



RESOURCE-STRATIFIED GUIDELINES, THE LANCET ONCOLOGY COMMISSION ON GLOBAL CANCER SURGERY, & STRATEGIC IMPLEMENTATION

Benjamin O. Anderson, M.D.

Chair and Director

Breast Health Global Initiative

Fred Hutchinson Cancer Research Center

Professor of Surgery & Global Health Medicine

University of Washington

Seattle, Washington



The Breast Health Global Initiative

www.bhgi.info

**BREAST
CANCER
INITIATIVE 2.5**

Making breast health a global priority

www.BCI25.org



RESOURCE-STRATIFIED GUIDELINES

- Global Cancer Trends
- Lancet Oncology Commission
- Adapting to Existing Resources
- Analytic Tool Development
- Strategic Implementation

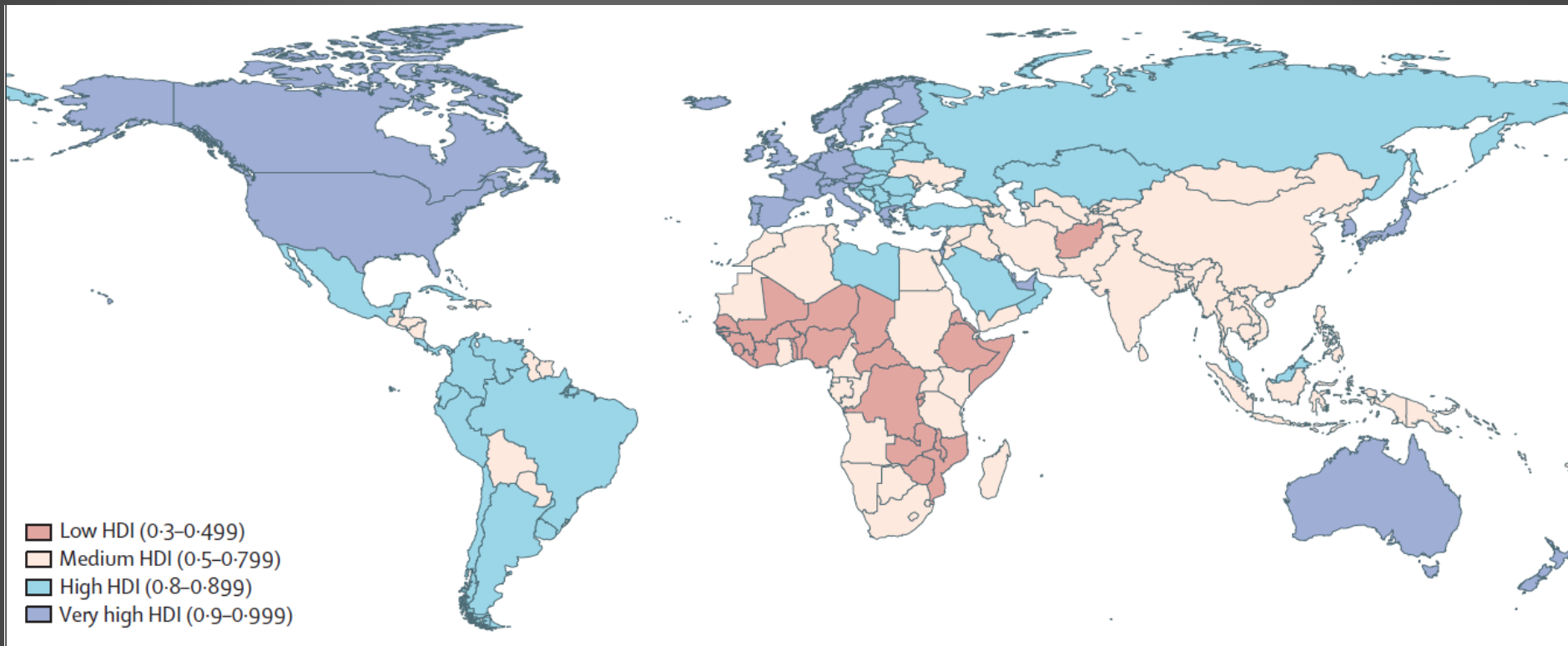


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GLOBAL CANCER TRENDS (IARC) HUMAN DEVELOPMENT INDEX (2008-2030)



- **Highest HDI:** Breast, lung, colorectum, prostate cancers (over 50%)
- **Medium HDI:** Add esophagus, stomach, liver; **Low HDI:** cervical cancer



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



CANCER CONTROL STRATEGIES

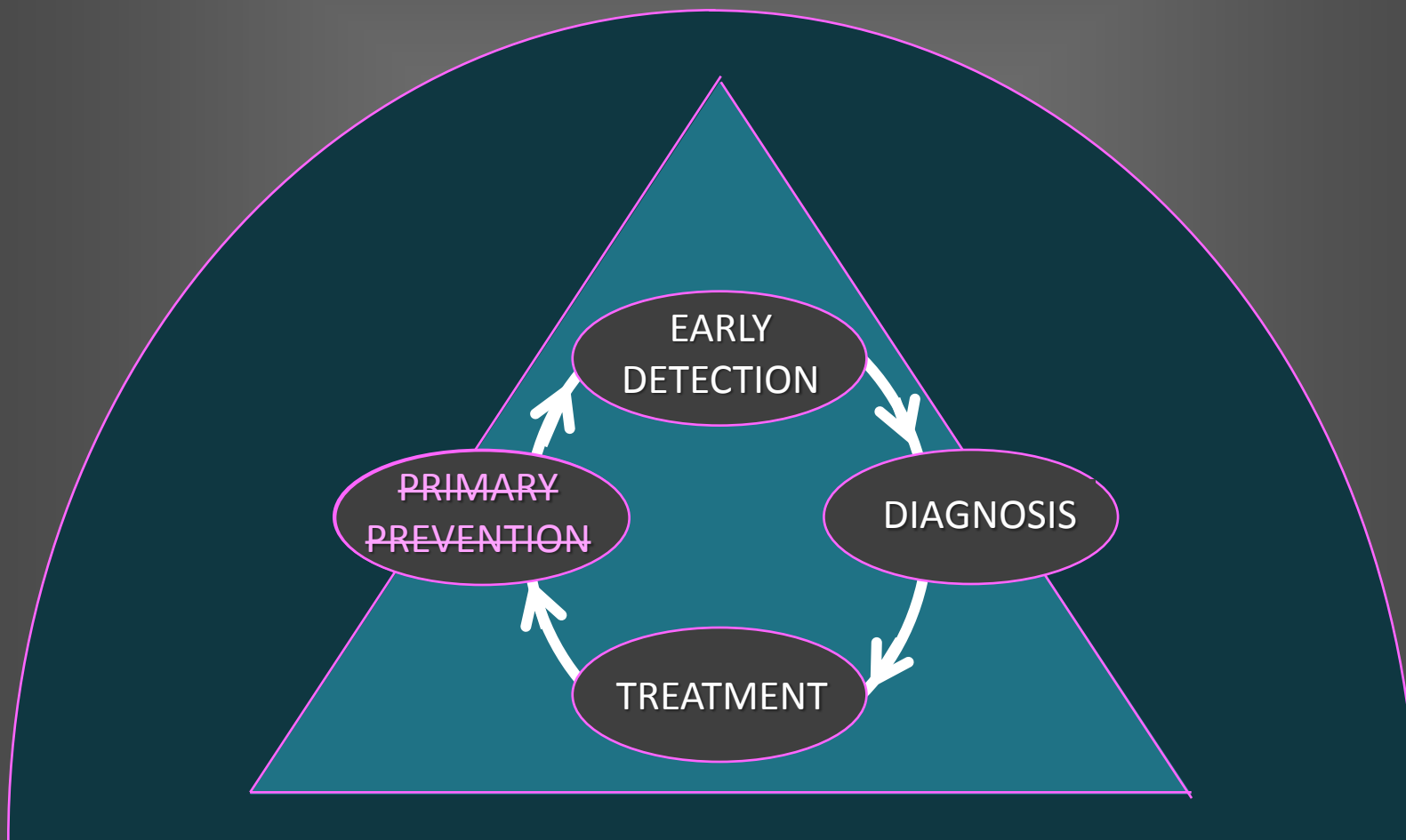
PRIMARY PREVENTION

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

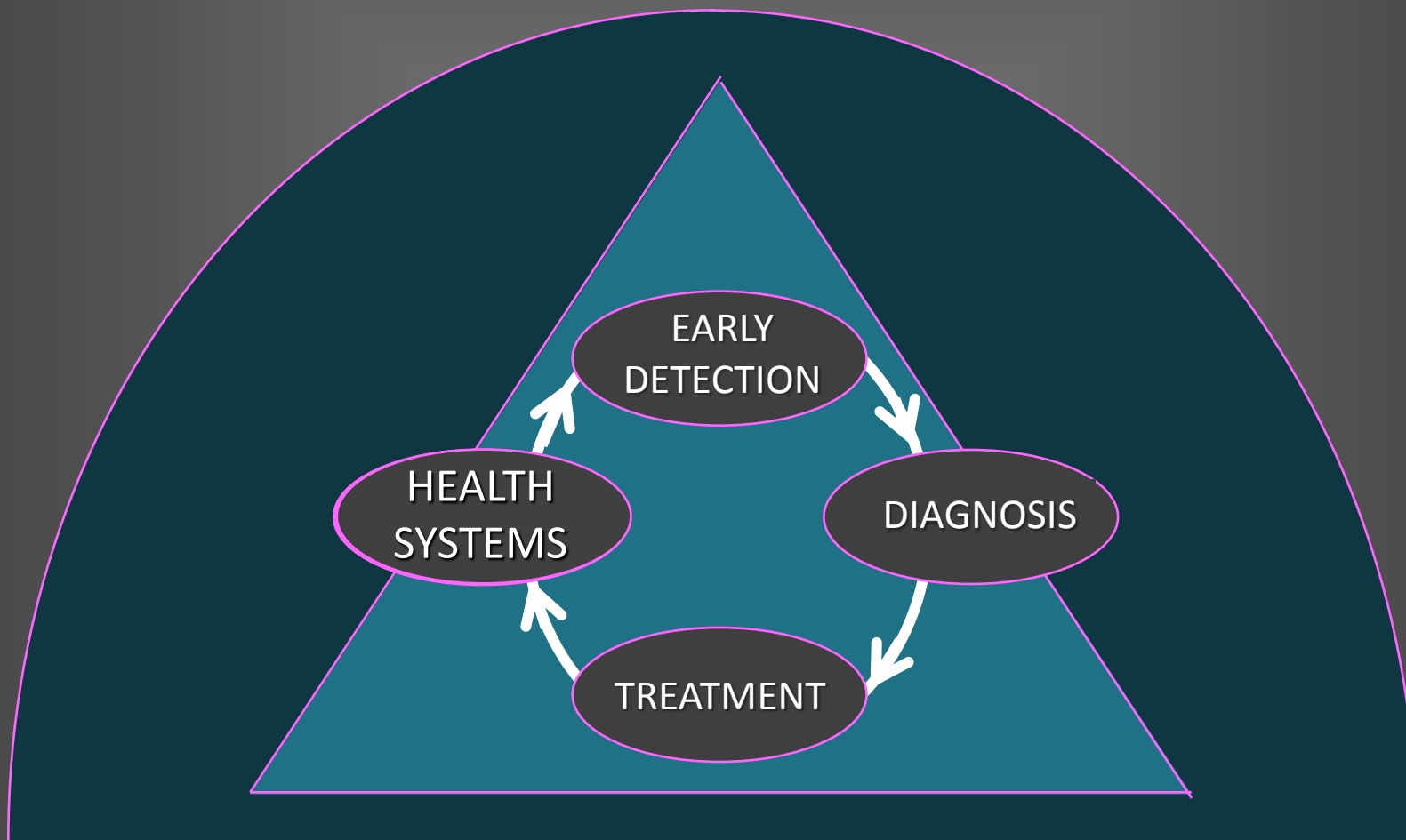


CANCER CONTROL STRATEGIES DISEASE-BASED APPROACH





CANCER CONTROL STRATEGIES COMPREHENSIVE PERSPECTIVE





U.S. CANCER INCIDENCE 2015 (EST.)

Females



Breast	231,840	29%
Lung & bronchus	105,590	13%
Colon & rectum	63,610	8%
Uterine corpus	54,870	7%
Thyroid	47,230	6%
Non-Hodgkin lymphoma	32,000	4%
Melanoma of the skin	31,200	4%
Pancreas	24,120	3%
Leukemia	23,370	3%
Kidney & renal pelvis	23,290	3%
All Sites	810,170	100%

SOURCE: Seigel Ca Cancer J Clin 65:5, 2015

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U.S. CANCER MORTALITY 2015 (EST.)

Females



Lung & bronchus	71,660	26%
Breast	40,290	15%
Colon & rectum	23,600	9%
Pancreas	19,850	7%
Ovary	14,180	5%
Leukemia	10,240	4%
Uterine corpus	10,170	4%
Non-Hodgkin lymphoma	8,310	3%
Liver & intrahepatic bile duct	7,520	3%
Brain & other nervous system	6,380	2%
All Sites	277,280	100%

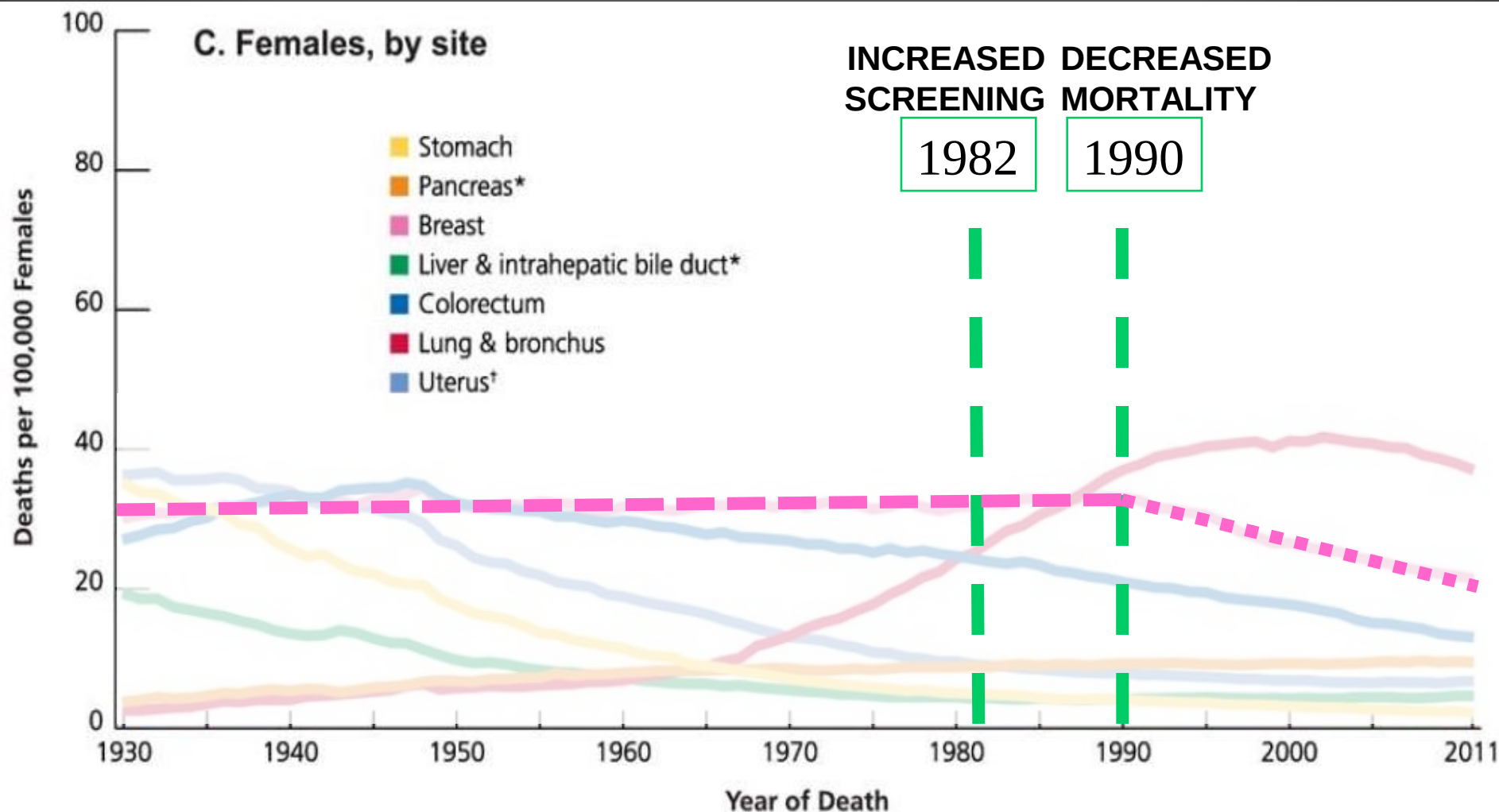
SOURCE: Seigel Ca Cancer J Clin 65:5, 2015

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U.S. CANCER MORTALITY 2015 (EST.)



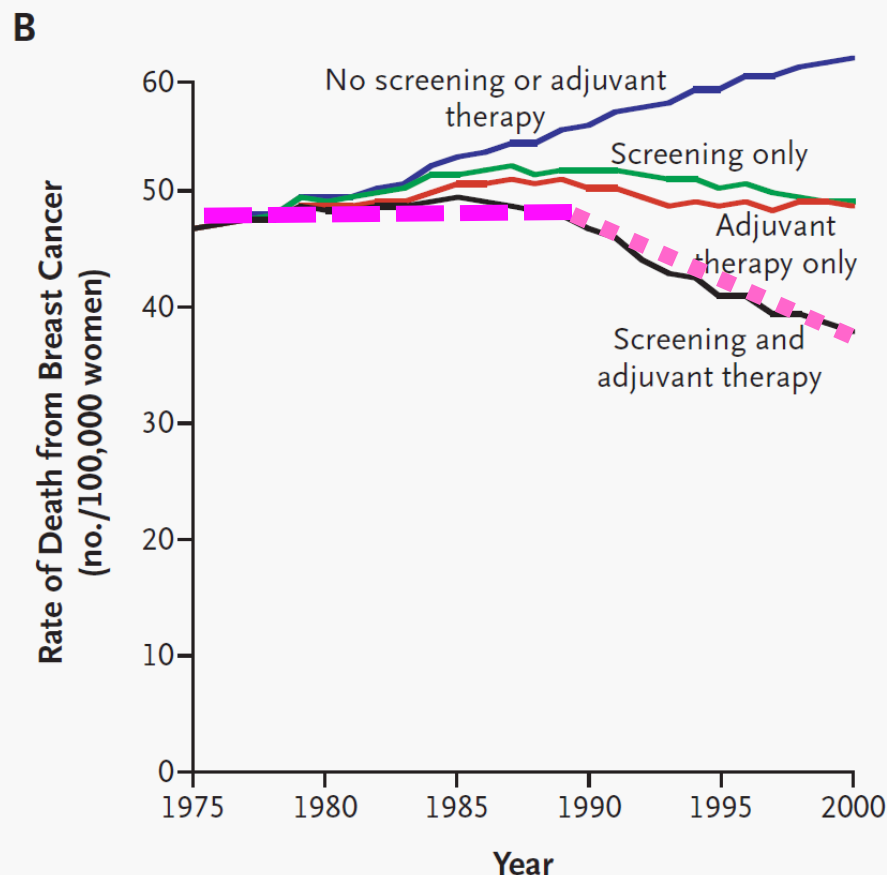
SOURCE: Seigel Ca Cancer J Clin 65:5, 2015



MORTALITY MODELING

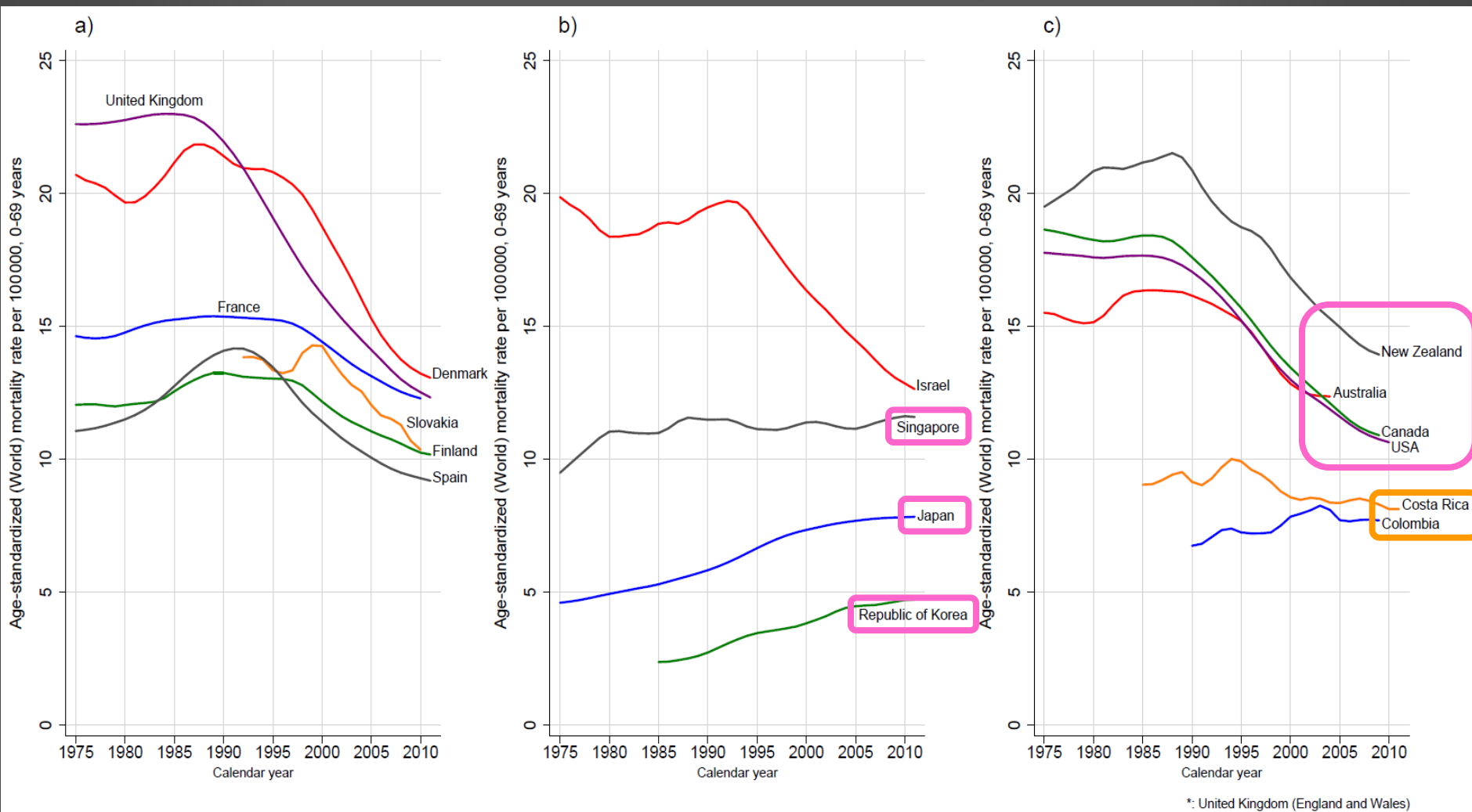
SCREENING AND ADJUVANT THERAPY

- Early detection is essential to improving outcome.
- Early detection works when followed by appropriate breast cancer treatment.
- To save lives, screening programs must be linked to timely, effective treatment.





BREAST CANCER DEATHS (1975-2011)



SOURCE: Globocan 2012 (IARC)



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THE LANCET **Oncology**

Volume 16 · Issue 11 · September 2015

www.thelancet.com/oncology

Global cancer surgery: delivering safe, affordable,
and timely cancer surgery



"Surgery is essential for global cancer care...[and] must be at the heart of global and national cancer control planning."



Reviewing the Lancet Oncology Commission

Global Cancer Surgery

Richard Sullivan MD PhD



44 commissioners from 29 countries

 KING'S HEALTH PARTNERS

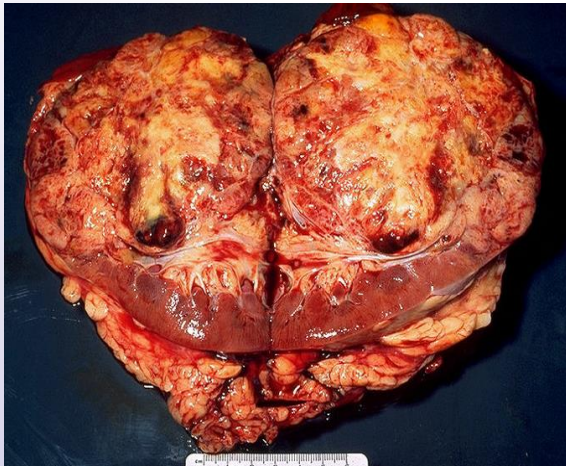


Program in Global Surgery and Social Change
HARVARD MEDICAL SCHOOL

Integrated Cancer Centre

Commission set out to understand issues and solutions to delivering affordable, safe and timely cancer surgery across all resource settings

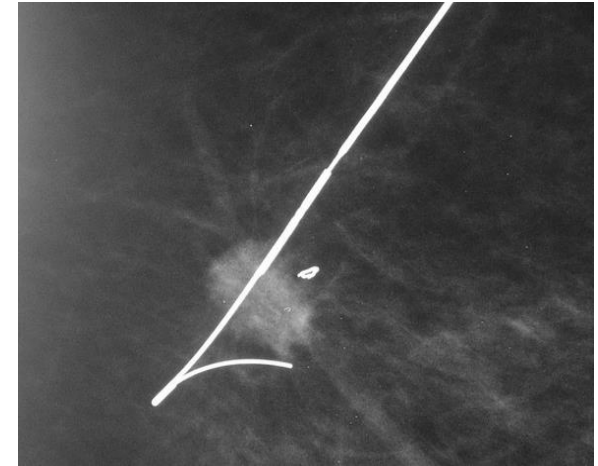
Pathology



Surgery-Anesthesia



Imaging



Always careful to recognise that surgery is a **SYSTEM**
'Surgical Trinity'
with **radiotherapy** and chemotherapy

This Commission built on the foundations of the Lancet Global Surgery Commission



What did we learn from Global Surgery 2030?

This focused on general surgery in low resource settings

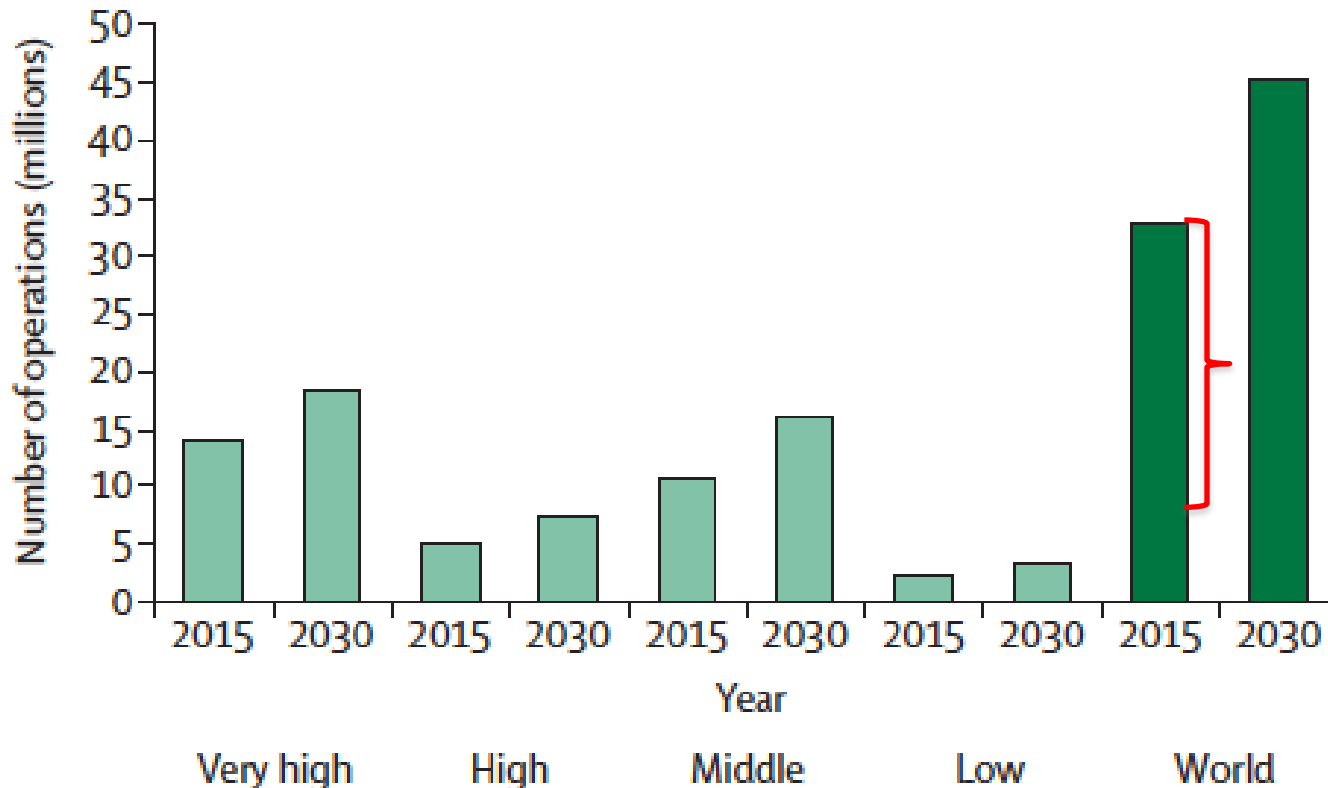
- **2/3rd** of the world's population cannot access safe surgery
- The **poorest 1/3rd** of the world's population receives only **6%** of procedures done globally
- **33 million people** every year face catastrophic expenditures paying for surgical care
- Investing in surgery saves lives, is affordable & promotes economic growth
- Surgery is an indivisible, indispensable part of health care

So, what were the findings of the
Global Cancer Surgery Commission?



KEY MESSAGE 1

Over 80% of 15.2 million people diagnosed with cancer worldwide in 2015 will need a surgical procedure at some point in their treatment



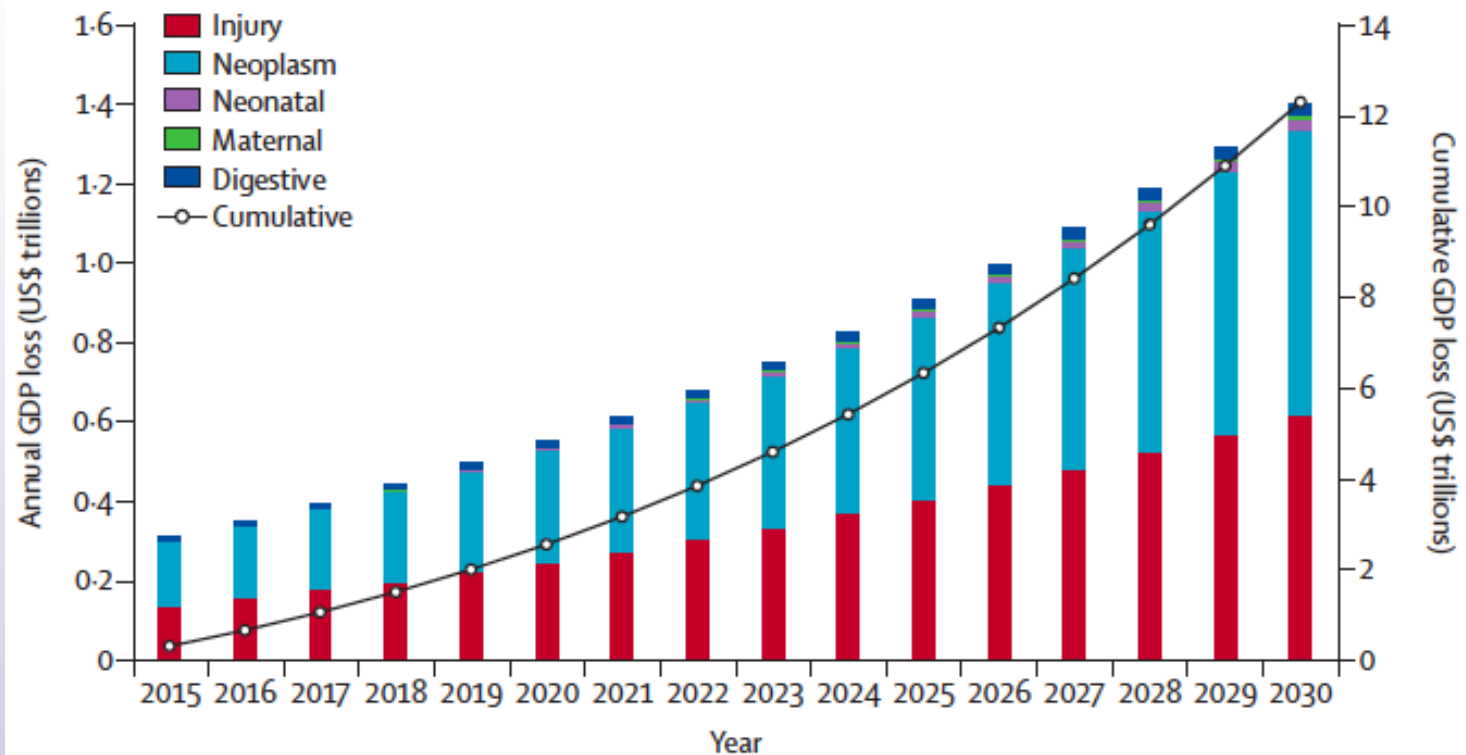
But at present $\frac{3}{4}$ of these procedures are -

- Not delivered
- Unsafe
- Not affordable

KEY MESSAGE 2

All countries are projected to lose 0.5 to 1.5% of GDP, annually, between now and 2030 if surgical systems for cancer are not strengthened

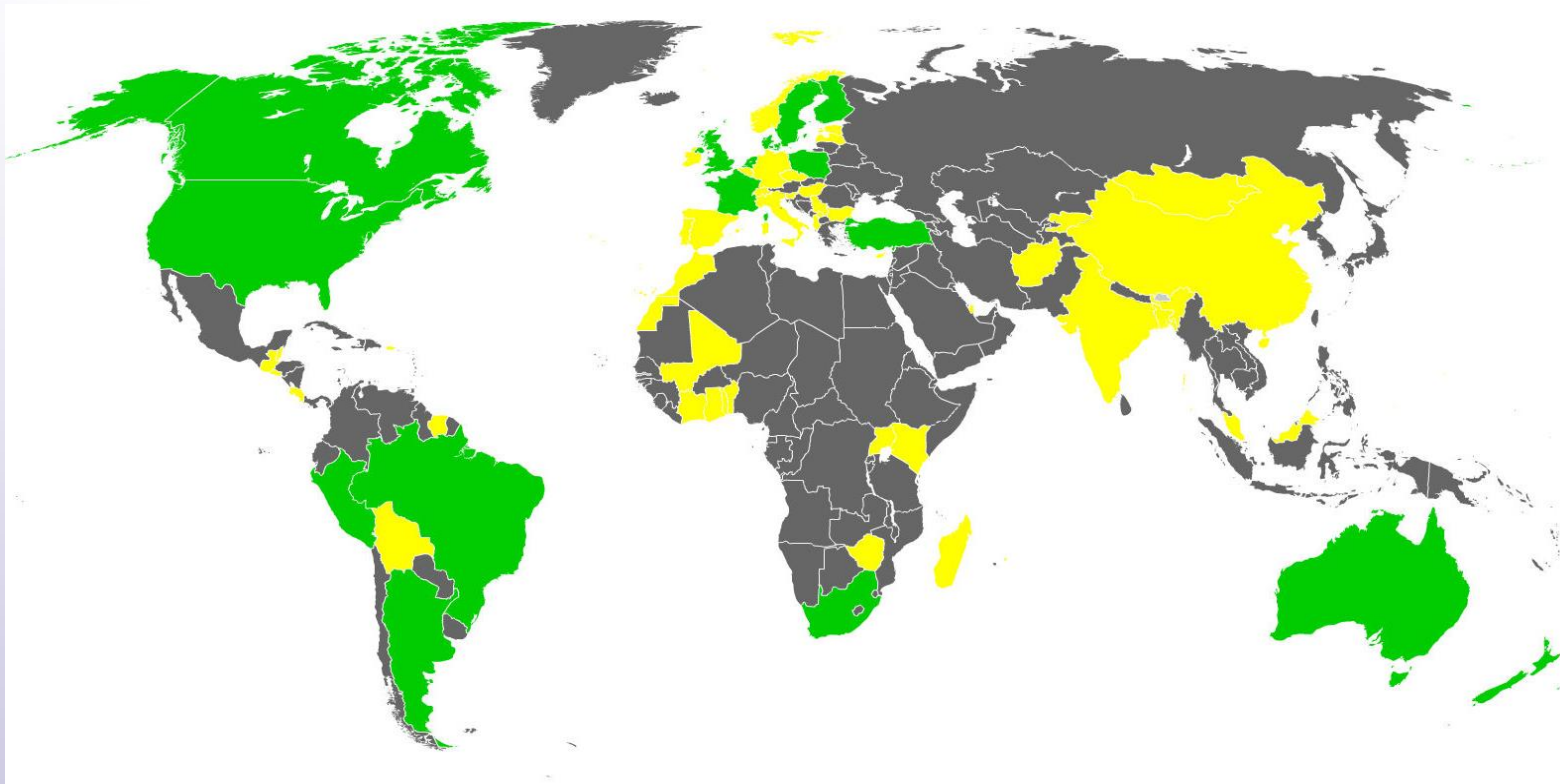
If we do nothing about strengthening cancer surgical systems, 6 trillion USD will be lost globally by 2030



KEY MESSAGE 3

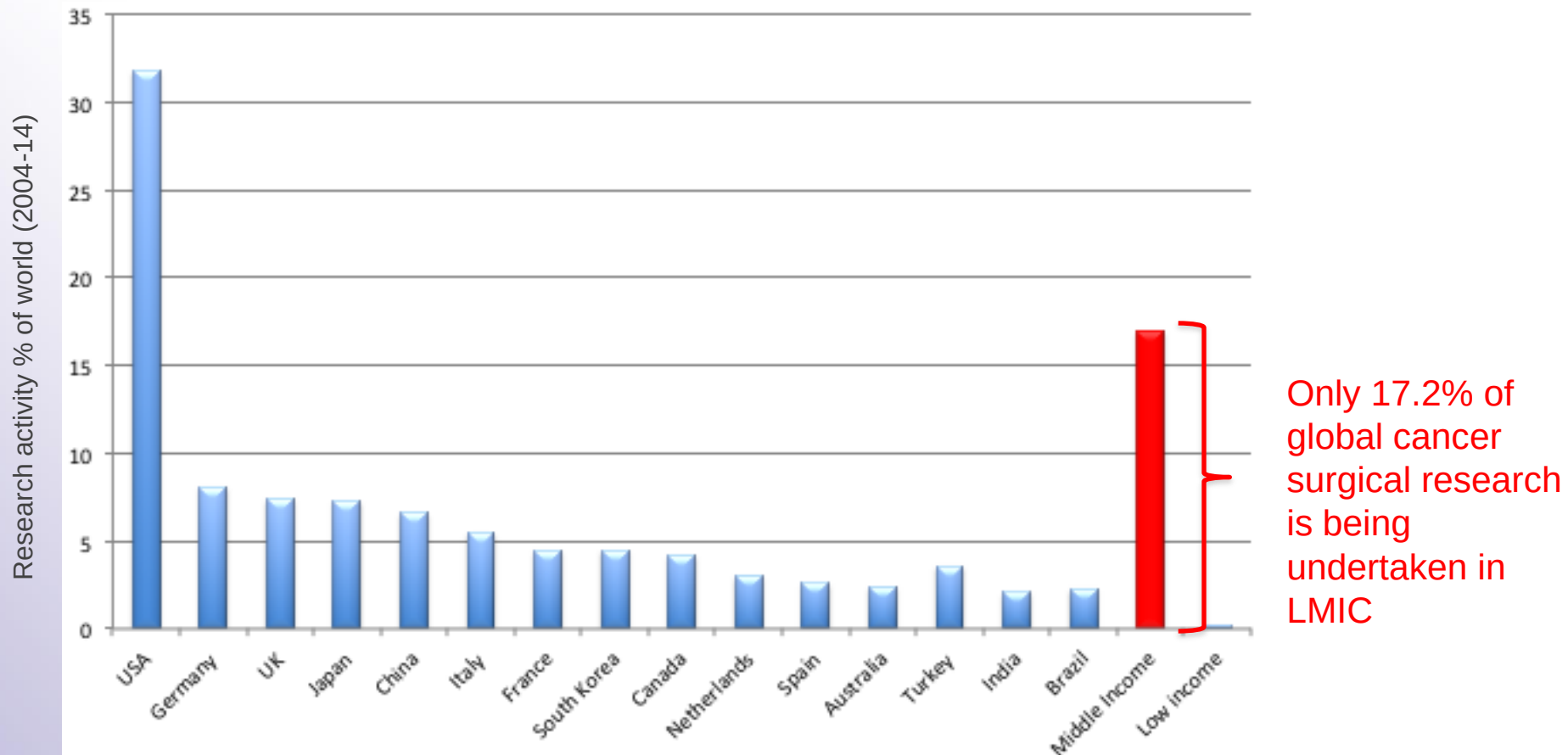
National cancer control plans must include the strengthening of surgical systems through investment in **public** sector infrastructure, education, and training

Only 9% of National Cancer Plans address surgery



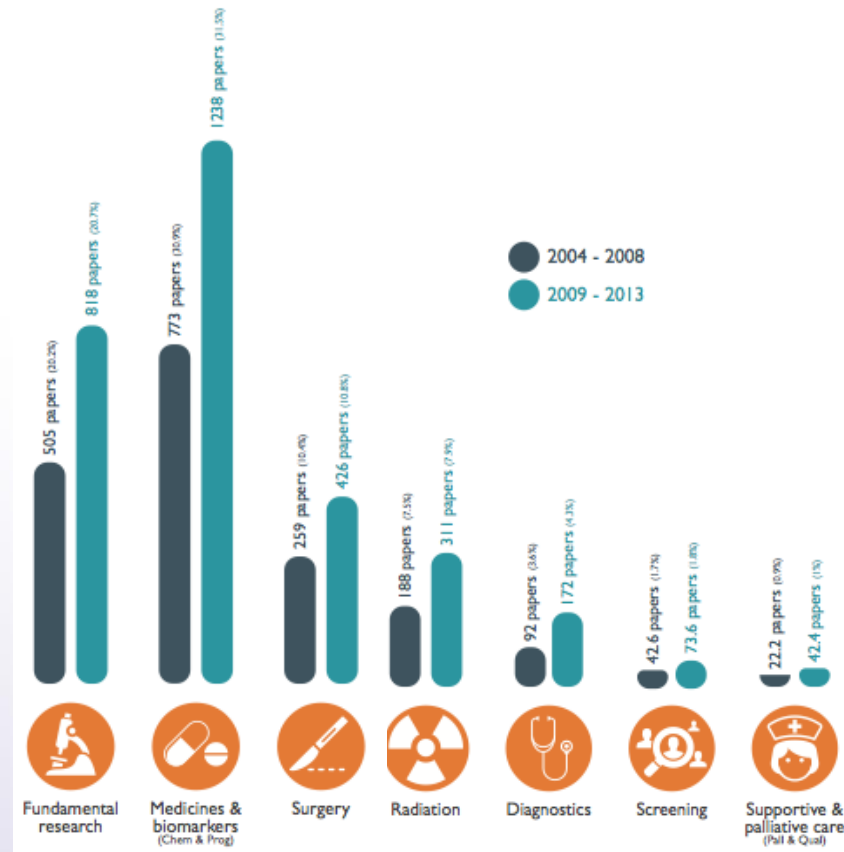
KEY MESSAGE 4

Less than 5% of global cancer research is devoted to surgery despite its huge effect on patient outcomes and its importance to personalised cancer medicine



KEY MESSAGE 5

Global cancer surgery needs to be a political priority for policy makers in countries, research funders, international organisations, and global alliances



Only around 9% of national and global initiatives, statements, etc. address cancer surgery.

What happened next?



Quality agenda for cancer surgery

SURCARE. Raising quality agenda in cancer surgical research (EORTC)

EURECCA. European Registry of Cancer Care or EUROPean CanCer Audit (ESSO)

Chile. Surgical services and quality

IAEA ImPACT. Assessing surgical services for cancer (Kenya as demonstrator).

India. Surgical pathology quality program led by National Cancer Grid of India

WHO. Technical specifications for medical devices

Better intelligence

- What is **access** to basic cancer surgical oncology? A study of 51 countries¹
- Global **research** into cancer surgery²
- The **cost** of cancer surgery: study of complex surgical costs in India³

Capacity and Capability

- **African** Research Group for Oncology Consortium: building capacity through research¹
- **Structural** approaches: pancreaticoduodenectomy in India – road to centralisation²
- Challenging traditional **training** methods – virtual reality simulation models for scaling up pelvic surgery for women's cancers in Zambia ³
- Resource **stratification** – BHGI⁴

Much more to be done

Intelligence for policymakers

- Insufficient national data
- Insufficient focus for major organisations

Quality agenda

- Surgical volume, minimum standard compliance
- Perioperative mortality
- Impact of technology on service delivery

Cancer surgery & universal health coverage

- Protection against impoverishing & catastrophic expenditure
- **Insurance that covers actual costs**
- Managed structural and organisational changes



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WORLD BANK COUNTRY GROUPS

WORLD BANK CLASSIFICATION (ATLAS METHOD)

World Bank Country Groups <i>(GNI per capita)</i>	Low Income <i>(\$995 or less)</i>	Lower Middle Income <i>(\$996 - \$3,945)</i>	Upper Middle Income <i>(\$3,946 - \$12,195)</i>	High Income <i>(\$12,196 or more)</i>
Average female life expectancy at birth	57.8 yrs	69.3 yrs	74.4 yrs	82.4 yrs
Average GNI per capita (2009 US dollars)	\$403	\$1,723	\$6,314	\$36,953
Total national health expenditure per capita	\$22	\$76	\$458	\$4,266
Fraction of GDP spent on health care	5.1%	4.3%	6.4%	11.2%

Health expenditure figures 2010 for calendar year 2007; GNI = gross national income

<http://data.worldbank.org/data-catalog/health-nutrition-and-population-statistics>.

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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 Psychotherapist & 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 [†] Consider mammographic screening every 12-18 months in women ages 40-49 [†]
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 [†]

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 [‡]	Diagnostic breast ultrasound (US) Pain chest and skeletal radiography Liver US Blood chemistry profile* Complete blood count (CBC)*	Determination of ER status by IHC [†] Determination of margin status, DCIS content, presence of LV [†] Frozen section or touch prep SLN analyses [§]
Enhanced	Image guided breast sampling Preoperative needle localization under mamm and/or US guidance SLN biopsy using radiotracer [‡]	Diagnostic mammography Specimen radiography Bone scan, CT scan Cardiac function monitoring	Measurement of HER-2/neu overexpression or gene amplification [§] 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*	
Limited	Breast conserving surgery† Sentinel lymph node (SLN) biopsy with blue dye‡		Classical CMF§ AC, EC, or FAC§		
Enhanced	SLN biopsy using radiotracer‡ 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		

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† AC, EC, or FAC†	Oophorectomy in premenopausal women Tamoxifen‡	
Limited	Breast conserving surgery† Sentinel lymph node (SLN) biopsy with blue dye‡	Postmastectomy irradiation of chest wall and regional nodes for high-risk cases*			
Enhanced	SLN biopsy using radiotracer‡ 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		

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		

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*			Oophorectomy in premenopausal women Tamoxifen‡	Nonopioid and opioid analgesics and symptom management
Limited		Palliative radiation therapy	Classical CMF‡ Anthracycline monotherapy or in combination‡		
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		

Cancer: 113 (8 suppl), 2008

Methods

1 Core Documents: 15 BHGI guidelines



2 Search Strategy

Google
scholar
(n = 1,132)

PubMed
(n = 46)

Scopus
(n = 662)

WEB OF KNOWLEDGESM
(n = 250)

Total
2,090

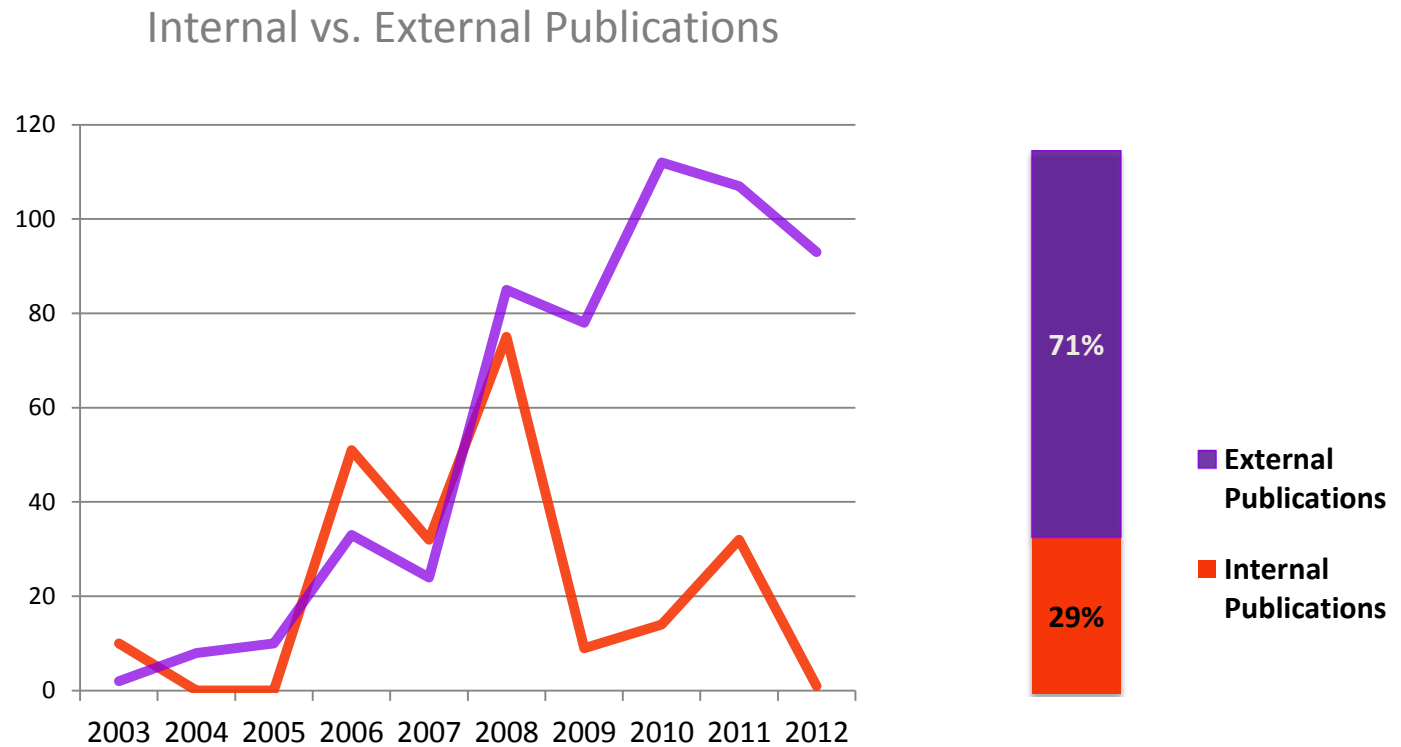
3 Inclusion and Exclusion Criteria

- ✓ Published between 2003 -2012
- ✓ Complete documents available online
- ✓ English – Spanish – Portuguese

Full-text articles assessed for eligibility → n= **776**

Findings

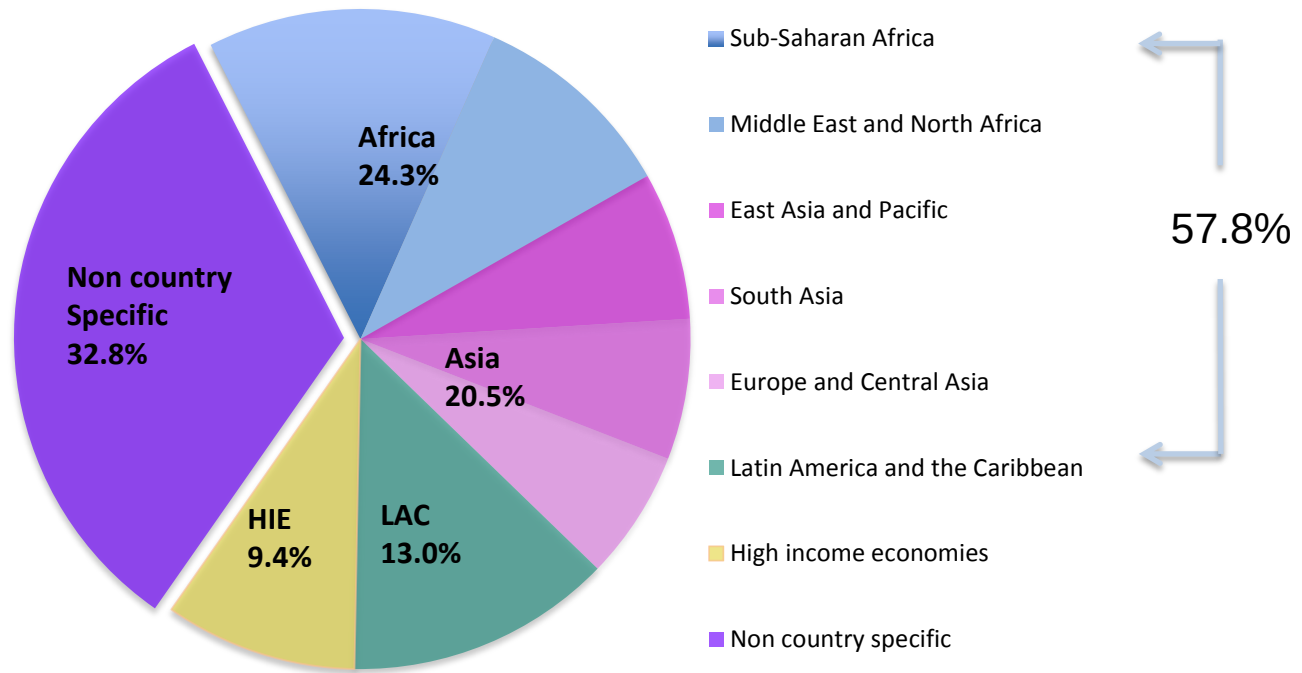
1. Extent of citations over time



Findings

3. Uptake of the BHGI guidelines by region

Articles referencing BHGI guidelines by region
external publications only (n= 552)





National
Comprehensive
Cancer
Network®

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

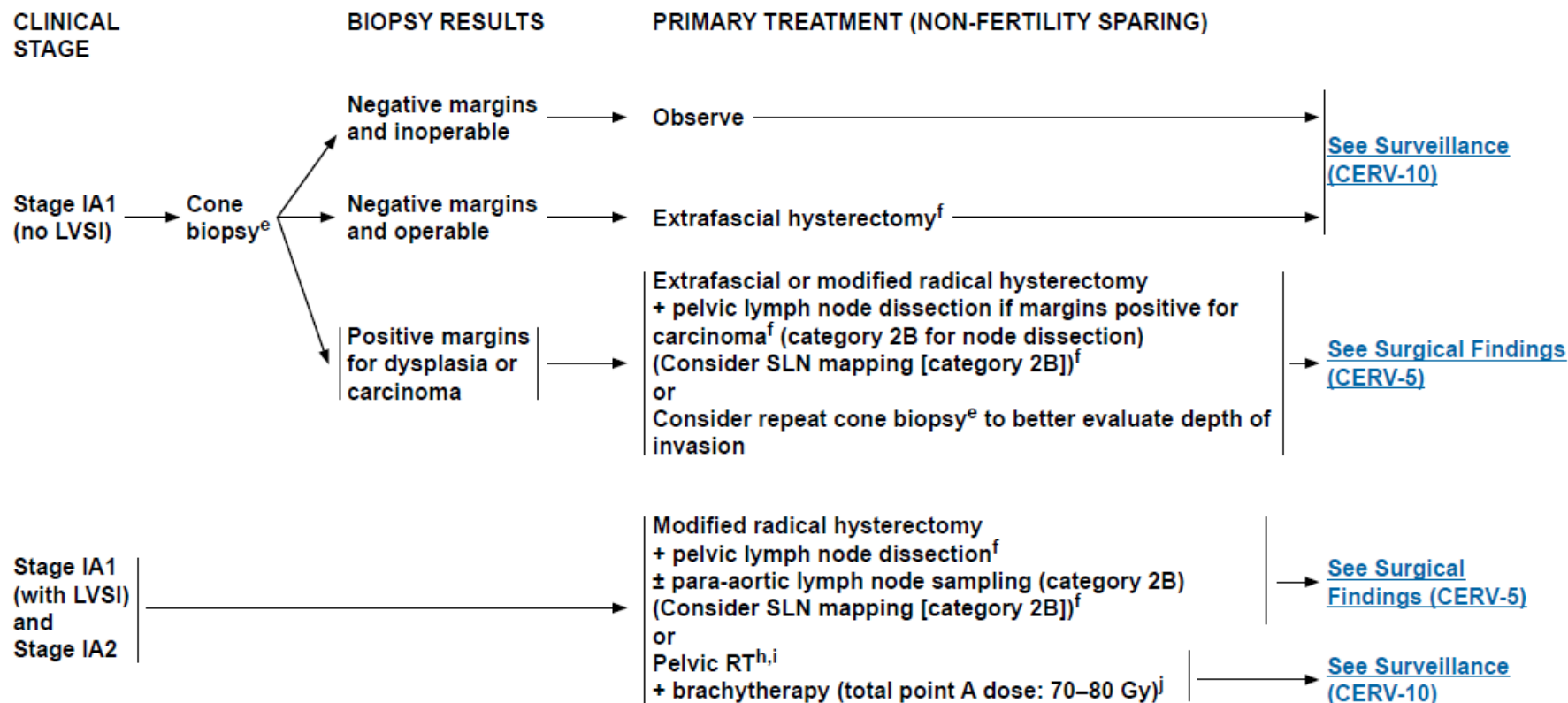
Cervical Cancer

Resource Stratification: Maximal Level

Version 2.2015

NCCN.org

Continue



^eCold knife conization (CKC) is the preferred method of diagnostic excision, but loop electrosurgical excision procedure (LEEP) is acceptable, provided adequate margins and proper orientation are obtained.

^fSee Principles of Evaluation and Surgical Staging (CERV-A).

^hRadiation can be an option for medically inoperable patients or those who refuse surgery.

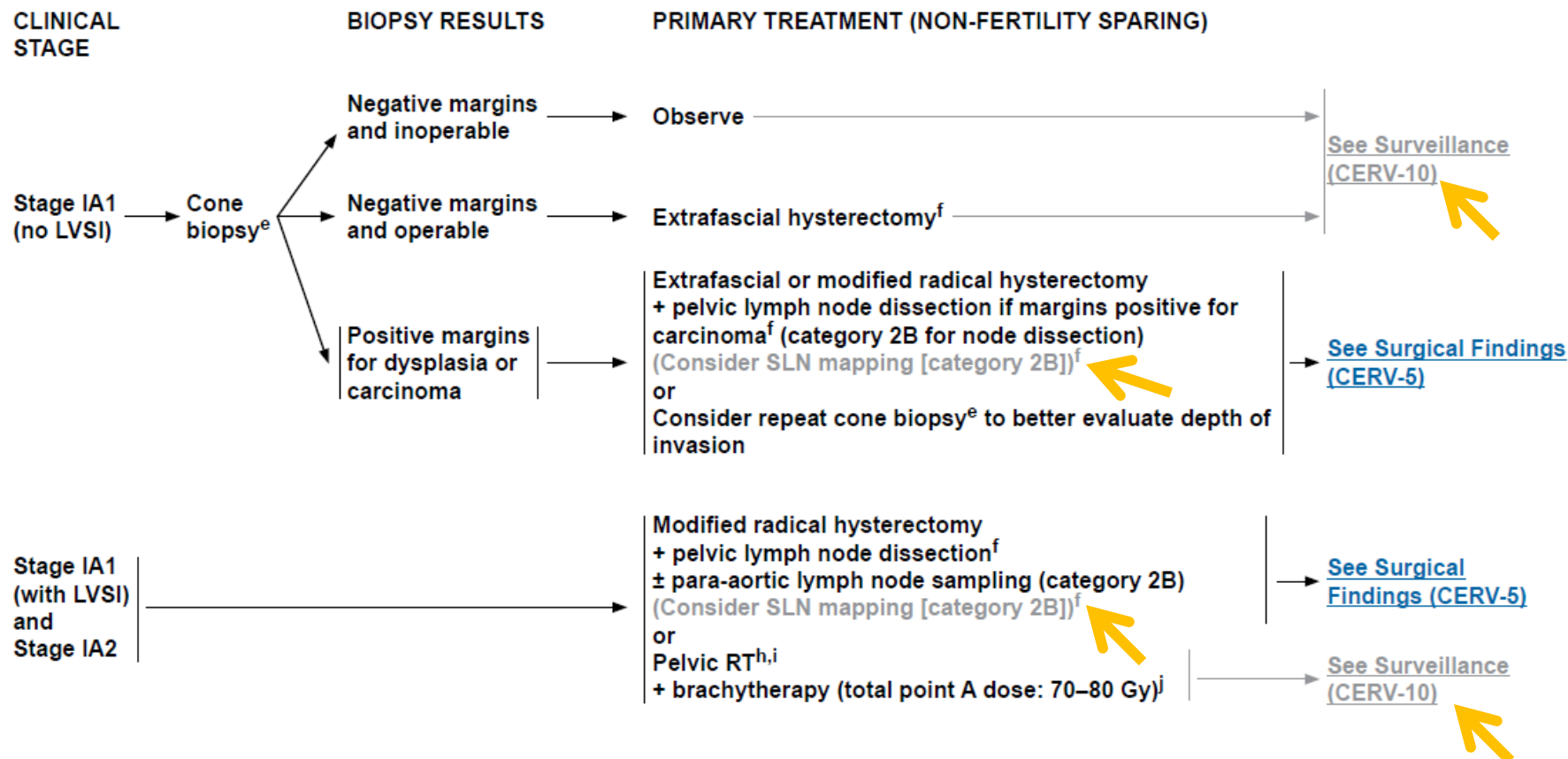
ⁱSee Principles of Radiation Therapy for Cervical Cancer (CERV-B).

^jThese doses are recommended for most patients based on summation of conventional external-beam fractionation and low-dose rate (40–70 cGy/h) brachytherapy equivalents. Modify treatment based on normal tissue tolerance. (See Discussion)

Note: 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.

In NCCN resource-stratified guidelines, “basic level” denotes the minimum level of cancer-specific treatment needed to achieve a measurable level of effectiveness. If higher-level resources are available, providers should use the higher level. If basic level cancer treatments or higher are unavailable, palliative and best supportive care should be provided.



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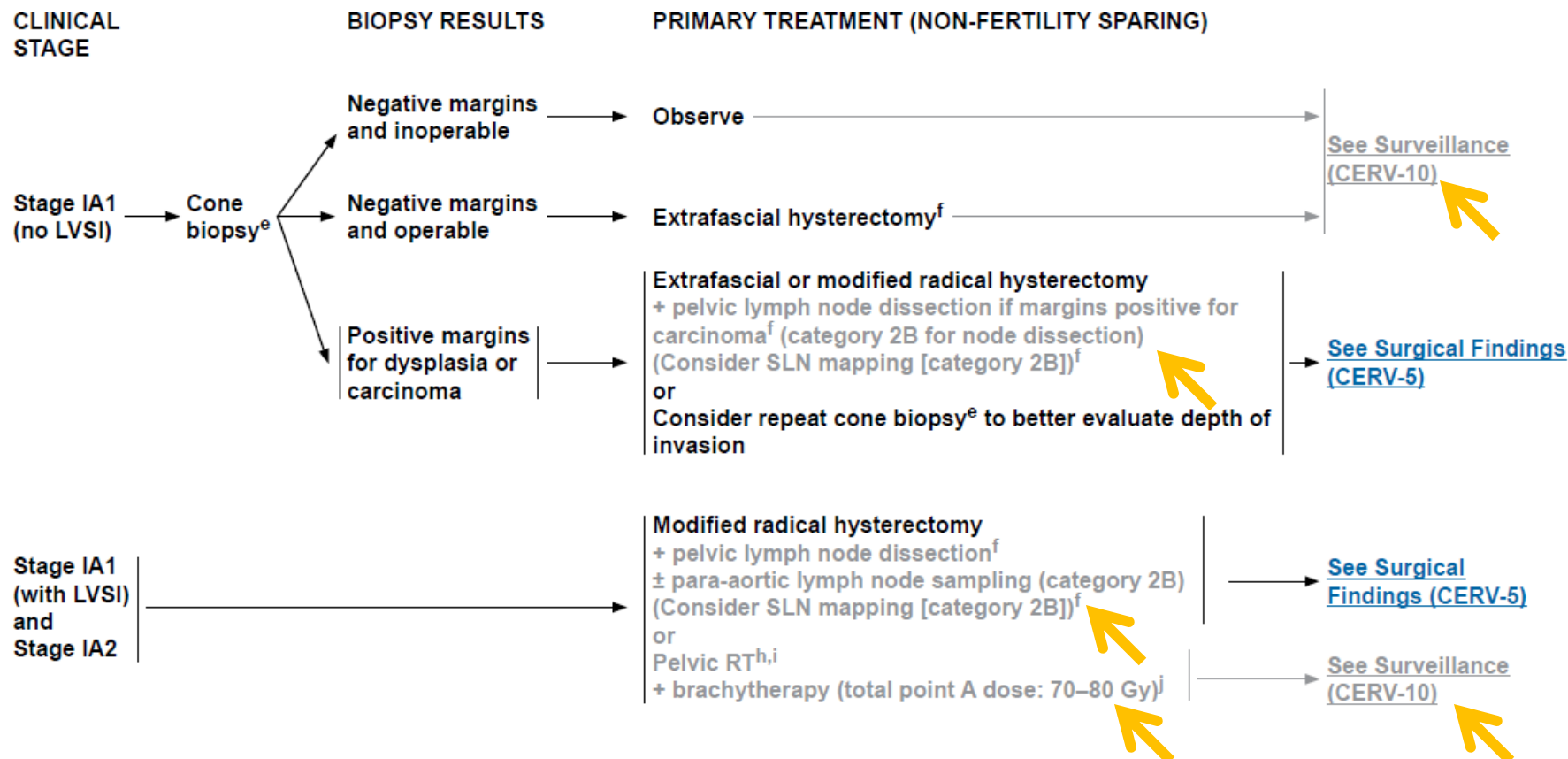
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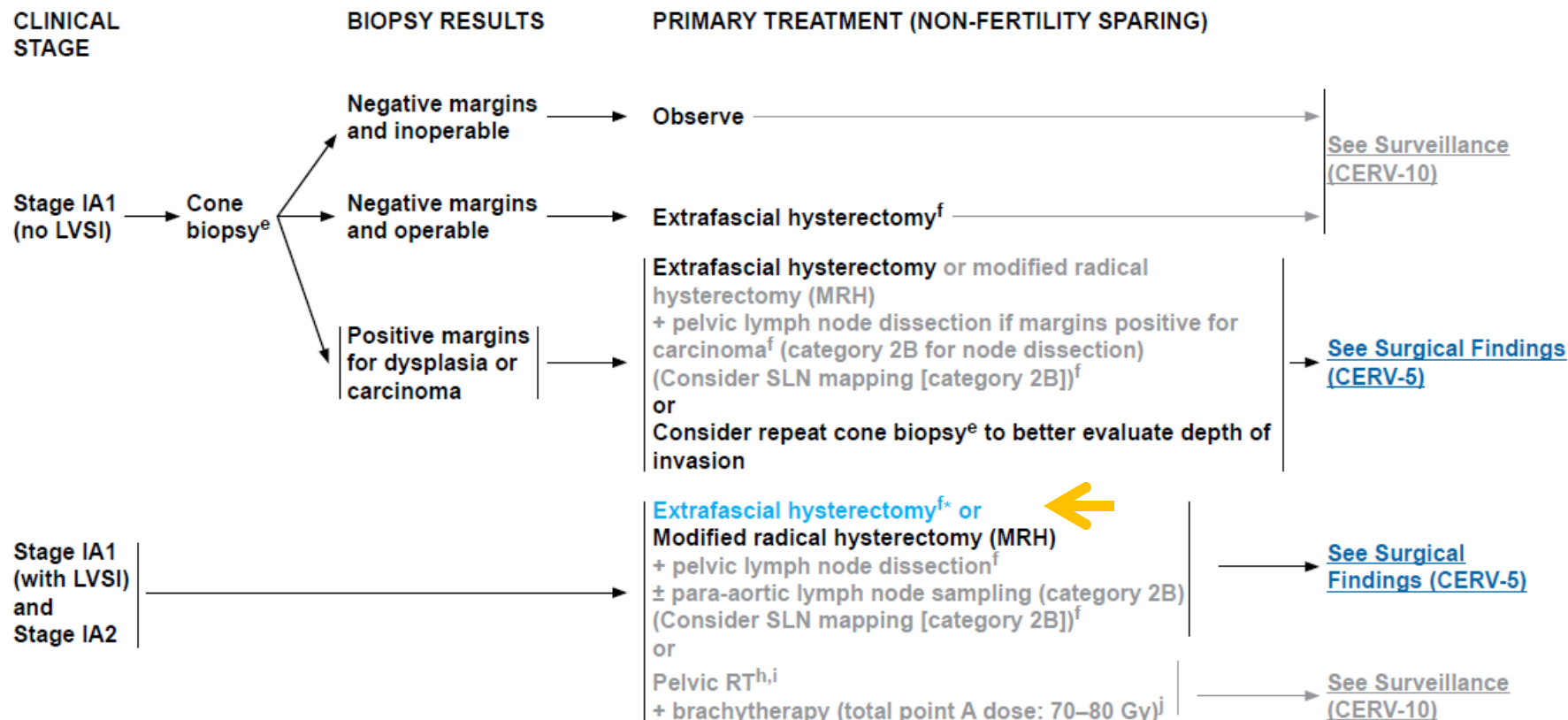
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*Extrafascial hysterectomy if resources not available for modified hysterectomy.

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^fSee Principles of Evaluation and Surgical Staging (CERV-A).

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ⁱSee Principles of Radiation Therapy for Cervical Cancer (CERV-B).

^jThese doses are recommended for most patients based on summation of conventional external-beam fractionation and low-dose rate (40–70 cGy/h) brachytherapy equivalents. Modify treatment based on normal tissue tolerance. (See Discussion)

Note: 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.

In NCCN resource-stratified guidelines, “basic level” denotes the minimum level of cancer-specific treatment needed to achieve a measurable level of effectiveness. If higher-level resources are available, providers should use the higher level. If basic level cancer treatments or higher are unavailable, palliative and best supportive care should be provided.



RESOURCE-STRATIFIED GUIDELINES

- Global Cancer Trends
- Lancet Oncology Commission
- Adapting to Existing Resources
- Analytic Tool Development
- Strategic Implementation



RESOURCE-STRATIFIED GUIDELINES

- Global Cancer Trends
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- Strategic Implementation

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

Susan G. Komen for the Cure

American Cancer Society

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)

1. Outreach to raise awareness and build relationships;
2. Development of analysis and implementation tools;
3. Global Breast Health Analytics Map (GloBAM);
4. Baseline assessments / situation analysis;
5. Breast cancer action plans (BCAP); and
6. BCI2.5 Master Courses;
7. Technical assistance and implementation research.

Global Breast Health Analytics Map (GloBAM)
Map
Compare
Download
Data Sources
About

Statistic: Breast cancer mortality (cumulative risk)
Click on a country to view details. Zoom with icons to left of map. Use drop-down menu to map a different statistic.

Global Breast Health Analytics Map (GloBAM)
Map
Compare
Download
Data Sources
About

Statistic: Breast cancer incidence (age standardized rate)
Click on a country to view details. Zoom with icons to left of map. Use drop-down menu to map a different statistic.

Ghana Snapshot

ISO Code	GH
WHO Defined Region	Sub-Saharan Africa
Income Status	Lower middle income
Breast cancer incidence (cumulative risk)	2.72
Avg of all Sub-Saharan Africa countries	2.79
Avg of all lower middle income countries	3.31

[Ghana details...](#)
[Compare Ghana...](#)

Close

Global Breast Health Analytics Map (GloBAM)
Map
Compare
Download
Data Sources
About

What would you like to compare? Countries Statistics

Health expenditure per capita (current US\$)
Breast cancer incidence (age standardized rate)
Breast cancer mortality (cumulative risk)
Compare Statistics
Clear

Comparison* of [Health expenditure per capita \(current US\\$\)](#), [Breast cancer incidence \(age standardized rate\)](#), and [Breast cancer mortality \(cumulative risk\)](#)

Country	Health expenditure per capita (current US\$)	Breast cancer incidence (age standardized rate)	Breast cancer mortality (cumulative risk)
Afghanistan	54.96	35.10	2.31
Albania	239.58	53.90	1.68
Algeria	313.52	48.50	1.86
Angola	267.22	23.50	1.30
Argentina	1074.07	71.20	2.24
Armenia	158.62	74.10	2.78
Australia	6109.82	86	1.48
Austria	5427.26	68	1.51
Azerbaijan	436.02	25.40	0.97
Bahamas	1620.68	98.90	2.71
Bahrain	1067.20	42.50	1.19
Bangladesh	31.63	21.70	1.15
Barbados	1007.22	94.70	2.41
Belarus	462.88	45.90	1.67
Belgium	5092.60	111.90	2.22

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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



KNOWLEDGE SUMMARY

PREVENTION: BREAST CANCER RISK FACTORS AND PREVENTION



KNOWLEDGE SUMMARY

EARLY DETECTION: BREAST HEALTH AWARENESS AND EARLY DETECTION STRATEGIES



KNOWLEDGE SUMMARY

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



About this Knowledge Summary (KS):

This summary covers planning for breast cancer programs, including important concepts, knowledge summaries and evidence.

About this Knowledge Summary (KS):

This summary covers the preventive approach to breast cancer, including surgery and lifestyle modifications for breast cancer and counseling are also discussed.

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.

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.

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 Detection: Signs and Symptoms summary. A discussion of breast cancer mammographic screening is provided in the Early Detection: Screening Programs for Breast Cancer summary.

KNOWLEDGE SUMMARIES

KNOWLEDGE SUMMARY

EARLY DETECTION (2 OF 3): BREAST PHYSIOLOGY AND THE CLINICAL BREAST EXAM (CBE)



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.

KNOWLEDGE SUMMARY

EARLY DETECTION (2 OF 3): BREAST PHYSIOLOGY AND THE CLINICAL BREAST EXAM (CBE)

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 departments: obstetrics-gynecology, pediatrics and general surgery.
- ☐ **Tertiary-level hospital** - highly specialized staff and technical equipment. Clinical services include 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 quality of life.

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. If you provide 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 * must provide value	☐	☐	☐	☐
Breast imaging for screening (i.e. mammogram, ultrasound) * must provide value	☐	☐	☐	☐
Breast imaging for diagnosis * must provide value	☐	☐	☐	☐
Pathology * must provide value	☐	☐	☐	☐
Breast surgery * must provide value	☐	☐	☐	☐
Radiation therapy for symptom control (i.e., bone metastases) * must provide value	☐	☐	☐	☐
Chemotherapy * must provide value	☐	☐	☐	☐
Endocrine therapy (e.g., tamoxifen, aromatase inhibitors) * must provide value	☐	☐	☐	☐
Biological therapy (e.g. trastuzumab) * must provide value	☐	☐	☐	☐
Multidisciplinary care * must provide value	☐	☐	☐	☐
Psychosocial support for cancer patients and family members (individual or group) * must provide value	☐	☐	☐	☐
Palliative care/pain management * must provide value	☐	☐	☐	☐
Rehabilitation of cancer patients * must provide value	☐	☐	☐	☐
Follow-up of cancer patients * must provide value	☐	☐	☐	☐
Medical record keeping * must provide value	☐	☐	☐	☐
Cancer registry * must provide value	☐	☐	☐	☐
Physician training in breast health care * must provide value	☐	☐	☐	☐
Patient education/outreach * must provide value	☐	☐	☐	☐

A MODELING FRAMEWORK TO PRIORITIZE INTERVENTIONS FOR BREAST CANCER CONTROL

Ruth Etzioni

Jeanette Birnbaum

Catherine Duggan

Benjamin Anderson



FRED HUTCH
CURES START HERE

Three Modeling Steps

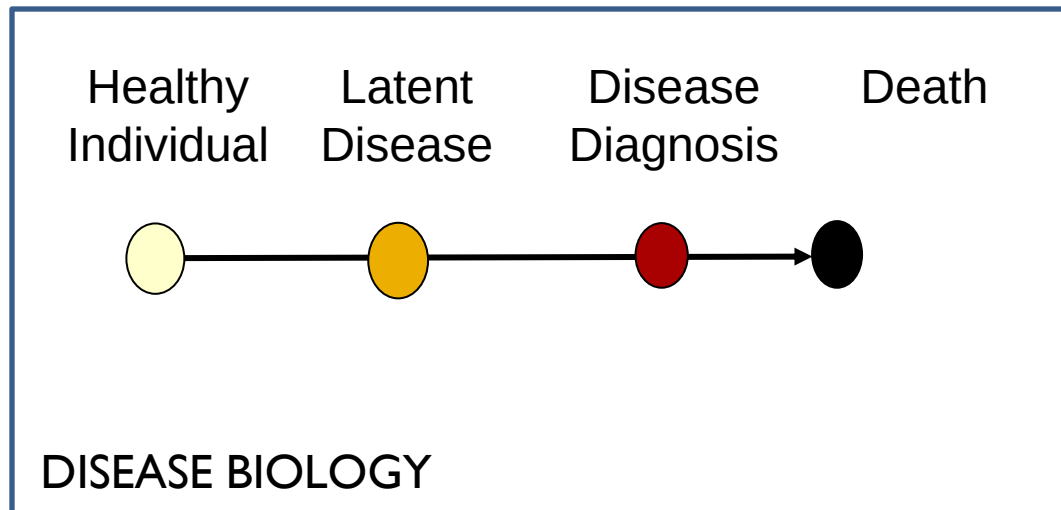
Decouple effect of screening from effect of treatment

– ***Effect of screening***

- Reduce frequency of advanced disease
- (Additionally) May improve survival of localized disease

– ***Effect of treatment***

- Improve stage-specific survival



Three Modeling Steps

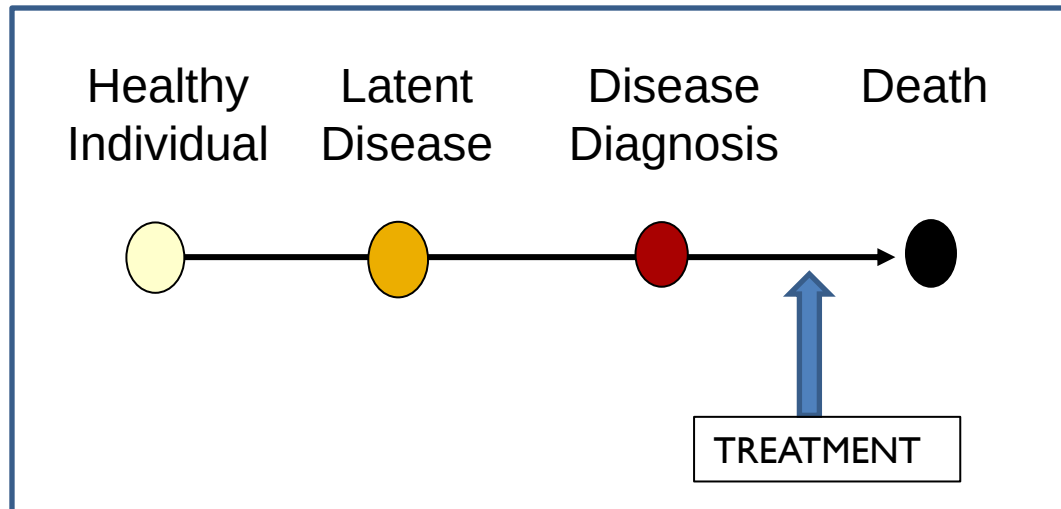
Decouple effect of screening from effect of treatment

– ***Effect of screening***

- Reduce frequency of advanced disease
- (Additionally) May improve survival of localized disease

– ***Effect of treatment***

- Improve stage-specific survival



Three Modeling Steps

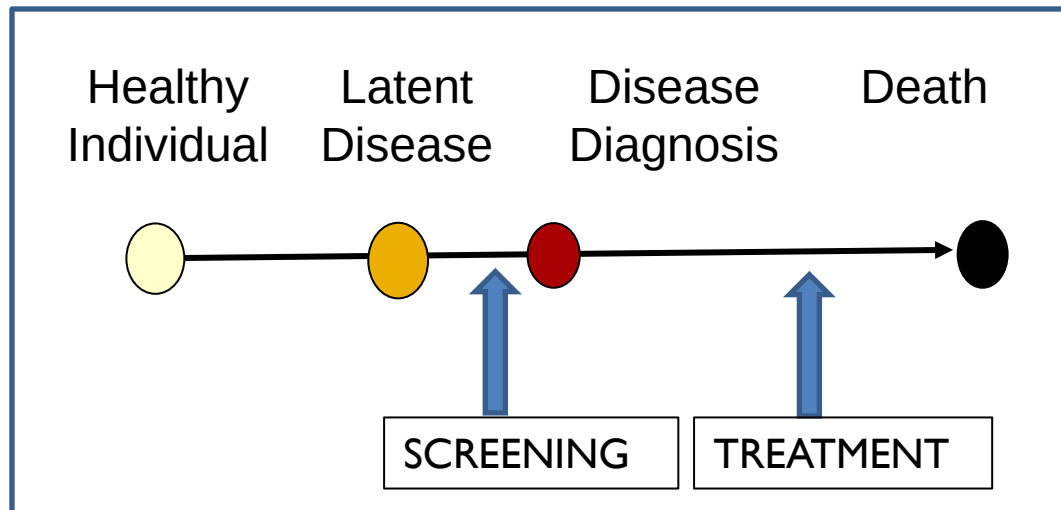
Decouple effect of screening from effect of treatment

– ***Effect of screening***

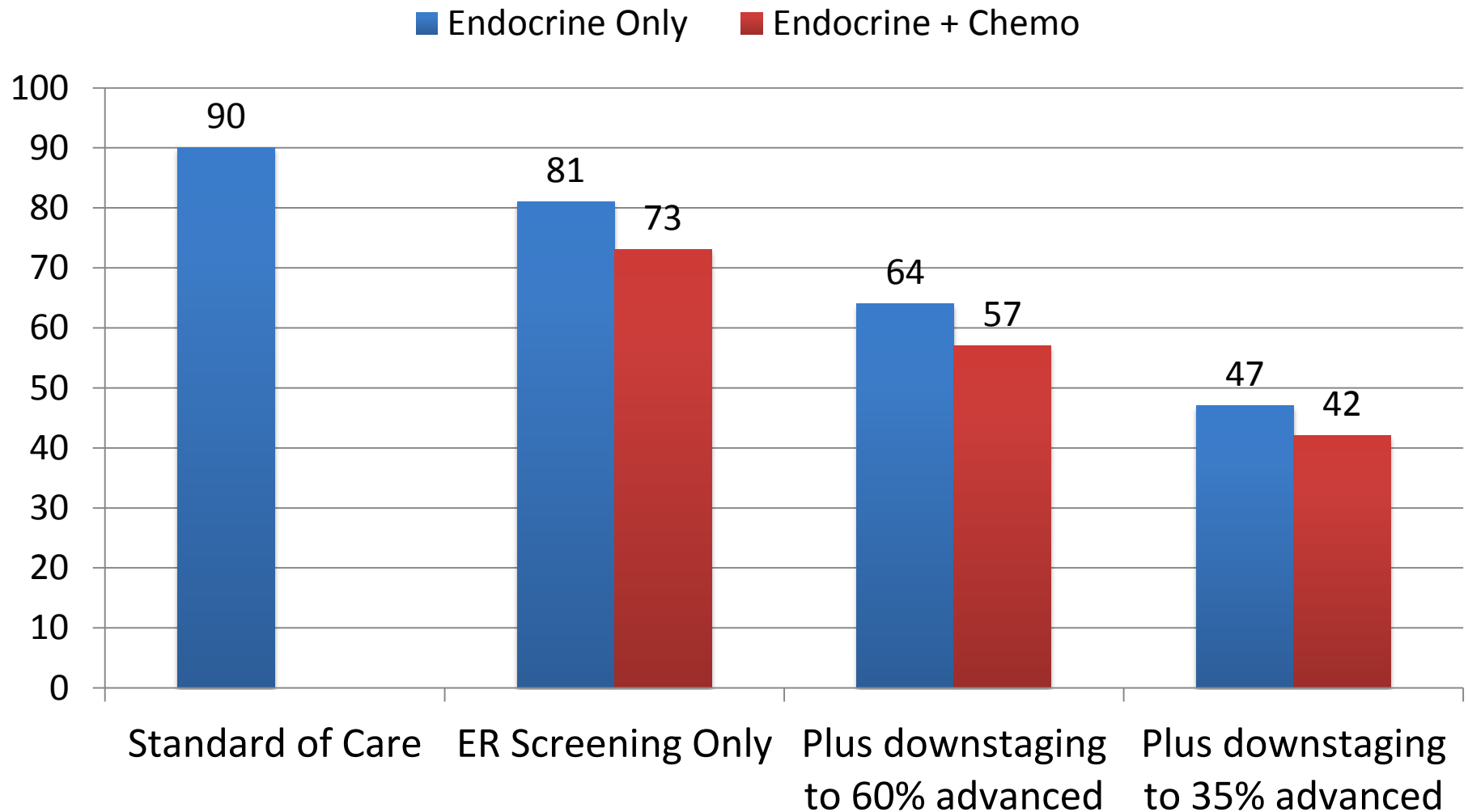
- Reduce frequency of advanced disease
- (Additionally) May improve survival of localized disease

– ***Effect of treatment***

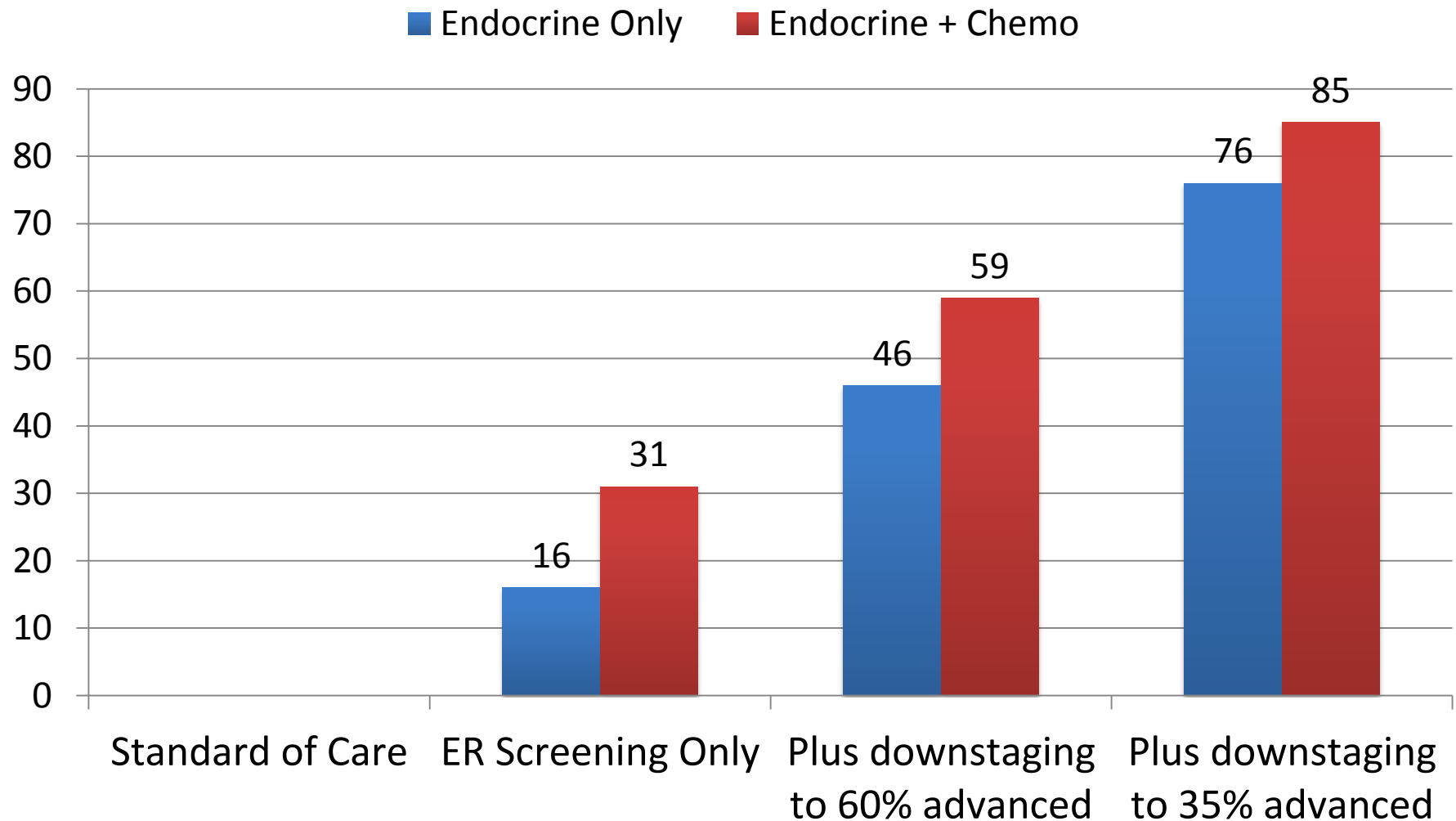
- Improve stage-specific survival



Tanzania: Breast Ca Mortality after 5 years per 100,000 ages 30-49



Tanzania: Years of Life Saved after 5 years per 100,000 ages 30-49





RESOURCE-STRATIFIED GUIDELINES

- Global Cancer Trends
- Lancet Oncology Commission
- Adapting to Existing Resources
- Analytic Tool Development
- Strategic Implementation



RESOURCE-STRATIFIED GUIDELINES

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- Analytic Tool Development
- Strategic Implementation

LMC IMPLEMENTATION RESEARCH

LOWER-MIDDLE INCOME COUNTRY





The Breast Health Global Initiative

BCI2.5



Vietnam Situation Analysis - 2011

“K Hospital”
Hanoi, Vietnam



Vietnam Situation Analysis - 2011

"K Hospital"
Hanoi, Vietnam



The Breast Health Global Initiative

BCI2.5



Vietnam Situation Analysis - 2011

KHU XẠ TRỊ GIA TỐC KỸ THUẬT CAO
HIGH TECHNICAL ACCELERATOR RADIO THERAPY CENTER

“K Hospital”
Hanoi, Vietnam

BREAST CANCER EPIDEMIOLOGY

UPPER-MIDDLE INCOME COUNTRY



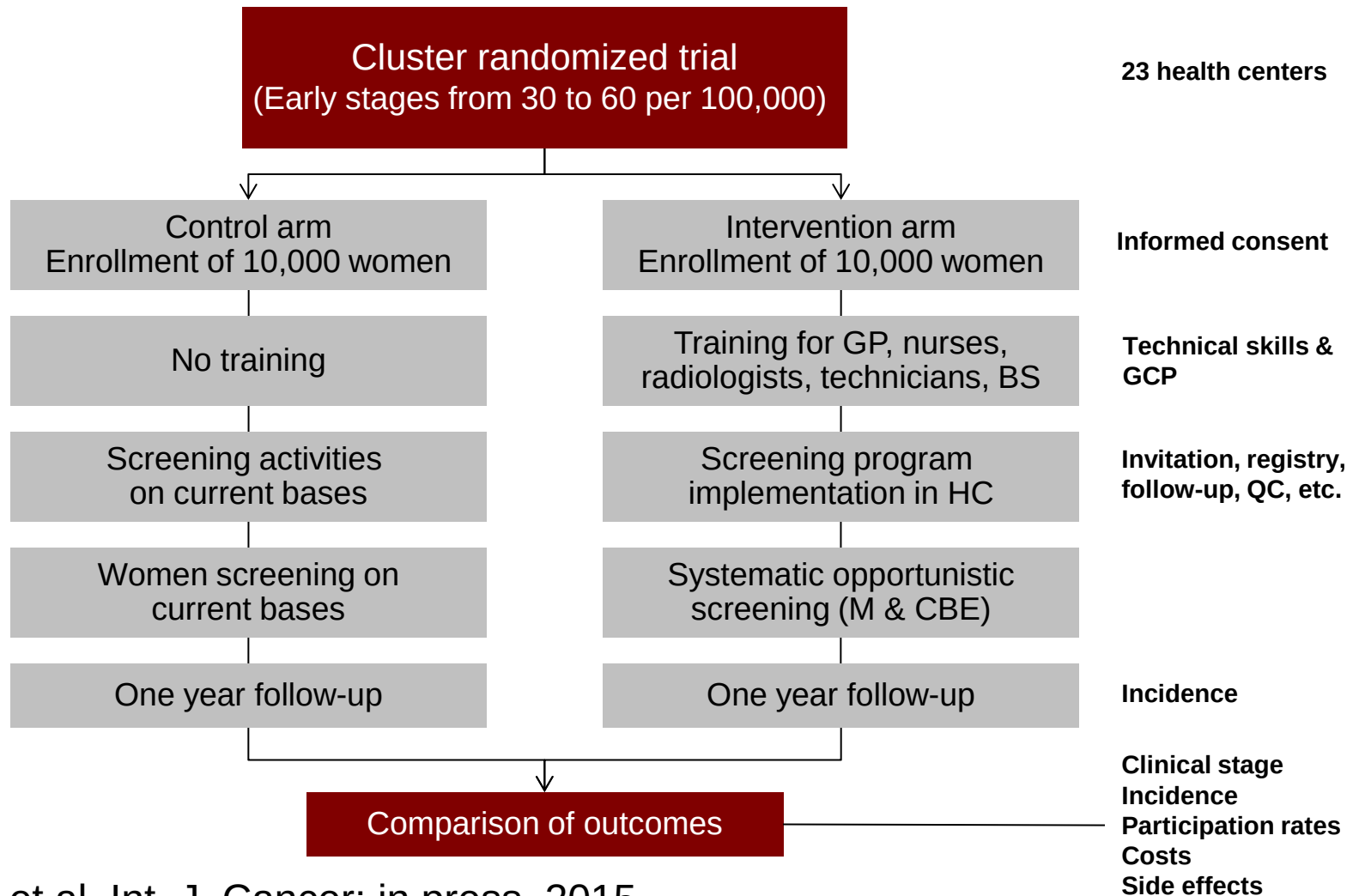
Colombia

National Early Detection Program

www.bhgi.info

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Study design for early detection of breast cancer in women 50 to 69



Final Cancer Diagnosis by Stage

		Intervention		Control		Total
Category	Stage	Year 1	Year 2	Year 1	Year 2	
Early	In situ	3 (14.3%)	1 (50.0%)	0	0	4
	I	9 (42.9%)	1 (50.0%)	1 (7.7%)	2 (40%)	13
	IIA	3 (14.3%)	0	5 (38.5%)	1 (20%)	9
Advanced	IIB	3 (14.3%)	0	5 (38.5%)	2 (40%)	10
	IIIA	1 (4.8%)	0	0	0	1
	IIIB	2 (9.5%)	0	2 (15.4%)	0	4
Total		21	2	13	5	41

Clinical Stage by Type of Surgery

		Type of surgery received			Total
Category	Stage	None	Breast Conservation Surgery (BCS)	Mastectomy	
Early	In situ	0	4 (16.7%)	0	4
	I	0	10 (41.7%)	3 (23.1%)	13
	IIA	0	4 (16.7%)	5 (38.5%)	9
Advanced	IIB	1 (33.3%)	6 (25.0%)	2 (15.4%)	10
	IIIA	0	0	1 (7.7%)	1
	IIIB	2 (66.7%)	0	2 (15.4%)	4
Total		3	24	13	41

LMC IMPLEMENTATION RESEARCH

LOWER-MIDDLE INCOME COUNTRY



Early Detection and Patient Triage

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Breast cancer care model



Photos courtesy of Ben Anderson

Regional Cancer Institute
(Trujillo)



La Fora Reference Hospital



Health Centers

- Mammography
- Pathology
- Surgery
- Chemotherapy
- Radiotherapy

- FNA

- Community education
- CBE

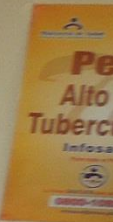


Slide used with permission from

Two phases

- **Phase 1:**
 - Pilot demonstration of the model of care.
- **Phase 2:**
 - National scale-up of the model.
 - Integration of post-treatment support for patients:
 - Clinical support at the local level for women who need follow-up care and monitoring.
 - Psychosocial support in the community.

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



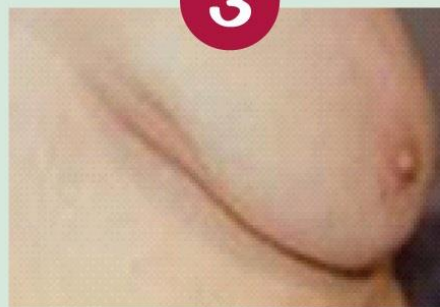
Hinchazón, calor, oscurecimiento o enrojecimiento de la mama.

2



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

3



Hoyuelos o arrugas en la piel.

4



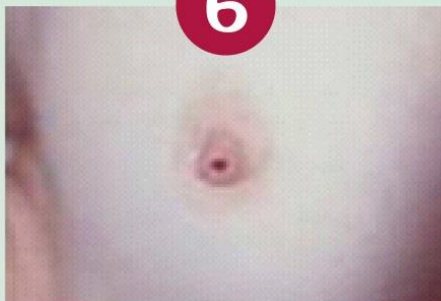
Picazón, úlceras o llaga escamosa en la piel o sarpullido en el pezón.

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 ☐ Si, en una sesión educativa en el establecimiento de salud ☐ Si, en una sesión educativa en mi comunidad ☐ Si, a través del contacto individual con el promotor ☐

ANAMNESIS

Motivo de consulta: Por tamizaje ☐ Por síntomas mamarios ☐ Por referencia ☐

Síntomas _____

_____ D / M / A _____ Duración _____

Relación con ciclo menstrual: Si ☐ 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: Si ☐ NO ☐ Tipo: Oral ☐ Inyectable ☐ Duración: _____ M / A

Terapia de reemplaza hormonal: Si ☐ NO ☐ Edad primer embarazo: _____ Años Lactancia Materna: Si ☐ NO ☐

Antecedentes personales y familiares:

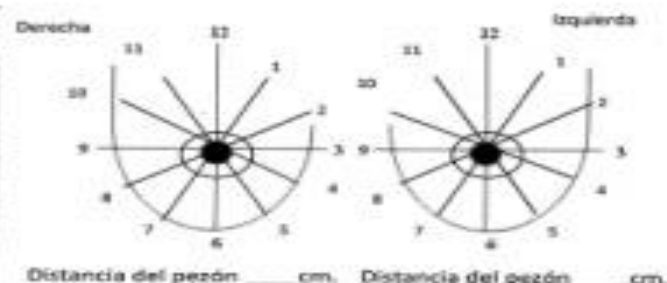
Historia personal de: Cáncer de mama: Si ☐ NO ☐ Cáncer de ovario: Si ☐ NO ☐ Otro cáncer: _____

Historia de familiar directo de: Cáncer de mama: Si ☐ NO ☐ Cáncer de ovario: Si ☐ NO ☐ Otro cáncer: _____

Hábitos: Tabaco: Si ☐ NO ☐ Alcohol: Si ☐ NO ☐

EXAMEN CLÍNICO DE MAMA:

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



MARCH 16 – 18, 2016

BCI2.5
Making breast cancer a global priority



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

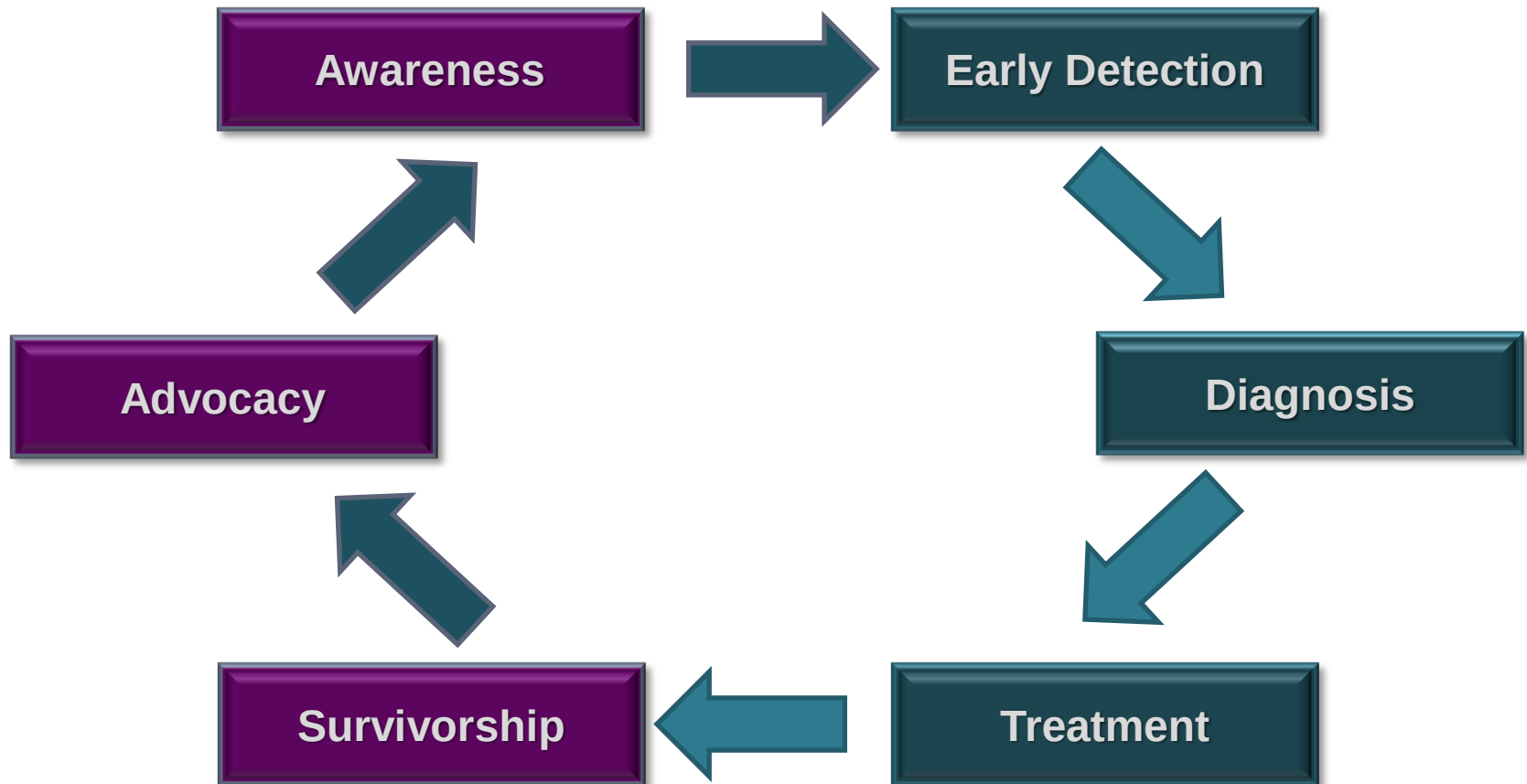
INDIA:
76% locally advanced or metastatic at diagnosis

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



Public Participation

Health Care Delivery



LMC IMPLEMENTATION RESEARCH

LOW INCOME COUNTRY



Screening Attitudes in Muslim Women

www.bhgi.info

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LMC IMPLEMENTATION RESEARCH BREAST CANCER SCREENING IN GAZA

- Survey: 100 women living inside Gaza (WIG) and 55 Gaza women residing outside Gaza (WOG):
 - >90% of both willing to have a diagnostic mammogram for a breast complaint,
 - 86% of WIG and 85% of WOG believe survival increased with early detection,
 - However, only 27% of WIG and 50% WOG were willing to undergo screening mammography.



RESOURCE-STRATIFIED GUIDELINES

SUMMARY

- Cancer is increasingly affecting countries at all economic levels while health investment is failing to match the challenge.
- Cancer surgery reflects a global health need that is as underappreciated as it is underfunded.
- Resource-stratified guidelines provide a framework for prioritizing sustainable health care strategies.
- Baseline assessments are necessary to determine next steps for sequential programmatic building.
- Strategic implementation requires sustainable approaches that integrate into existing healthcare systems.



The Breast Health Global Initiative

www.bhgi.info

BREAST CANCER INITIATIVE 2.5

Making breast health a global priority

www.BCI25.org