



Global Summit on International Breast Health and Cancer Control:

Improving Breast Health Care through Resource-Stratified Phased Implementation

Financial Implications of Late Stage Breast Cancer: The Cost of Inaction

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At a Glance: Financial Implications of Late Stage Disease: The Cost of Inaction

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



- ☐ What are the main issues?
- ☐ How are countries tackling these issues?
- ☐ What are some key lessons learned?



What are the main issues?

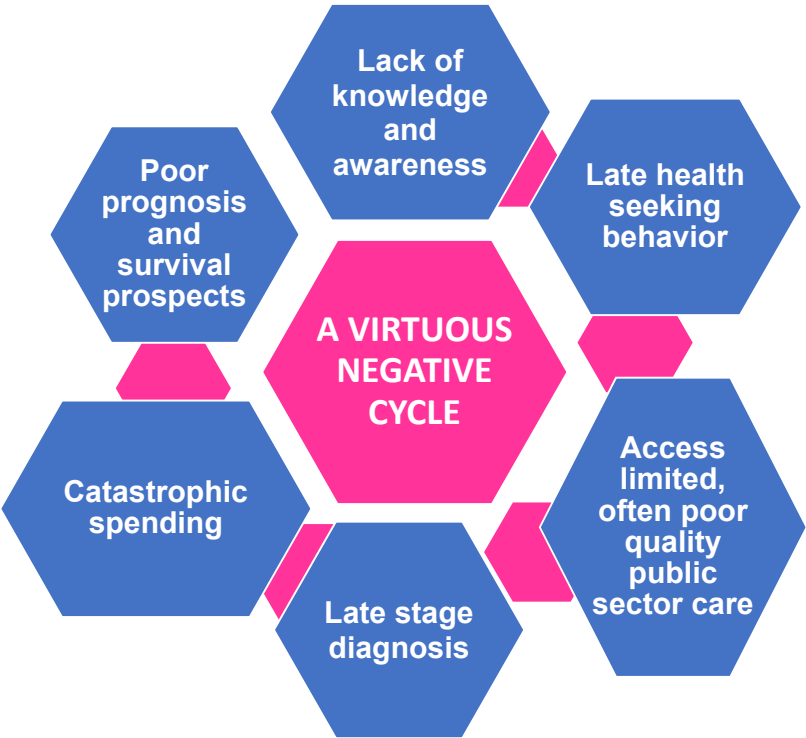
**BREAST CANCER IS THE MOST PROMINENT CAUSE OF CANCER DEATHS IN LMICS,
WITH FAR REACHING NEGATIVE SOCIO-ECONOMIC EFFECTS**

- ❑ **In 2018, there were 2.1 million new breast cancer cases** and roughly 627,000 deaths (representing the fifth leading cause of death); with the aging global population, 50% more women will die from breast cancer in 2020 than in 2002
 - ❑ **Breast cancer disproportionately affects young women in LMICs with high case fatality rates**; nearly 25% cancers diagnosed in women are breast cancer; early maternal death has long-term impacts on a child's survival to adulthood, nutritional status, education and future income potential
 - ❑ **Lack of breast cancer awareness and early detection are major issues** – over 50% of women with newly diagnosed breast cancers in LMICs have stage III/IV, and only an estimated 2% of women aged 40-69 years have received any breast cancer screening
- “Much remains to be done to address the alarming rise in cancer burden globally... efficient prevention and early detection policies must be implemented urgently to complement treatments in order to control this devastating disease across the world.”**
Dr. Christopher Wild, IARC Director

MOST HEALTH SYSTEMS IN LOW AND MIDDLE INCOME COUNTRIES ARE ILL EQUIPPED TO DEAL WITH THE RISING BURDEN

- ☐ **Shortages of qualified personnel** impede service delivery
- ☐ **Access to drugs and diagnostics** hinders availability and quality of care and time to treatment
- ☐ **Referral systems are poorly developed**, resulting in discontinuity in care
- ☐ **Information systems are inadequate** with few countries having population-based cancer registries
- ☐ **Cancers are seriously underfunded** with governments struggling to scale up national NCD responses in an environment of competing demands
- ☐ **Households bear the major financial burden** of cancers with associated risk of impoverishment
- ☐ **Cancers will fuel the rise in health care costs**, given the costly and/or chronic nature of care, delayed diagnosis, and lack of a focus on prevention

DELAYS IN HEALTH SEEKING BEHAVIOR AND POOR OUTCOMES



A woman diagnosed with breast cancer in Uganda has less than 56% chance of survival, in contrast to a woman in the United States who has over a 90% chance of survival

EARLY DETECTION ENHANCES PROBABILITY OF SURVIVAL AND MINIMIZES RISK OF CATASTROPHIC SPENDING

- ❑ **Saving lives:** An estimated 28 - 65% of breast cancer mortality reduction can be attributed to early detection, demonstrating that the cost-savings of a “prevention/early detection and treatment” approach for breast cancer are greater than a “treatment only” approach
- ❑ **Reducing disability:** In 2010, global investment in cancer care and control may have contributed to saving \$10 - \$230 million in DALYs
- ❑ **Averting socio-economic costs for households, health systems and economies**
 - ❑ Reducing risk of impoverishment from catastrophic health spending
 - ❑ Reducing need for costly procedures/drugs/treatment regimens and containing health spending
 - ❑ Minimizing risk of lost productivity and lost income
 - ❑ Preventing children from becoming orphans as a result of premature maternal death



How are countries tackling these issues?

KENYA: IMPORTANCE OF PRIORITIZING PREVENTION AND EXPANDING FINANCIAL PROTECTION TO REDUCE RISK OF IMPOVERISHMENT

- ❑ **Cancer is the second leading cause of NCD mortality** with the number of new cases increasing from 28,000 (2008) to 41,000 (2012); breast cancer is one of the three leading cancers (40.3 cases per 100,000 population)
- ❑ **Roughly 80% of cancers are diagnosed at an advanced stage** when curative treatment options are limited and households make huge financial sacrifices and incur catastrophic spending
- ❑ **Health insurance coverage is limited**--less than 20% of Kenyans have some form of health insurance with over 89% covered by the National Hospital Health Insurance Fund



KENYA: IMPORTANCE OF PRIORITIZING PREVENTION AND EXPANDING FINANCIAL PROTECTION TO REDUCE RISK OF IMPOVERISHMENT

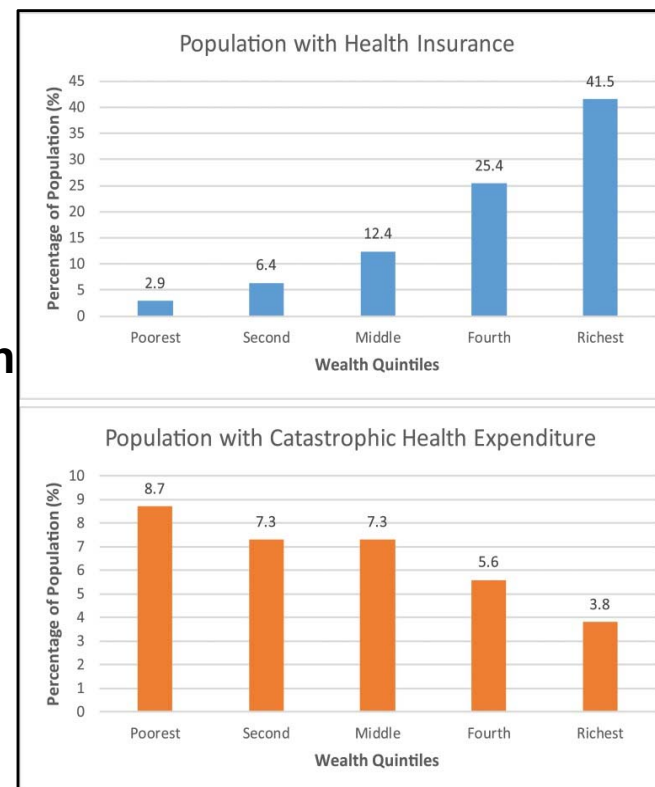
- ❑ **A study to quantify patient payments and ability to pay for screening, diagnosis and treatment of key NCDs highlights importance of prevention and financial protection**
- ❑ **Cost to patients for screening for breast cancer is much lower than diagnosis**
 - ❑ Screening: (\$4 in public and \$18 in private facilities)
 - ❑ Diagnosis: (\$401 in public and \$1205 in private facilities)
- ❑ **Cost of treatment for breast cancer is substantially higher and rises by stage**
 - ❑ Stage I/II: \$1340 (public)-\$10,914 (private)
 - ❑ Stage III (curative): \$1542 (public)-\$11,862 (private)
 - ❑ Stage III (palliative): \$675 (public)- \$8569 (private)



Source: Cost and affordability of non-communicable disease screening, diagnosis, and treatment in Kenya: Patient payments in the private and public sector, Subramanian, et. al., PLOS ONE, January 5, 2018.

KENYA: IMPORTANCE OF PRIORITIZING PREVENTION AND EXPANDING FINANCIAL PROTECTION TO REDUCE RISK OF IMPOVERISHMENT

- ❑ **Treatment costs are beyond the means of most Kenyans**, in light of average household expenditure per adult of about \$413 (i.e. rural: \$272; urban: \$721) and limited insurance coverage
- ❑ **The poorest quintile had the lowest proportion with health insurance and the largest proportion with catastrophic spending**; but even the relatively well off were vulnerable
- ❑ **Curative breast cancer treatment in public facilities absorbs roughly 20% of the annual income**; and more than 1.5 the annual income in private facilities, underscoring the potential impoverishing effects of a BC diagnosis



Source: Cost and affordability of non-communicable disease screening, diagnosis, and treatment in Kenya: Patient payments in the private and public sector, Subramanian, et. al., PLOS ONE, January 5, 2018.

KENYA: IMPORTANCE OF PRIORITIZING PREVENTION AND EXPANDING FINANCIAL PROTECTION TO REDUCE RISK OF IMPOVERISHMENT

KEY MESSAGES:

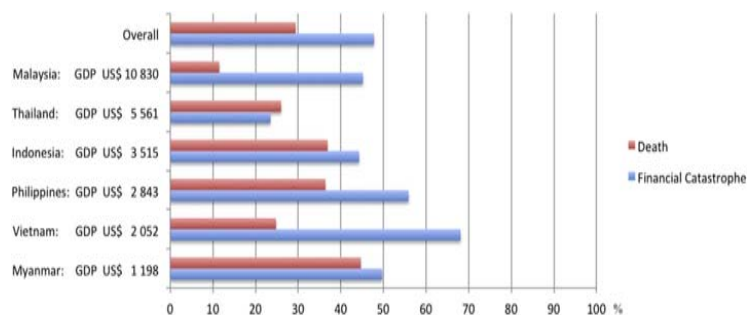
- ❑ **Primary prevention should be prioritized** to increase physical activity, promote healthy diets, and reduce tobacco & alcohol use
- ❑ **Early detection of breast cancer and prompt management is key** to mitigating the high cost of advanced disease on households, the health system and the nation
- ❑ **Expanding health insurance enrollment in the NHIF is critical**, with initial focus on the poor and on informal sector workers



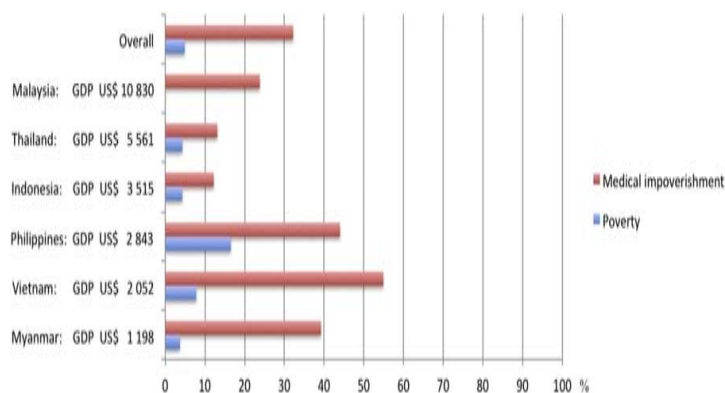
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CANCER CARE IN SOUTH-EAST ASIA: MAKING THE CASE FOR REALIGNING THE FOCUS ON EARLY DETECTION

- ❑ A large prospective multi-country longitudinal study in S.E. Asia found that the **late stage at cancer diagnosis explained the increased risk of adverse outcomes** (death, financial catastrophe)
- ❑ A considerable proportion died within one year of a cancer diagnosis (from 12% in Malaysia to 45% in Myanmar)
- ❑ Roughly 37% of patients incurred catastrophic health expenditures and a sizable proportion of patients experienced economic hardships -- highest in Malaysia (45%) and Indonesia (42%) and lowest in Thailand (16%)



Incidence of financial catastrophe and death in participants in the ASEAN Costs in Oncology Study at one year following diagnosis



Incidence of poverty and medical impoverishment in participants in the ASEAN Costs in Oncology Study at one year following diagnosis

Source: Policy and priorities for national cancer control planning in low- and middle-income countries: Lesson from the Association of Southeast Asian Nations Costs in Oncology prospective Cohort study, The ACTION Study Group, December 2016.

CANCER CARE IN SOUTH-EAST ASIA: MAKING THE CASE FOR REALIGNING THE FOCUS ON EARLY DETECTION

- Some countries focused resources on costly treatment facilities**, while overlooking earlier and less expensive interventions (Myanmar, Vietnam)
- Important challenges remain providing access, even in countries which have achieved UHC** (i.e. Thailand, Malaysia)
- Patients from low-income households remain at elevated risk of adverse financial outcomes and death**, even when presenting with early stage cancers

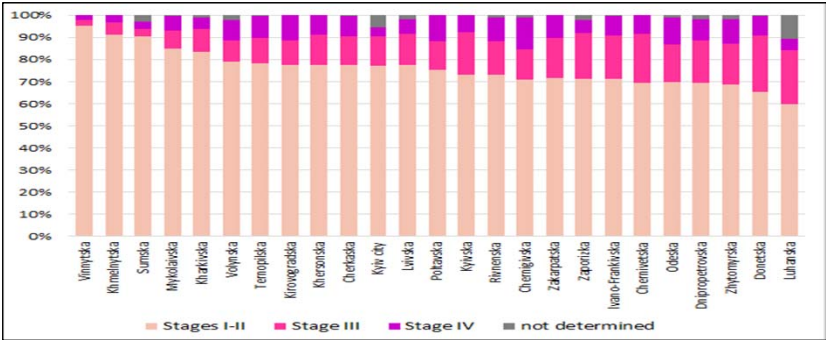
KEY MESSAGES:

- Ensuring that cancers are detected early would have the greatest impact** on reducing deaths and adverse economic outcomes
- Implementing cost-effective early detection strategies** (awareness education, screening) may result in a larger proportion of patients presenting with cancer stages that are amenable to more affordable treatment options
- Realigning the focus on early detection**, and adequate financial risk protection is a priority for all LMICs

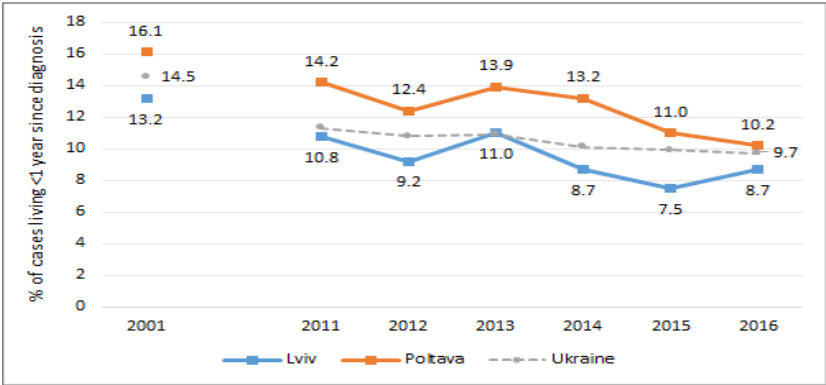
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**BREAST CANCER IN UKRAINE:
MAKING PROGRESS WITH A SHIFT TO EARLIER DETECTION**

- Breast cancer is the leading female cancer and the 4th most important cause of years of life lost from NCDs**
- The shift to earlier detection in past 15 years has resulted in 76% of cases detected at earlier stages(I/II) and only 9.7% diagnosed at stage IV; first year mortality dropped to <10%; averages mask disparities in incidence and mortality**
- A study was conducted in two provinces on the continuum of care for breast cancer to determine the breakpoints in the care cascade and opportunities for action**



TNM stage distribution of new BC cases (2016)

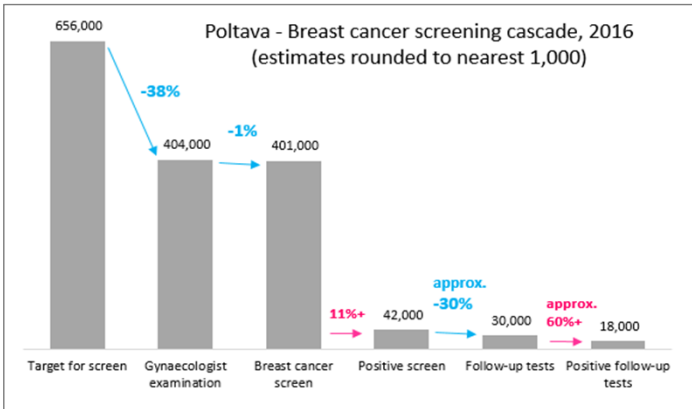
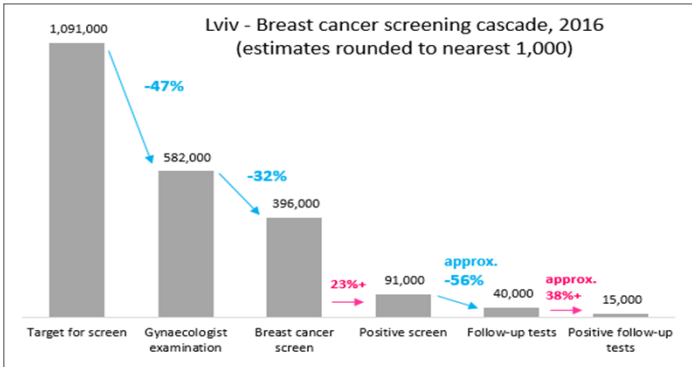


First year BC mortality (2001, 2011-2016)

Source: The World Bank. 2018. Breast Cancer in Ukraine: The Continuum of Care and Implications for Action in two Regions. Washington, D.C.

BREAST CANCER IN UKRAINE: MAKING PROGRESS WITH A SHIFT TO EARLIER DETECTION

- ❑ **Women were lost at various stages in the screening and diagnostic cascade**, with only 36% (Lviv) and 61% (Poltava) of eligible women screened; and 30% (Poltava) to 56% (Lviv) followed up with a diagnostic mammography or breast ultrasound
- ❑ **Variation in treatment was mostly explained by available equipment and treatment options** in the two regions
- ❑ **Cancer registry provided critical information on time to treatment**, which was 20-28 days and higher for more complex cases



Breast cancer screening cascades, 2016

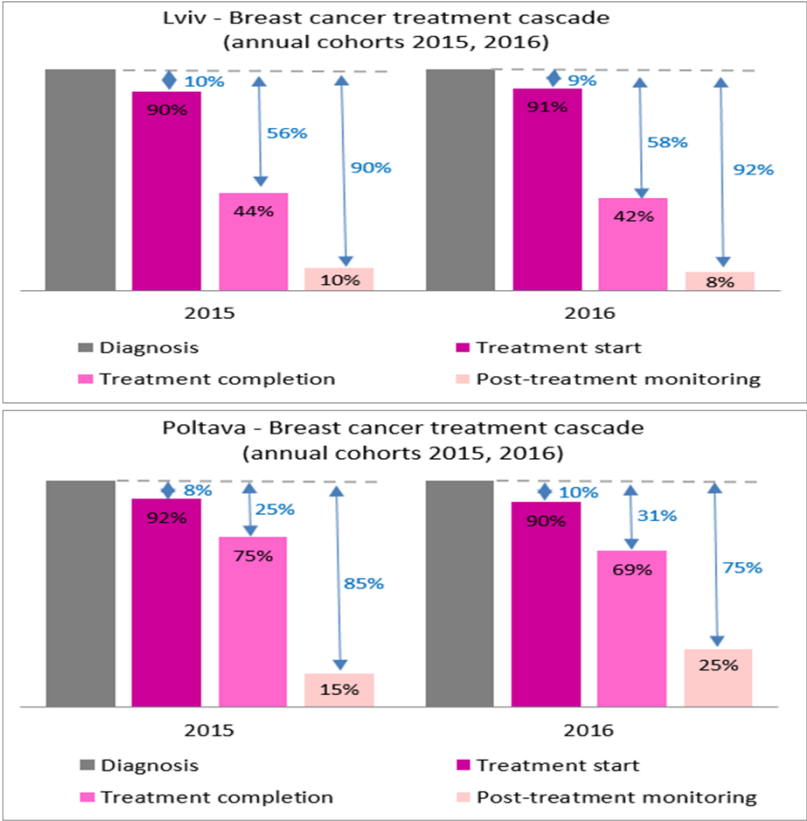
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**BREAST CANCER IN UKRAINE:
MAKING PROGRESS WITH A SHIFT TO EARLIER DETECTION**

- ❑ **Women were also lost at various stages of the treatment cascade or cases were not captured in cancer registries**
 - ❑ **The majority who were diagnosed were initiated on treatment**
 - ❑ **Treatment completion was poorly recorded in both registries with 56% (Lviv) and 25% (Poltava) having no record of treatment completion**
 - ❑ **Post treatment monitoring was almost not documented, which resulted in difficulties calculating 5-year survival**

KEY MESSAGE:

- ❑ **Understanding diagnosis and treatment gaps and delays from cascade analysis helps to identify solutions (simple protocols; improved drug supply, and access to diagnostic equipment)**

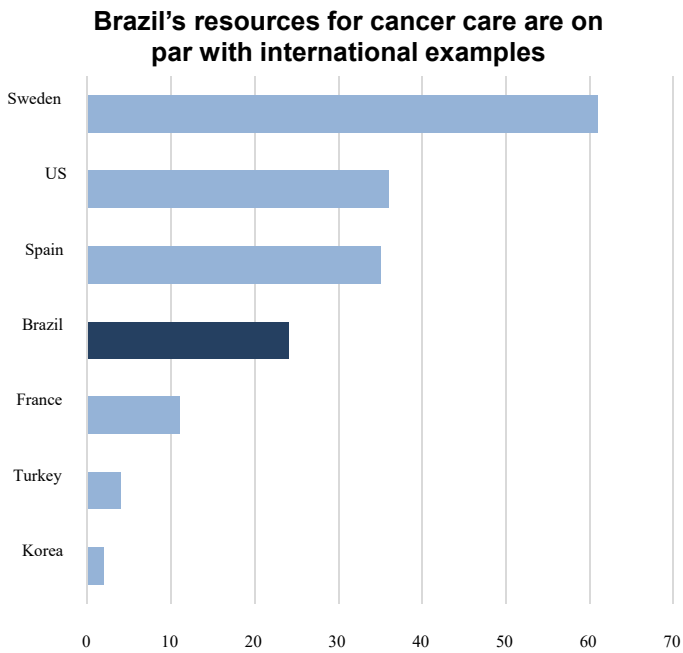


Sources: Cancer registries

Source: The World Bank. 2018. Breast Cancer in Ukraine: The Continuum of Care and Implications for Action in two Regions. Washington, D.C.

**BRAZIL:
USING BREAST CANCER AS TRACER CONDITION TO UNDERSTAND
HEALTH SYSTEM CHALLENGES IN CANCER CARE**

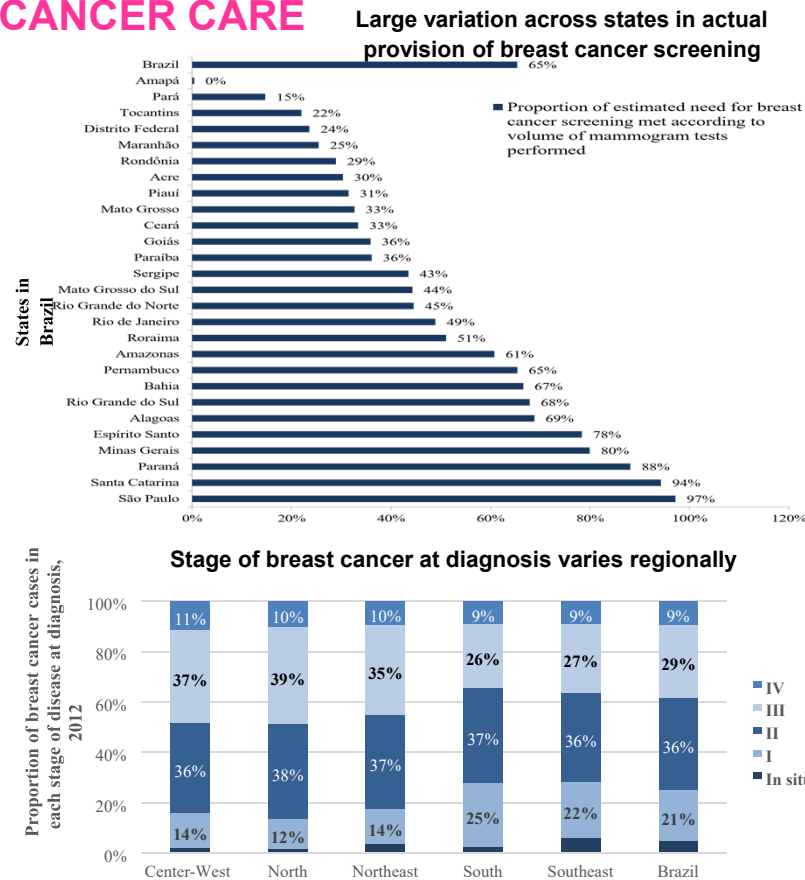
- ❑ **Number of cancer cases doubled** (i.e. from 100,000 to 200,000 during 1990-2014) with breast and cervical cancer representing the highest incidence and mortality rates for females
- ❑ **Brazil has made important progress in cancer care**; is relatively well resourced; aims to provide universal access to a comprehensive package of services free of charge; and passed legislation guaranteeing access to treatment within 60 days of a confirmed cancer diagnosis
- ❑ **An assessment was conducted of the health system's ability to deliver the main elements of cancer care**, with a focus on breast and cervical cancer



Source: Cancer Care in Brazil: A National Assessment with a focus on Breast and Cervical Cancer, The World Bank, June 29, 2015.

BRAZIL:
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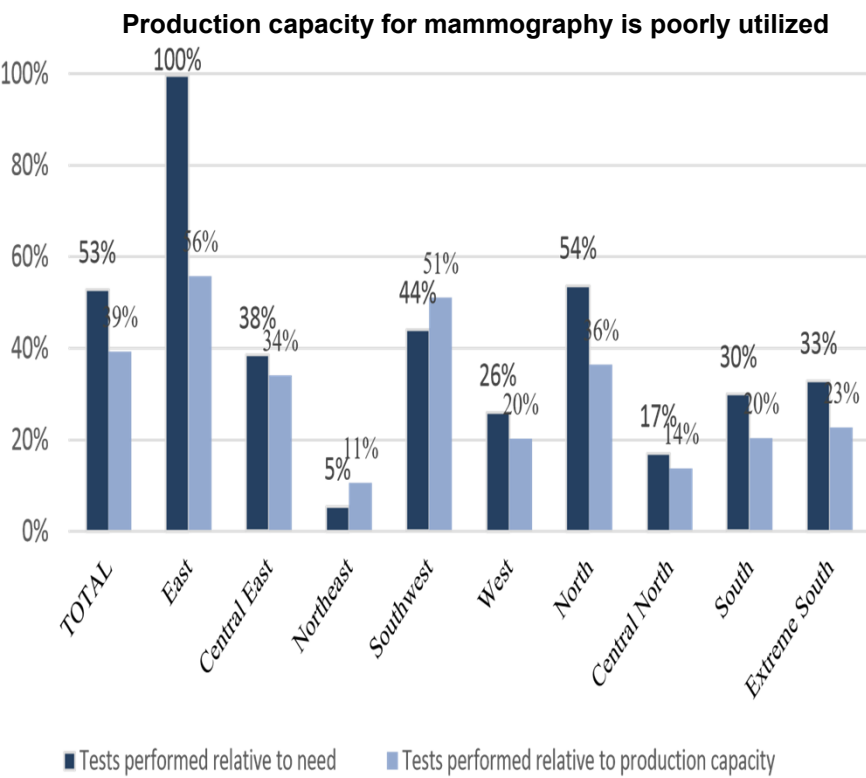
- ❑ **Limited reach of screening programs and large variation across states and socio-economic groups, long waiting times, and late stage diagnosis remain key concerns**
 - ❑ Only 57% of women are diagnosed at stage I/II
 - ❑ Roughly 38% are diagnosed at stage III/IV nationally and 50% in some regions (North, Center-West)
 - ❑ 50% of women (50-69) in the lowest income group never had a mammography, in contrast to 10% of the better off women
- ❑ **Quality of mammograms is also a key issue** which contributes to repeated tests, long waiting times and late diagnosis
 - ❑ Half of mammography screening is outside the indicated age range
 - ❑ Low rates of abnormal mammograms relative to international norms
 - ❑ Implementation of accreditation programs varies



Source: Cancer Care in Brazil: A National Assessment with a focus on Breast and Cervical Cancer, The World Bank, June 29, 2015.

BRAZIL: BAHIA CASE STUDY

- ❑ **The Bahia case study sheds light on underlying factors behind problems observed in the national assessment**, such as low capacity utilization, poor quality of care, and breakdowns in continuum of care
- ❑ **The case study illustrates inefficiencies in cancer care**, with low production relative to need and relative to available capacity for screening, diagnosis and treatment
- ❑ **The case study also shows various signs of breakdown in coordinating care** between different levels of the health system, dysfunctional referral systems with no systematic prioritization of more severe cases

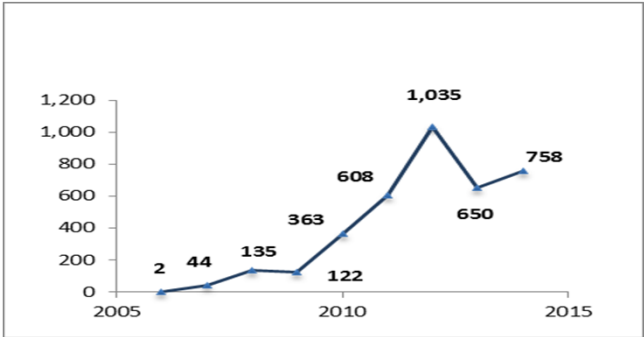


Source: Cancer Care in Brazil: A National Assessment with a focus on Breast and Cervical Cancer, The World Bank, June 29, 2015.

BRAZIL: BAHIA CASE STUDY

- ❑ The Bahia case study highlights the legal and financial challenges posed by the constitutionally guaranteed ‘right to health’ with a sharp rise in the number of health related litigation cases in the past decade, of which drug related cases represent about 65% of all cases
- ❑ The cost of health related litigation per patient is about 50 times per capita health spending, with an estimated cost per patient of over \$5,000
- ❑ Expenditures for health related cases are concentrated in municipalities that are relatively well off, with benefits of litigation accruing to those in the upper wealth quintiles, at the risk of rising disparities and of diverting resources from proven cost-effective interventions

Increase in health related litigation



Outcomes of health related litigation, Bahia

Focus of litigation	USD	%	# of cases	Cost (USD)/case
Medicines	6 974 301	65	758	9 201
Services	2 425 069	22	1 310	1 851
Special requests	1 393 703	13	44	31 675
TOTAL	10 793 073	100	2 112	5 110

Source: Cancer Care in Brazil: A National Assessment with a focus on Breast and Cervical Cancer, The World Bank, June 29, 2015.

BRAZIL: USING BREAST CANCER AS TRACER CONDITION TO UNDERSTAND HEALTH SYSTEM CHALLENGES IN CANCER CARE

KEY MESSAGES:

- ❑ **While service delivery and financing has improved significantly, the health system fails to effectively coordinate care** and ensure timely access to specialist consultations and suffers from large disparities
- ❑ **Significant challenges remain to address capacity weaknesses in primary health care** (municipalities), improve quality of care, ensure integration of care with higher complexity services (states), and stop patients from self-referring at a late stage to higher-level providers



Source: Cancer Care in Brazil: A National Assessment with a focus on Breast and Cervical Cancer, The World Bank, June 29, 2015.



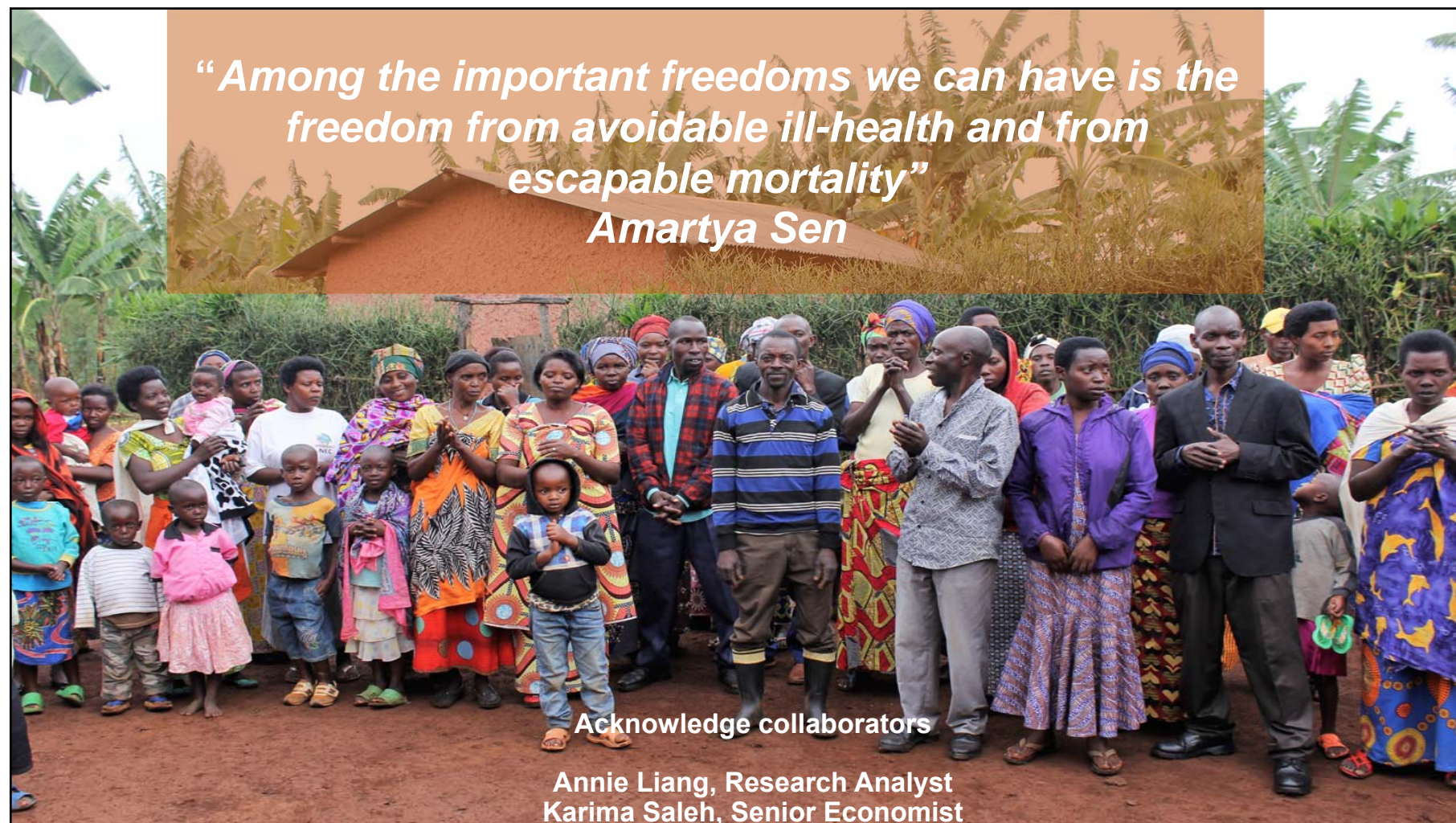
What are key lessons learned?

MAIN LESSONS

- ❑ **Health systems in LMICs need to prioritize:** (i) **awareness raising** to improve knowledge of breast cancer and encourage women to be screened in a timely manner; (ii) **early detection** of breast cancer; and (ii) **financial risk protection** to prevent catastrophic spending
- ❑ **Early detection of cancer and prompt management is expected to have the greatest impact on:** (i) reducing deaths; (ii) containing adverse economic outcomes on affected families; and (iii) mitigating the high cost of advanced disease on health systems and economies
- ❑ **Important disparities in the management of breast cancer persist even in countries that have UHC systems;** patients from low-income households require special support, as they face multiple constraints (e.g. financial, geographic and socio-cultural barriers) to access health services and remain compliant with treatment protocols

MAIN LESSONS

- ❑ **Analyzing and addressing gaps in the detection, diagnosis and treatment cascade is critical** to understanding factors contributing to drop out and identifying appropriate solutions to the breakdown in the continuum of care
- ❑ **Population-based cancer registries are critical** for providing information on breast cancer incidence, mortality, staging, risk factors, time to treatment, and 5-year survival
- ❑ **More research is needed to quantify the health and economic benefits of early detection of breast cancer**, to document the significant gains for households, health systems and economies, and to monitor catastrophic spending





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