proven as effective partners to address these issues and help navigate women to such services or provide services directly.

**Strengthen referral networks:** Health systems are responsible for establishing and monitoring referral networks to ensure the best care available is provided equitably to all patients in need. The high volume of women with breast health complaints requires a coordinated referral system to ensure optimal use of resources and efficient care. Referral systems should document the nature and urgency of the referral. The capacity of different health systems to care for women with breast complaints varies; scaling up expertise and establishing minimal standards of care are two possible approaches to improving care.

**Implement quality assurance programs:** Improving standards for CBE through training and tracking outcomes may improve the practice of CBE – an approach that has been used successfully with mammography. Increasing CBE volume and establishing trained teams or centers can improve the sensitivity and reduce the false-positive rates of CBE. Effective communications between providers can improve the care within an interdisciplinary system. Communications must be thorough and bidirectional to help coordinate care. For example, regional guidelines regarding the timing, type and location of imaging studies for women with breast complaints should be established to avoid duplication of studies. Similarly, breast mass biopsy findings should be communicated back to the primary care physician to coordinate appropriate follow-up and surveillance.

## POINTS FOR POLICYMAKERS

### PLANNING STEP 3: HOW DO WE GET THERE?

#### IMPLEMENT AND EVALUATE

##### Establish financial support and partnerships

- Consider partnering with local, regional and national breast health stakeholders.
- Advocacy groups are key stakeholders in advancing breast health awareness and are often supported by community members and volunteers.
- Partner with medical institutions to integrate training into existing programs.
- Scaling-up existing programs can optimize investments and efforts.

##### Launch, disseminate and implement

- Consider current educational programs that could be expanded or adapted to include breast health (e.g., training in clinical breast examination [CBE] should be part of the medical school core curriculum, offered as part of continuing education and available to all appropriate frontline health professionals).
- Expand the practice of CBE at the primary care level.
- Clarify the system for referrals and follow-up care to all health professionals and patients to avoid duplication of studies or omissions in care (e.g., suspicious lesions must be referred to a surgical team for biopsy, followed by a pathology evaluation of the biopsied specimen).
- Consider using a standardized patient care plan that provides details of a patient's diagnosis and treatment that can be shared by all members of the healthcare team.

##### Monitor and evaluate

- Process metrics should address program components targeted for improvement or implementation (e.g., process metrics identified in Step 2 can be routinely evaluated and updated).
- Evaluate health professional competency in CBE, breast health counseling and timely referrals (e.g., health professional self-assessment tools can be used to assess the sensitivity and specificity of CBE and inform program planning).
- Quality control measures should be in place (e.g., data that capture false-negative findings and delays in time to definitive care can inform future program improvements).



## 2. INSTITUTION: GENERAL

### TO BE COMPLETED BY ALL RESPONDENTS.

#### 2.1 What best describes your facility (please select only one option)

- Primary care facility** - provides primary health care to patients who come to the facility concern. The services provided at the primary care facility do not have distinct special
- Provincial or Secondary-level hospital** - highly differentiated by function with five to ten obstetrics-gynecology, pediatrics and general surgery.
- Tertiary-level hospital** - highly specialized staff and technical equipment. Clinical services have teaching activities.
- Cancer care/breast care facility**- specialized in cancer or breast cancer diagnosis and treatment
- Outpatient clinic/Imaging center** - detection and diagnosis of breast cancer.
- Palliative care facility** - provides medical care that focuses on reducing the severity of progression of the disease itself. The goal is to prevent and relieve suffering and to improve

#### 2.2. What best describes the funding status of your facility?

- Public - Government funded
- Private (for profit) - No government funding
- Mixed - government and private funding
- Not-for-profit
- Mission/faith-based
- Foreign aid
- Other (specify):

#### 2.3. Please rank in order of importance the primary source of payment for your facility. *more than one answer, please rank your answers in the order of frequency, with 1 being the most frequent, 2 being the second most frequent, etc.)*

#### 2.5. Using the following scale how do you assess the breast cancer/breast health care services provided by your institution, given the available resources?

- Not addressed:** These services are not provided in my institution
- Partially developed:** These services are not provided in my institution but does not meet demand/needs
- Well established:** All the required services or activities are available and reach most of the target population

(You must provide a value for each response below)

	Not addressed	Partially developed	Well established	Don't know	
Breast cancer screening of asymptomatic women <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Breast imaging for screening (i.e. mammogram, ultrasound) <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Breast imaging for diagnosis <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Pathology <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Breast surgery <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Radiation therapy for symptom control (i.e., bone metastases) <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Chemotherapy <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Endocrine therapy (e.g., tamoxifen, aromatase inhibitors) <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Biological therapy (e.g. trastuzumab) <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Multidisciplinary care <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Psychosocial support for cancer patients and family members (individual or group) <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Palliative care/pain management <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Rehabilitation of cancer patients <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Follow-up of cancer patients <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Medical record keeping <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Cancer registry <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Physician training in breast health care <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset
Patient education/outreach <small>* must provide value</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	reset



# BREAST CANCER RESOURCES

## SUMMARY

- Breast cancer is the most common cancer among women and the most likely reason a woman will die from cancer.
- Resource-stratified guidelines provide a framework for prioritizing early detection, diagnosis and treatment strategies.
- Successful health systems integrate survivors and advocates to promote cancer down-staging and timely treatment.
- BCI2.5 has created educational and assessment tools that facilitate baseline assessments and determine next steps for program-building based on a resource-stratified framework.



*The* Breast Health Global Initiative

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[www.bhgi.info](http://www.bhgi.info)

**BREAST  
CANCER  
INITIATIVE 2.5**

Making breast health a global priority

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[www.BCI25.org](http://www.BCI25.org)