

Global Health and Breast Cancer: Prevention, Treatment, Survivorship



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Global Health and Breast Cancer



- **Breast cancer incidence and death rates are increasing worldwide**
 - **1.2 million new cases of breast cancer reported worldwide annually**
 - » **45% in low/middle resource countries**
 - **55% of deaths from breast cancer occur in low/middle resource countries**

Factors Associated with Global Differences in Breast Cancer Survival

- **Low awareness and education of the public as well as health care providers**
- **Limited screening**
- **Reduced health care access**
- **Later stage at diagnosis**
- **Limited treatments available**
- **Cultural barriers to care**

How Can We Impact Breast Cancer Incidence and Mortality?

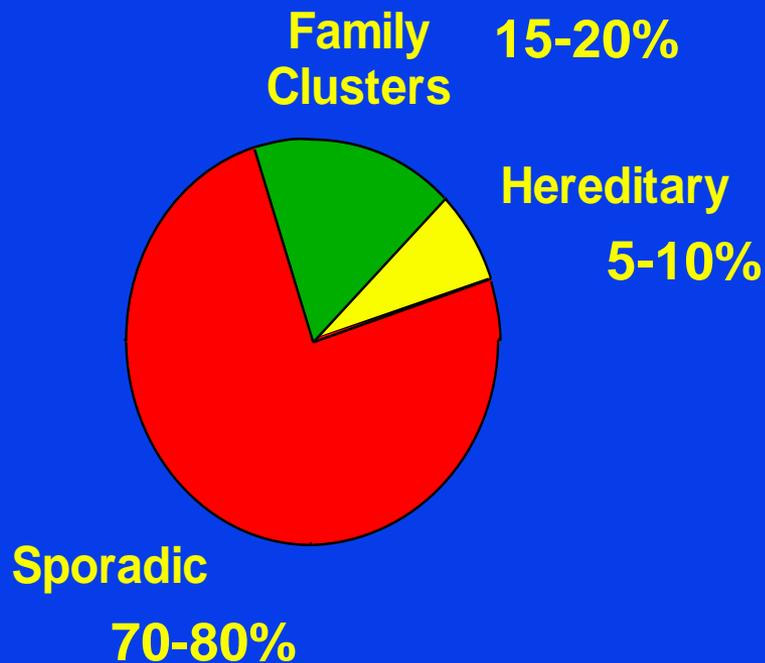
- Risk Reduction (Prevention)
- Early Detection
- Treatment
- Survivorship

Breast Cancer Risk Factors

In order to maximize breast cancer prevention strategies, we must accurately assess breast cancer risk

- Age
- Gender
- Endocrine and reproductive factors
- Family history/genetics
- Lifestyle
- Environment

Understanding Breast Cancer Risk: Breast Cancer Genetics



Genes Associated with Hereditary Breast Cancer

- BRCA1
- BRCA2
- TP53 (Li Fraumeni syndrome)
- PTEN (Cowden's syndrome)
- CHK2
- Undiscovered genes

Breast Cancer Prevention Strategies in Low- and Middle-Income Countries

- **Public awareness and education**
- **Health Professional education and training**
- **Individualized approaches based on patient risk**

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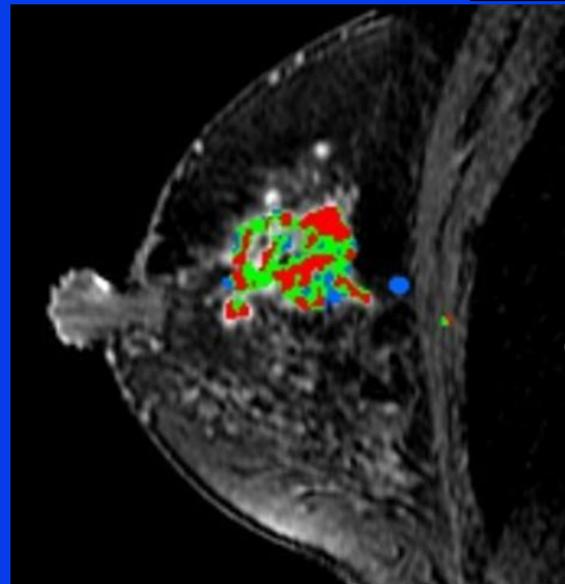
Early Detection of Breast Cancer: The Controversy Around Breast Imaging



Mammogram



Ultrasound



- **Magnetic Resonance Imaging (MRI)**

Breast Health Global Initiative (BHGI) Early Detection Strategies in Low- and Middle-Income Countries

Yip C et al, Cancer Suppl 113, 2008

- **Basic level**
 - **Clinic visits for breast problems (history and exam)**
 - **Train health care providers in clinical breast exam (CBE)**
- **Limited level**
 - **Targeted educational outreach encouraging women to seek attention for breast problems**
 - » **Link to general health/women's health programs**
 - **Screening clinical breast exams for higher risk**
 - **Diagnostic imaging (mammogram and ultrasound) for breast problems**
 - **?Screening mammogram for select targeted group**

Breast Health Global Initiative (BHGI) Early Detection Strategies in Low- and Middle-Income Countries

Yip C et al, Cancer Suppl 113, 2008

- Enhanced level
 - Regional awareness programs on breast health
 - Screening
 - » Mammography where resources sufficient
 - » Every 2 years ages 50-69?
 - » Every 12-18 months ages 40-49
 - Image-guided biopsy
- Maximal level
 - National awareness campaigns
 - Annual screening mammography in women ≥ 40
 - Consider other imaging technology in women at high risk - Breast MRI

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Breast Cancer Treatment

Before any breast cancer prevention/early detection program is implemented, it is critical that sufficient infrastructure for diagnosis and treatment is in place

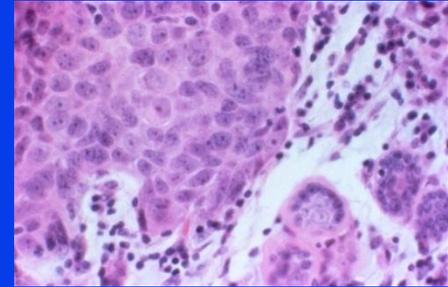
Breast Cancer Treatment: A Team Approach



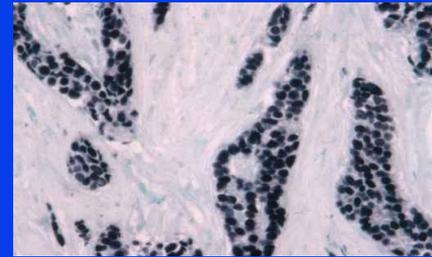
- Radiology
- Pathology
- Surgery
- Radiation
Oncology
- Medical
Oncology

The First Step in Making a Treatment Plan for Breast Cancer: *Defining the Cancer*

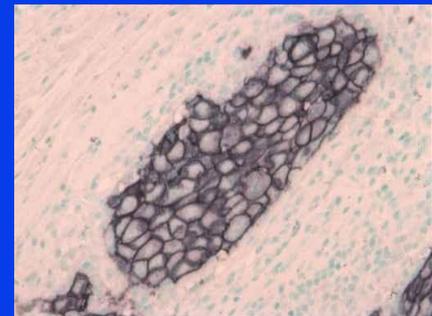
- Stage
 - Tumor size
 - Lymph node status
 - Metastatic sites
- Grade
- Surgical margins
- Tumor expression of genes and proteins
 - Estrogen receptor (ER)
 - Progesterone receptor (PR)
 - HER-2



Invasive Breast Cancer



Estrogen Receptor



HER-2

Systemic (Drug) Therapy for Breast Cancer

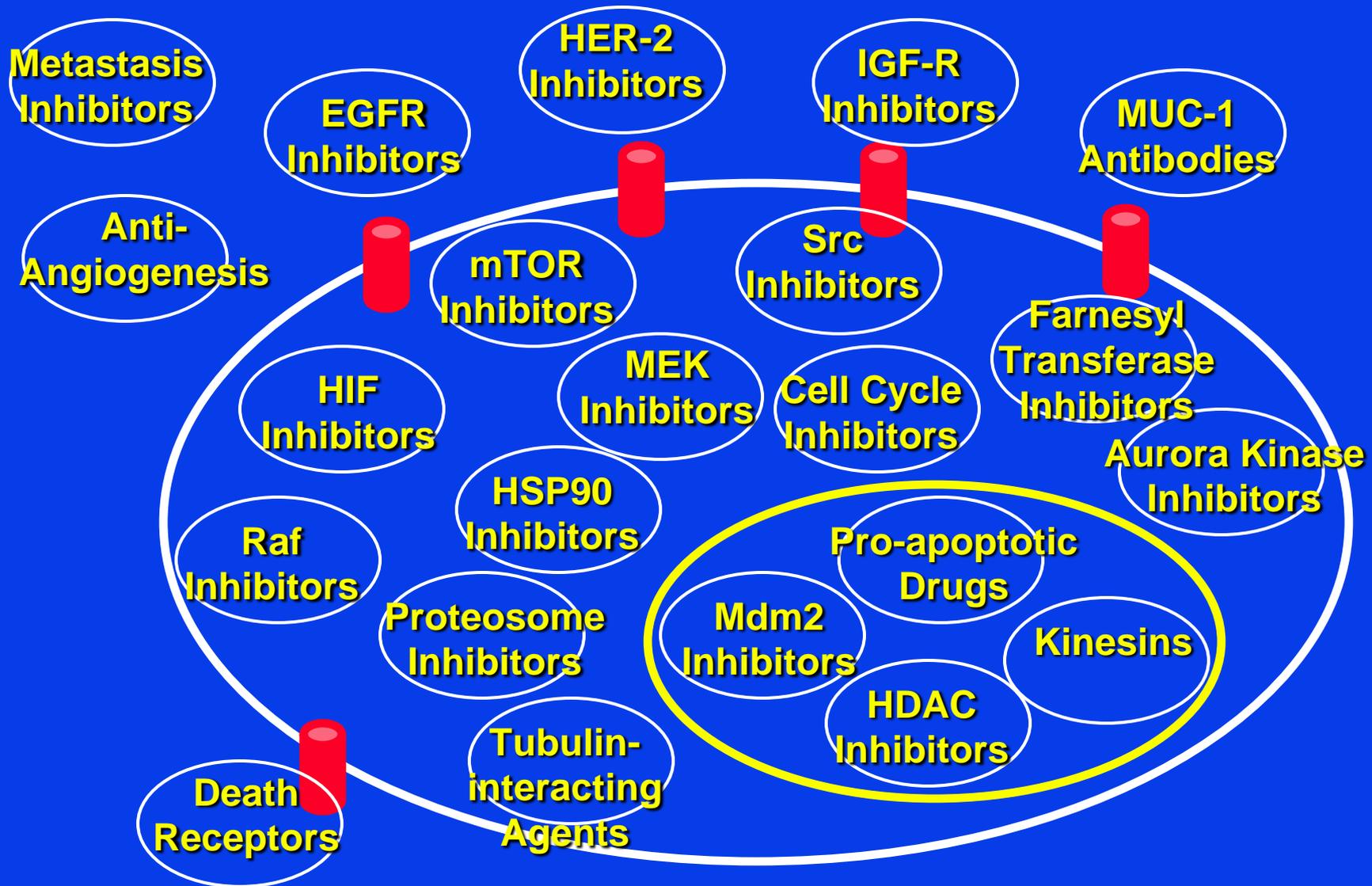
Endocrine Therapy

Chemotherapy

Biologically-targeted Therapy

**New Strategies: Individualizing treatment
to the cancer and the patient**

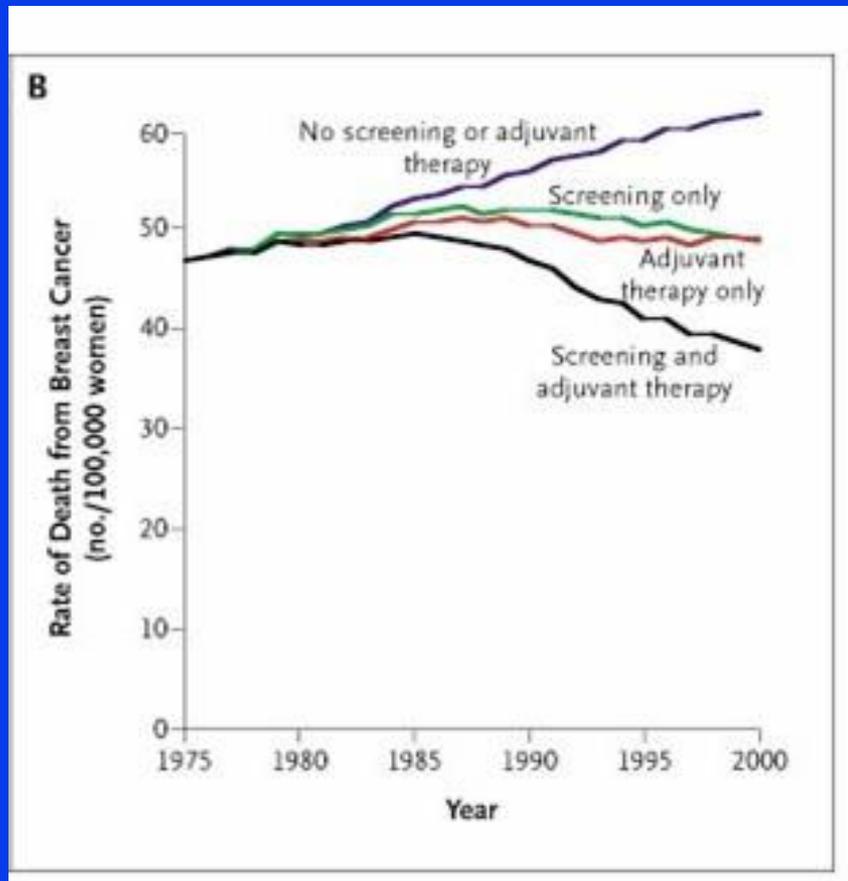
Identifying New Targets in the Treatment of Breast Cancer



What Has Accounted for Improvements in U.S. Breast Cancer Survival Rates?

Is Screening or Adjuvant Therapy More Important?

Berry D et al, NEJM 2005



Conclusion:
Both are important in decreasing deaths due to breast cancer in the U.S.

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Institute of Medicine 2005 Report
From Cancer Patient to Cancer Survivor:
Lost in Transition

Hewitt M, Greenfield S, and Stovall E, eds.

http://www.cancer.net/patient/Survivorship/IOM_Executive_Summary.pdf

- **Transition from active treatment to post-treatment care critical to long-term health**
- **Follow-up visits are opportunities to promote healthy lifestyle, check for cancer recurrence, manage lasting effects of the cancer**
- **Much that can be done to avoid, ameliorate, or arrest the late effects of cancer**

Healthy Lifestyles After Breast Cancer

- Many studies now suggest that changes in lifestyle may reduce risk of recurrence
 - Drinking less alcohol
 - Changing diet
 - Exercise
 - Managing body weight



Optimizing Health for Breast Cancer Survivors



The majority of breast cancer patients can look forward to a long life after cancer diagnosis and treatment
Providing education and support can maximize patients' survival and quality of life

There is an urgent need to define and implement country-specific approaches to the prevention, detection, treatment and follow-up of breast cancer

Global Health and Breast Cancer: Challenges and Opportunities in Resource-Limited Settings

- **Lack of recognition that breast cancer is a significant public health problem in some resource-poor regions**
- **Misperception that little can be done to impact breast cancer incidence and mortality**
- **Absence of comprehensive cancer control programs**
- **Few healthcare dollars to devote to the problem of cancer**
- **Deficits in both physical infrastructure and human capacity for cancer care**

Stepwise Approaches to the Breast Cancer Problem

- **Improve cancer registries and data collection**
 - **Reliable data to assess incidence, mortality, stage, biology and to evaluate changes with interventions**
- **Create guidelines that are evidence-based, economically feasible, and culturally appropriate (BHGI)**
- **Optimize existing resources**
 - **Task shifting and infrastructure shifting**
- **Down-stage breast cancer by early detection**
 - **Metastatic disease not treated successfully in ANY country**
- **Tailor therapy to individual tumor/patient characteristics**
- **Improve awareness of breast cancer as a curable disease**
- **Public advocacy for breast cancer prevention, detection, treatment and research!**

***Advocacy and research are very
powerful forces for advancing
breast cancer care***

Eastern Europe/Central Asia Breast Cancer Advocacy Forums

Vilnius, Lithuania 2003

Kiev, Ukraine 2005

Minsk, Belarus 2007

Bishkek, Kyrgyzstan 2009

Moscow, Russia 2011

Breast cancer patients,
advocates, health care
professionals, policy
makers

