

Price variability in public procurement of oncological drugs in Peru

Variabilidad de precios en la adquisición pública de medicamentos oncológicos en el Perú

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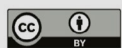
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Dear Editor,

Global healthcare spending on cancer drugs has grown steadily in recent years, driven by therapeutic innovation, expanded clinical indications, and the introduction of new biological agents. According to recent estimates, global spending on cancer drugs reached US\$223 billion in 2023, an increase of US\$25 billion compared to 2022, and is projected to rise to US\$409 billion by 2028 ^[1]. This increase has raised growing concerns about the financial sustainability of public health systems and their ability to ensure equitable access to high-cost cancer therapies.

In this context, price variability in the public procurement of cancer drugs has become an increasingly important issue. Substantial differences in the prices paid for the same drug can lead to inefficiencies in the use of public resources, restrictions on the volumes purchased, and potential risks to the continuity of treatment. Furthermore, high price heterogeneity can create gaps in timely access for patients, increase the financial burden on households, and limit the capacity of health systems to plan, prioritize, and finance the incorporation of future therapeutic innovations.

In Peru, cancer drugs are mainly purchased through public procurement processes carried out by multiple state entities, such as the Ministry of Health, regional governments, and other public institutions ^[2]. The coexistence of various implementing units and the fragmented structure of the procurement processes can contribute to heterogeneous procurement conditions, such that the same drug can be purchased at considerably different prices between public entities, even within the same year.

Given this scenario, the objective of this study was to describe the variability in the unit prices of selected oncology drugs purchased by the Peruvian public sector, to identify patterns that could guide future research and discussions on the organization of procurement processes.

A descriptive analysis of unit prices in the public procurement of oncology drugs was conducted using the State Electronic Procurement System (SEACE), the official platform that consolidates information on purchasing processes carried out by Peruvian public sector entities. Drug identification was based on the supplementary lists of the Single National List of Essential Medicines (PNUME) (Ministerial Resolution No. 945-2022-MINSA) ^[3] and its subsequent update (Ministerial Resolution No. 543-2025/MINSA) ^[4], which served as a reference framework for the analysis. All oncology medicines included in these supplementary PNUME lists were analyzed. These medicines comprised both small-molecule drugs and biological products, as defined in the PNUME supplementary lists. Price information for all identified medicines were obtained from SEACE for the period 2017-2024, considering all available procurement records, regardless of the year in which each medicine was incorporated in the PNUME. In total, eight oncology medicines were identified from the supplementary PNUME lists. Of these, seven had at least one recorded unit price in SEACE during the period 2017-2024 and were included in the analysis, while one medicine had no available price records. Medicines were considered to have sufficient information to assess price variability when they presented more than one price observation within the same year or across different years.

For each medicine, unit prices were examined on an annual basis. Price comparisons were conducted using the same formulation, concentration, and pharmaceutical presentation, as specified in the procurement records. When more than one price was recorded within a given year, the minimum and maximum unit prices were identified. When only a single unit price was registered, this value was reported as a unique price. To describe price variability over the 2017–2024 period and to ensure a clear and comparable presentation across medicines, the analysis focused on two reference years for each drug: the most recent year for which unit price information was available and, when applicable, a previous year with recorded procurement data. This approach allows cross-sectional comparison between selected time points rather than a continuous temporal trend analysis, given the irregular and non-continuous nature of procurement price data. Monetary values were reported as unit prices

in Peruvian soles (S/), using the nominal values reported in SEACE for each procurement process, without applying currency conversions or inflation adjustments.

Across the medicines with available price data, marked variability in unit prices was observed among public entities for several oncology drugs (Figure 1). This variability was evident both in the most recent year with available data and, when applicable, in a previous reference year. For trastuzumab, unit prices ranged from S/ 348.00 to S/ 480.00 in the most recent year (2024), corresponding to a relative difference of more than 35%, and from S/ 4,680.30 to S/ 5,200.35 in the previous year (2017), representing an approximate 11% difference between the minimum and maximum prices. Marked variability was also observed in lower-cost medicines such as aprepitant, for which the maximum unit price in the most recent year was more than twice the minimum. For doxorubicin liposomal,

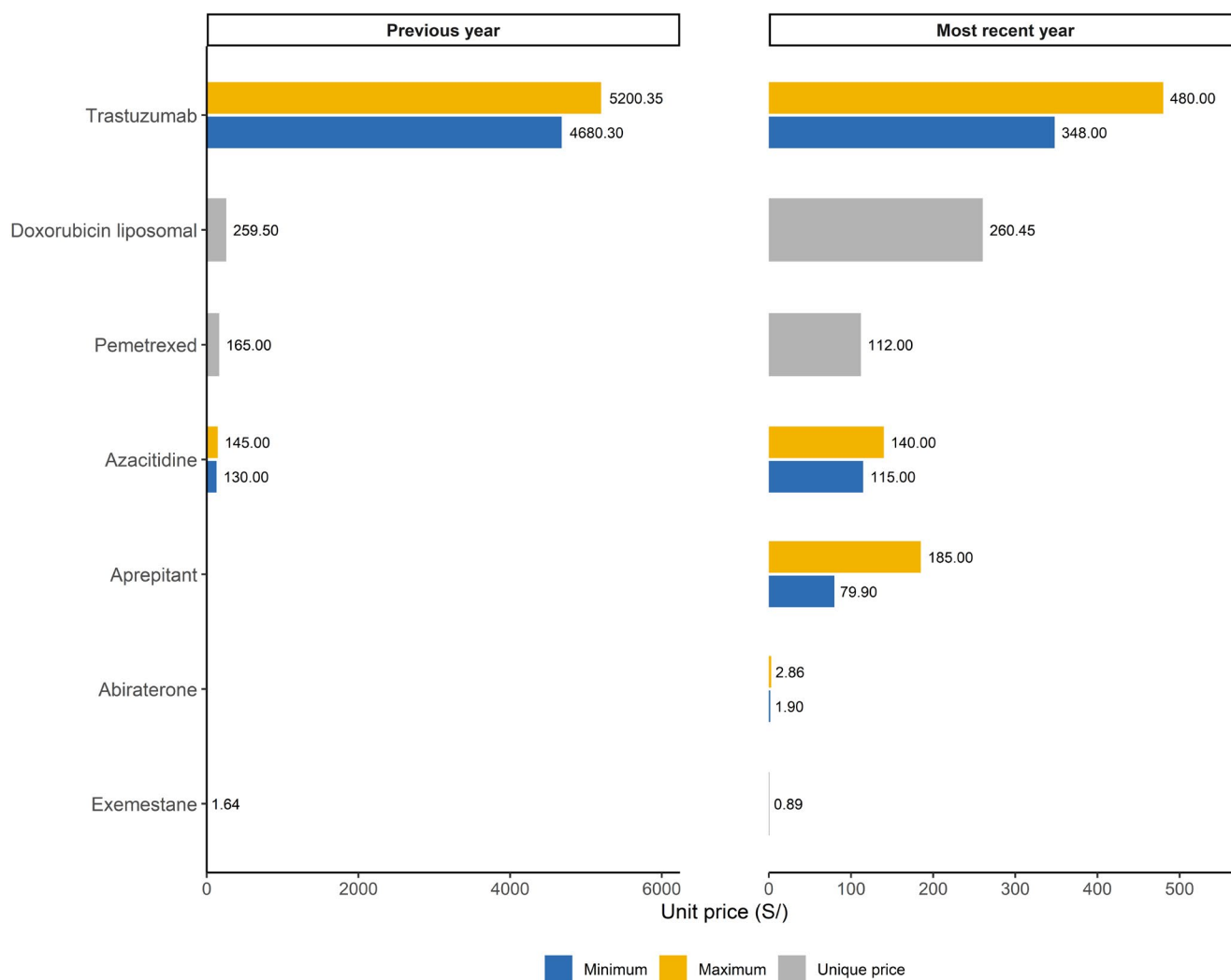


Figure 1. Comparison of prices paid by Peruvian State entities for drugs used in the treatment of oncological diseases. For trastuzumab (440 mg injectable) and azacitidine (100 mg powder for injectable solution), the most recent year corresponds to 2024, while the previous year corresponds to 2017 for trastuzumab and 2023 for azacitidine. For aprepitant (125 mg + 80 mg tablet) and abiraterone (250 mg tablet), prices were available only for 2024 and 2023, respectively. Doxorubicin liposomal (2 mg/mL injectable, 10 mL), exemestane (25 mg tablet), and pemetrexed (500 mg injectable) have a single annual unit price registered in SEACE. For doxorubicin liposomal, prices correspond to 2022 (previous year) and 2024 (most recent year); for exemestane, to 2021 (previous year) and 2023 (most recent year); and for pemetrexed, to 2021 (previous year) and 2024 (most recent year).

exemestane, and pemetrexed, only a single unit price was recorded in the years analyzed.

Our findings show marked variability in the purchase prices of certain cancer drugs among public entities in Peru, even within the same year, suggesting that the differences observed cannot be attributed exclusively to temporary factors. From a descriptive perspective, this variability may reflect heterogeneity in bargaining power, purchase volumes, institutional capacity, and contractual conditions under which different public purchasers operate.

Evidence from low- and middle-income countries indicates that fragmentation on the demand side, together with suppliers' market power, is associated with substantial price dispersion across procurement channels within the same country, with potential consequences for public health budgets and access to treatment ^[5].

In contexts where the procurement of cancer drugs is distributed among multiple entities, these dynamics can intensify, particularly in therapeutic markets characterized by limited competition.

In the Peruvian context, where public procurement of cancer medicines is carried out by multiple entities with different procurement volumes and negotiation capacities, the observed price variability may reflect structural inefficiencies associated with a fragmented purchasing system. From a health system perspective, such fragmentation may limit bargaining power, reduce economies of scale, and contribute to heterogeneous pricing outcomes across public entities ^[6]. These constraints are likely to be amplified in therapeutic markets characterized by limited competition, as is often the case for oncology drugs. Factors such as patent status and the presence or absence of generic competition, which were not assessed in this analysis, may also contribute to observed price dispersion. In addition, differences between small-molecule drugs and biological products, including the availability of biosimilars and distinct market dynamics, may further influence pricing variability across medicines.

In conclusion, marked variability is present in the unit prices of cancer drugs purchased through public procurement processes in Peru. This pattern of price heterogeneity, observed even within the same year, has potential implications for the efficient use of limited public health budgets and for the sustainability of access to essential cancer therapies. These findings provide a basis

for future research aimed at examining how procurement organization, market structure, and negotiation practices influence pricing outcomes within the public sector.

Author contributions

NPB: Conceptualization, Methodology, Data Curation.
NPB and JGV: Software, Formal Analysis. **CRR:** Validation.
NPB, JGV and CRR: Writing – Original Draft, Writing – Review & Editing, All authors assume full responsibility for the content of the manuscript.

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Conflict of interest statement

Nilthon Pisfil-Benites and Carlos Rojas-Roque declare no conflicts of interest. Jamee Guerra Valencia is an Associate Editor of Medical Education & Clinical Practice.

Generative Artificial Intelligence use statement

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) for the sole purpose of language editing and stylistic refinement. Subsequently, the authors carefully reviewed and edited the content as needed and take full responsibility for the accuracy, originality, and integrity of the work. No AI tools were used to generate scientific content, analyze data, interpret results, or draw conclusions.

Data availability statement

Data are publicly available from the SEACE platform (<https://prod2.seace.gob.pe/seacebus-uiwd-pub/buscadorPublico/buscadorPublico.xhtml>) and the referenced PNUME documents.

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