



# Analysis and Projection of Breast Cancer Incidence and Treatment Costs by Region and Age Group

## Introduction:

Breast cancer is a significant global health concern, affecting women across different regions and age groups. This analysis delves into the prevalence of breast cancer, estimates the number of cases, and projects the associated treatment costs in the USA, Europe, and South America. The data incorporates age-specific incidence rates, population demographics, and treatment costs.

## Breast Cancer Incidence:

The incidence rates of breast cancer vary across regions and age groups, with higher rates observed in older populations. Estimations are provided for each region and age range, highlighting the expected number of cases per million women.

## Estimation of Breast Cancer Cases:

Region	Age Group	Incidence Rate	Estimated Cases (per million women)
USA	40-44	1.55%	163,800
Europe	45-49	1.55%	162,409
South America	75-79	3.82%	251,776

## Treatment Costs

The costs associated with breast cancer treatment vary significantly by region. The analysis provides a range of treatment costs per case and calculates the accumulated cost of treatment for each region.

## Accumulated Cost due to Treatment:

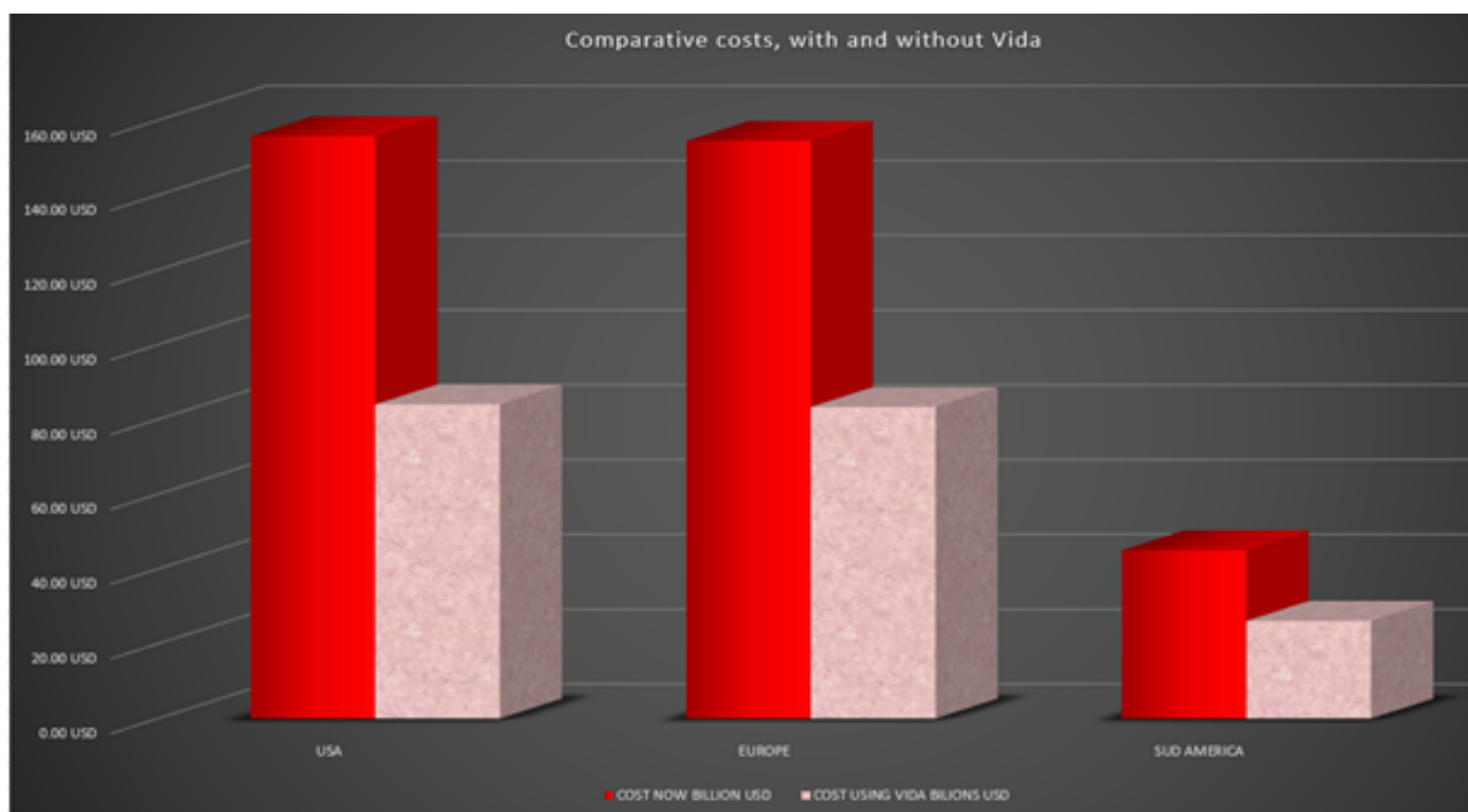
Region	Min Cost per Case (USD)	Max Cost per Case (USD)	Accumulated Cost (USD)
USA	20,000.00	100,000.00	40,999,842,000.00
Europe	20,000.00	100,000.00	40,664,780,000.00
South America	13,000.00	29,000.00	24,190,710,700.00

## Impact of VIDA App:

A novel aspect of this analysis involves exploring the potential impact of the VIDA app facilitating the PRE SCREENING AT HOME causing reducing treatment costs. By considering a 50% reduction in the maximum cost and redistributing the savings, the analysis demonstrates the potential economic benefits of adopting such technologies.

## Economy Using VIDA App:

Region	65% Cost Min (USD)	35% Cost Max (USD)	Economy Using VIDA App (USD)
USA	26,649,897,300.00	71,749,723,500.00	84,049,676,100.00
Europe	26,432,107,000.00	71,163,365,000.00	83,362,799,000.00
South America	15,723,961,955.00	18,887,362,585.00	26,144,575,795.00



## Conclusion:

Breast cancer poses a substantial economic and health burden globally. Understanding the distribution of cases, associated treatment costs, and the potential impact of innovative solutions like the VIDA app is crucial for healthcare planning and resource allocation. As breast cancer remains a pressing issue, continuous research and technological advancements play a pivotal role in improving outcomes and reducing the economic impact on affected regions.

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**Important remark that our calculus are extreme conservatives:**

### *Explore*

Here are the costs associated with breast cancer for the year 2023 in the USA, Europe, and South America:

#### *USA:*

- Treatment cost: The average cost of breast cancer treatment is estimated to be between \$20,000 to \$100,000. For women diagnosed with stage 0 breast cancer (small, localized tumors),

these medical costs totaled \$48,477, on average, 6 months after diagnosis(2).

- Insurance cost: The average costs of breast cancer treatment within the first year after receiving a diagnosis were as follows: Stage 0 breast cancer cost: \$60,637; Stage I/II breast cancer cost: \$82,121; Stage III breast cancer cost: \$129,387; Stage IV breast cancer cost: \$134,682(1).
- Other costs: The overall economic impact of cancer in the USA is estimated to exceed \$180 billion annually in healthcare expenses and lost productivity(3). The cost for medical services was \$26.2 billion and \$3.5 billion for prescription drugs(4).

### *Europe:*

- Treatment cost: The overall economic impact of cancer in Europe is estimated to exceed €100 billion annually(5).
- Insurance cost: In the Netherlands, a genetic test which will spare 500 women a year the need to undergo chemotherapy for breast cancer will be covered by the basic health insurance package(6).
- Other costs: The majority of people living with advanced breast cancer give up working against their will, according to research presented at the Advanced Breast Cancer Seventh International Consensus Conference (ABC 7). As well as the personal costs of being out of work, the new study shows that there is a significant overall cost to the economy when patients stop working. In Portugal alone, the researchers estimate nearly €29 million is lost in productivity over three years (7).

### *South America:*

- Treatment cost: In South Africa, conventional chemotherapy will cost on average around R25 000 for four treatment cycles to over R140 000 for six cycles of therapy(8).
- Insurance cost: Information not available.
- Other costs: Information not available.

Due to the high cost and low accessibility to health care in much of the world, there arises the need for a tool for everyone that gives us control over our time, is simple, and guides us to an awareness of our health. That's why VIDA app is born—an app that allows you to perform a pre-exam from the comfort of your home and take timely action to start enjoying good health.

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