

Access to Essential Breast and Cervical Cancer Medicines in Nigeria: A WHO/HAI-Based Evaluation of Prices, Availability, and Affordability

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Background

Breast cancer (BCA) is the most common cancer among women globally, causing an estimated 670,000 deaths (2022)¹.

Cervical cancer (CCA) is the 4th most common cancer among women globally, with 660,000 new cases and 350,000 deaths reported in 2022¹.

Although BCA incidence in sub-Saharan Africa (SSA) is lower than in high-income countries, mortality is disproportionately high.

Nearly 94% of deaths occur in LMICs, with the highest burden in SSA⁴.

Nigeria ranks among the top 10 countries globally for BCA mortality, with 16,332 deaths reported in 2022³.

Nigeria ranks among the top 10 countries worldwide for CCA incidence and mortality, highlighting major gaps in access to prevention, diagnosis, and treatment⁵.

While access to medicines is commonly assessed through availability, pricing, and affordability^{6,7}, evidence on these key dimensions for essential cancer medicines in Nigeria remains limited, particularly for these two major cancers affecting women.

Objectives

- Assess the availability of essential medicines for breast and cervical cancers in Nigeria
- Compare availability between public and private sectors
- Evaluate medicine prices using median price ratios (MPRs)⁸
- Determine the affordability of medicines based on daily wage and poverty-line thresholds

Methods

A cross-sectional survey was conducted using a modified WHO/Health Action International (WHO/HAI)⁹ methodology to assess fourteen essential medicines for breast and cervical cancers (31 products).

Survey Region: In Nigeria, three survey regions were purposively selected to represent major cancer care settings across three different geographical zones. These locations were chosen based on the presence of major cancer treatment facilities and referral centers.

Survey Facilities: A total of 14 medicine outlets were surveyed across public and private sectors, including hospitals, clinics, and retail pharmacies.

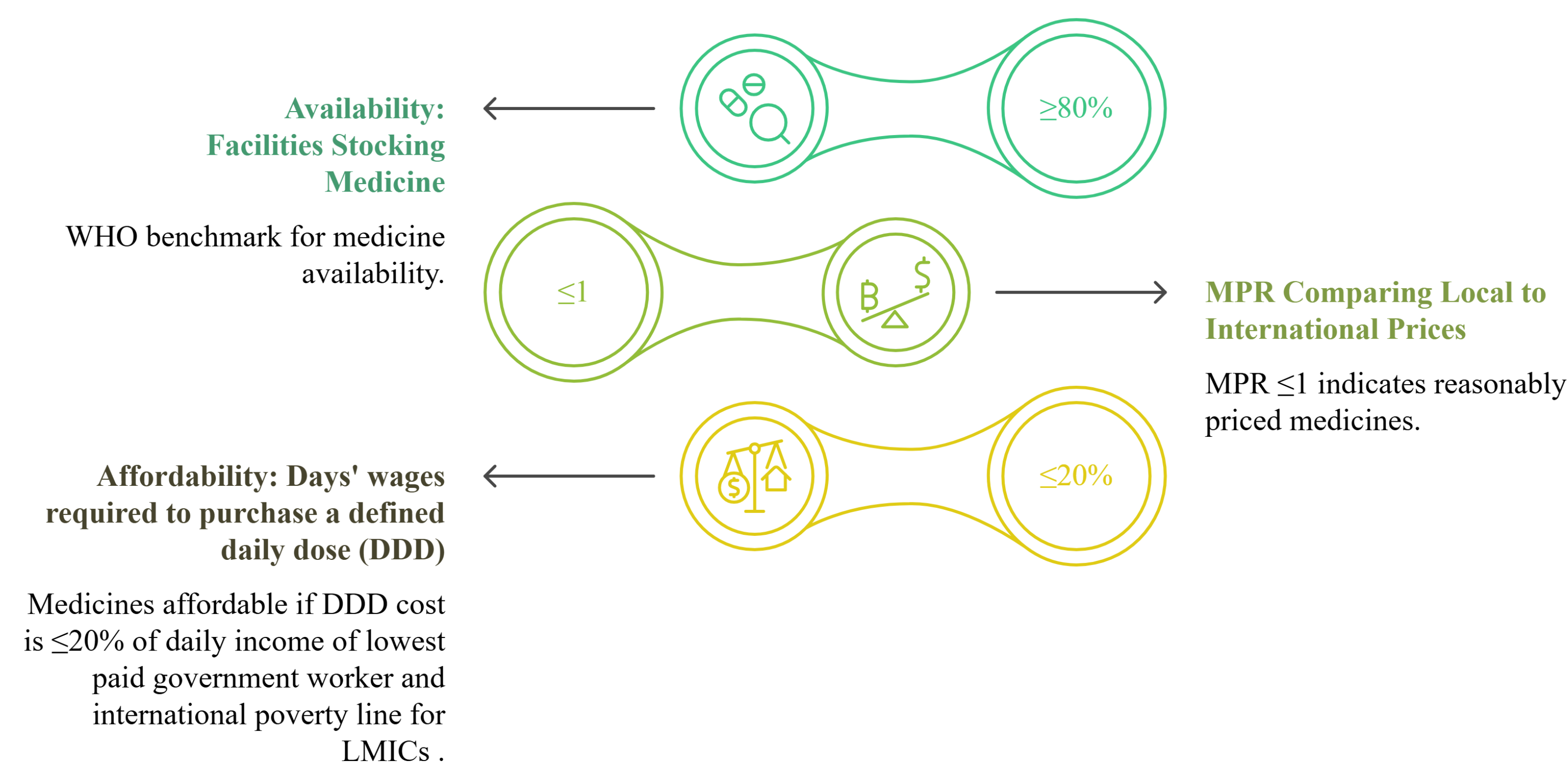
Data Collection: A standardized survey form hosted on REDCap was used to collect data on medicine availability and prices.

Table 1. Survey regions and facilities.

No.	Survey Region	Public Sector		Private Sector		Survey Outlets per Survey area
		Hospital	Hospital	Retail Pharmacy	Clinic	
1	North Central (Abuja)	3	1	1	-	5
2	South South (Rivers State)	1	1	1	-	4
3	Southeast (Enugu)	3	1	1	-	5

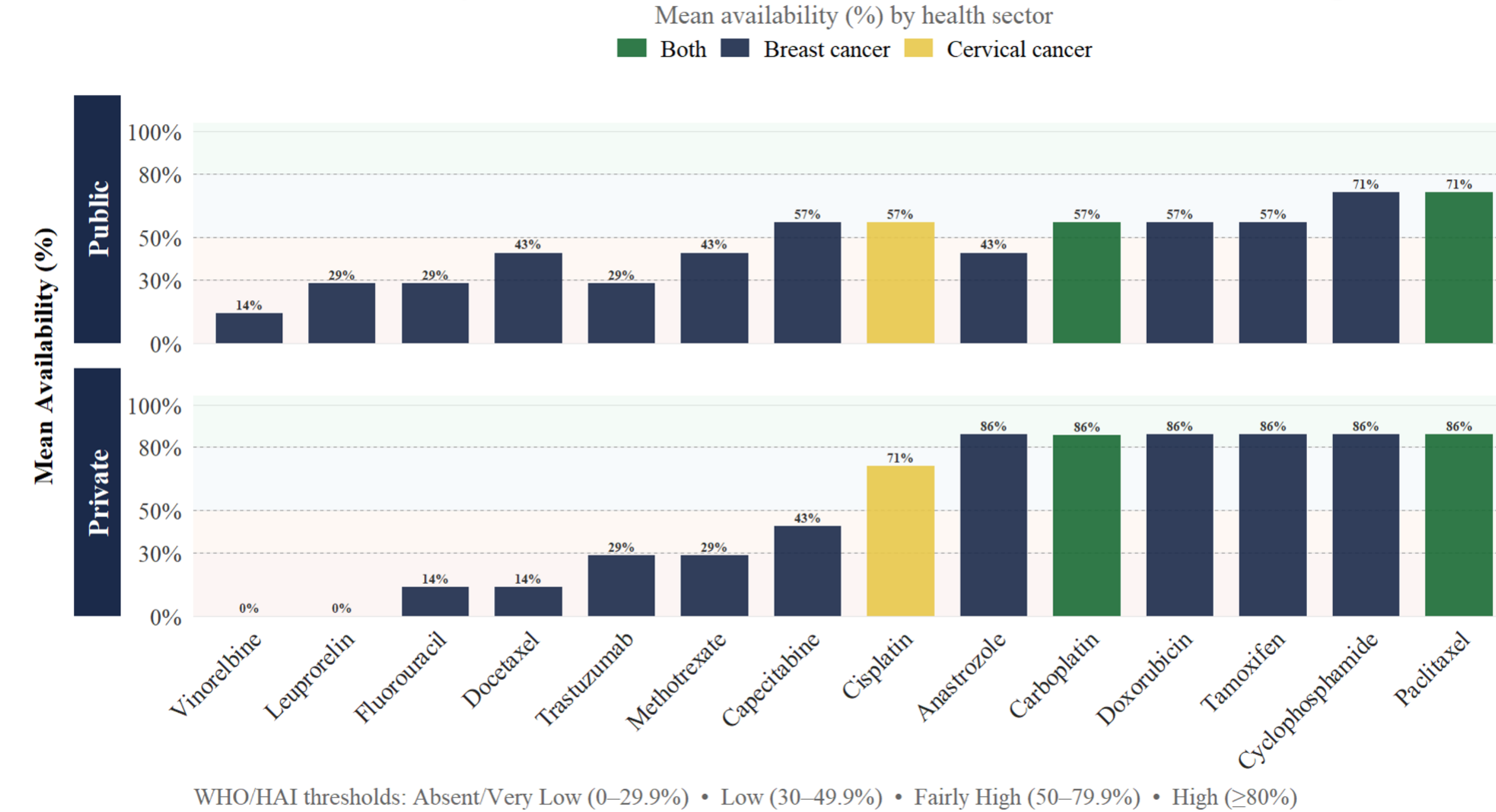


Medicine Availability, Prices, and Affordability Analysis



Results

Availability of Essential Medicines for Breast & Cervical Cancer in Nigeria

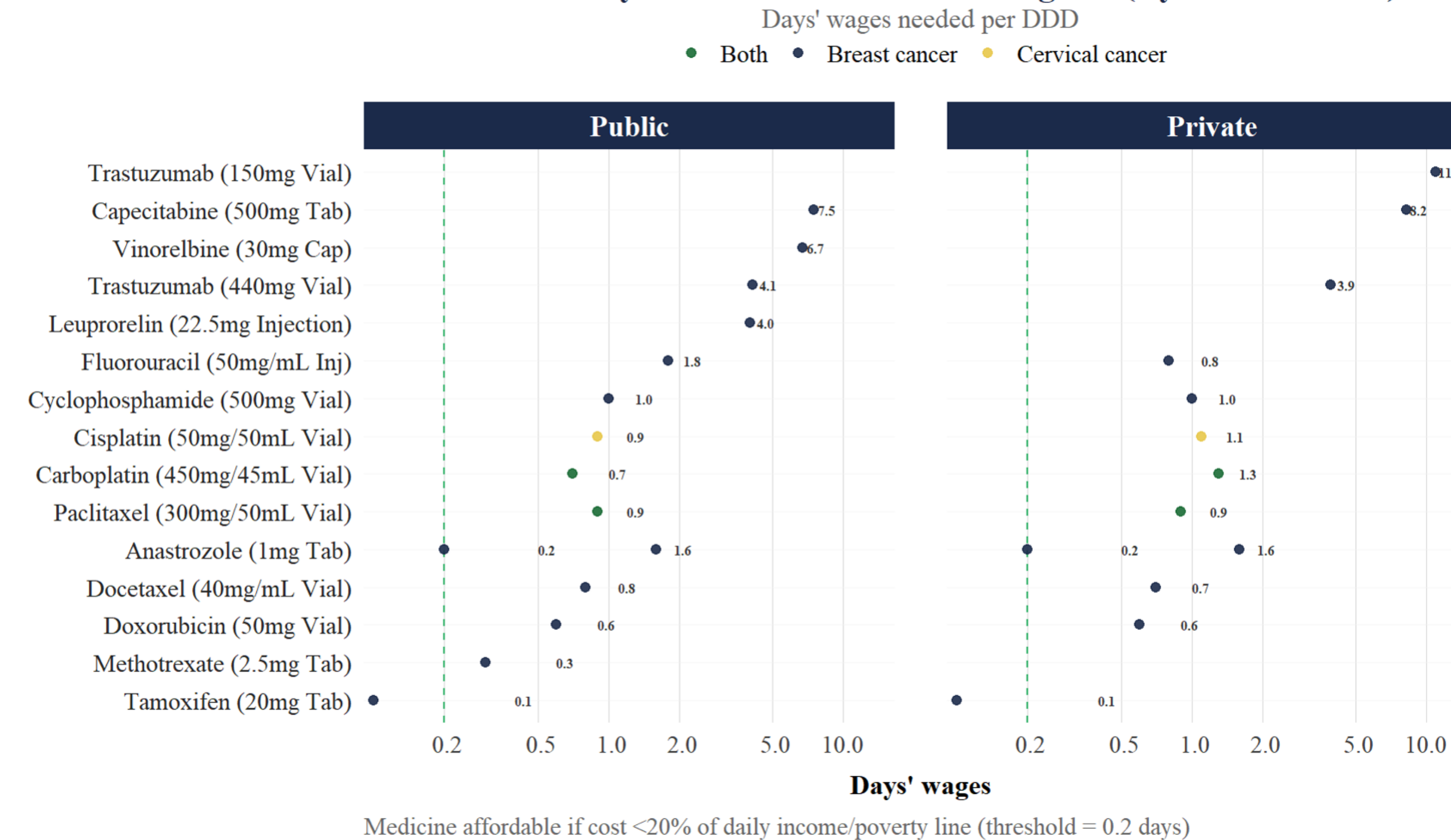


Availability was low in both sectors (public: 46.9%; private: 51.1%), well below the WHO benchmark of 80%.

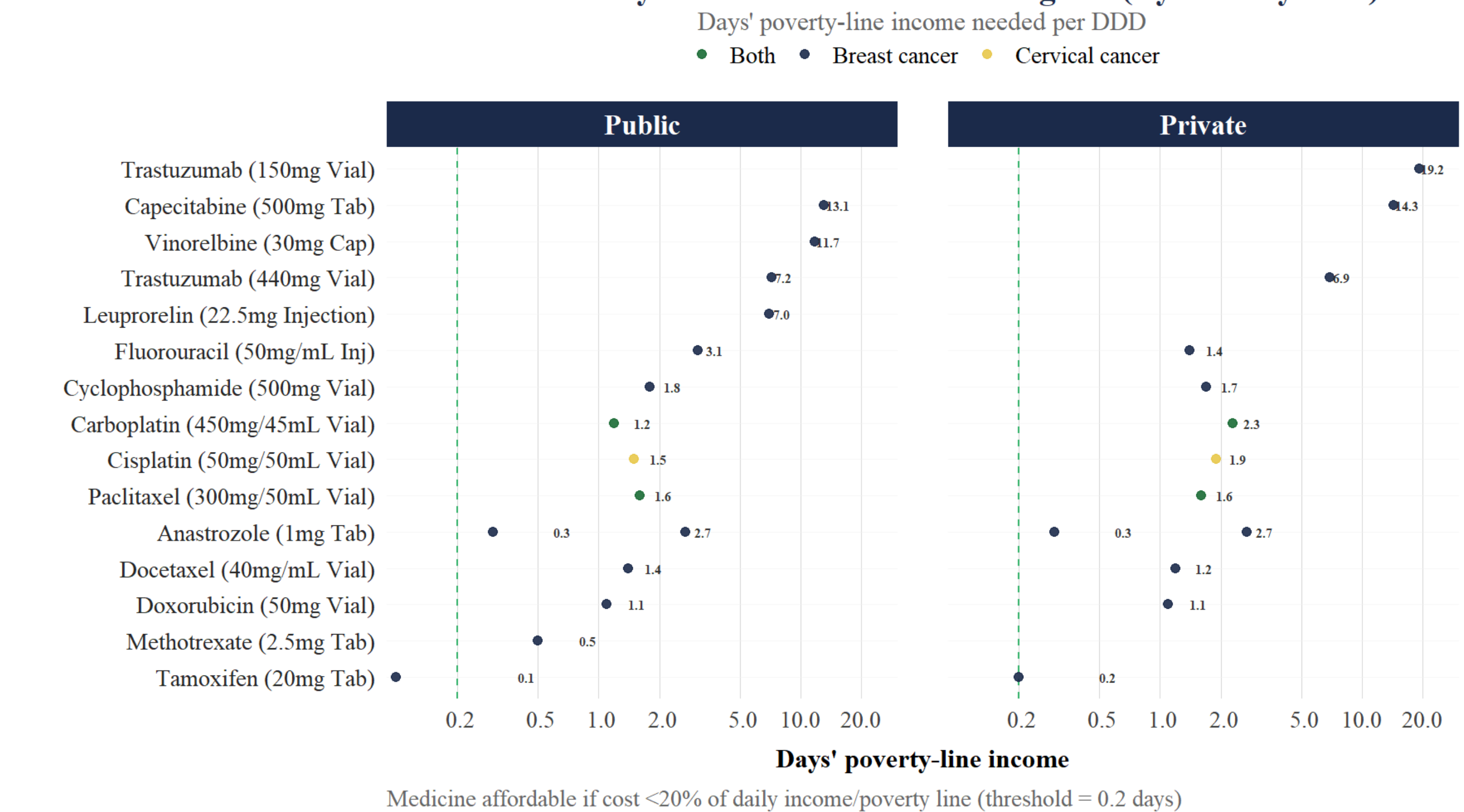
However, it was slightly higher in the private sector, where 6 of 14 medicines reached high availability levels, compared with none in the public sector.

In the public sector, all medicines were available but mostly at low levels, while in the private sector, vinorelbine and leuporelin were completely unavailable, indicating significant gaps in access.

Affordability of Cancer Medicines in Nigeria (By Income Level)



Affordability of Cancer Medicines in Nigeria (By Poverty Line)

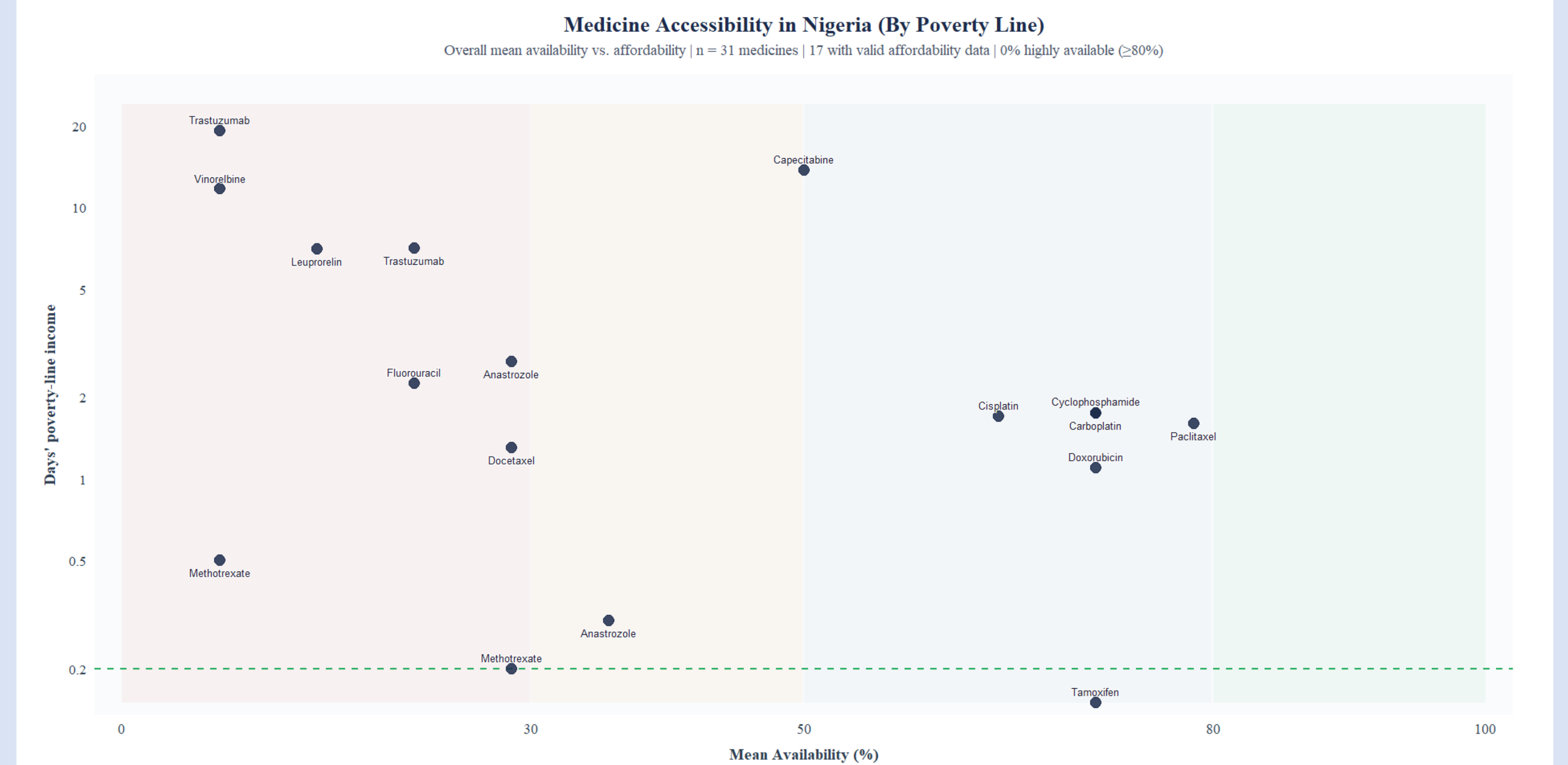


Results

Prices were moderately elevated above international reference levels (MPR: 1.56 public; 1.32 private), with no significant difference between sectors, indicating similar pricing patterns across the health system.

Affordability: The average cost of one DDD was USD 3.07, over three times the poverty-line affordability threshold (USD 0.84).

Affordability was poor across both sectors, with medicines requiring an average of 1.95 days' wages (public) and 2.25 days' wages (private) for the lowest-paid government worker. This increased to 3.20 (public) and 3.92 (private) days' wages when assessed against the international poverty line. Only two medicines (*anastrozole* and *tamoxifen*) were affordable for LPGW, and only *tamoxifen* remained affordable under the poverty-line threshold. In contrast, targeted therapies such as *trastuzumab* were highly unaffordable, requiring several days' income per DDD.



Availability-Affordability

Dual access barrier: Most medicines showed low availability and poor affordability, limiting access on both supply and financial dimensions.

Supply gaps in essential, affordable medicines: While *methotrexate* was relatively affordable, its low availability highlights critical supply-side constraints.

High-cost therapies remain out of reach: Medicines such as *trastuzumab*, *vinorelbine*, and *leuporelin* require multiple days of income, making them largely inaccessible to low-income populations.

Availability ≠ access: Several medicines (e.g., *paclitaxel*, *carboplatin*, *cyclophosphamide*) had moderate availability but remained unaffordable, highlighting that availability alone does not ensure access.

Conclusion

Low availability and poor affordability of essential medicines for breast and cervical cancers in Nigeria reveal a critical access gap, underscoring the urgent need for **income-sensitive pricing**, **strengthened procurement systems**, and **expanded access policies** to ensure equitable cancer care.

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