EVOLUTION OF CANCER TREATMENT COST IN THE LAST 36 MONTHS: AN ANALYSIS FROM A HEALTH PAYER PERSPECTIVE IN BRAZIL

Reis Neto, J P and Busch, J M

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BACKGROUND

Cancer, in addition to being one of the main causes of illness and death, represents one of the highest public and private healthcare costs. Regardless of the health plan operator's population profile, the direct costs of cancer represent a real threat to the system's sustainability. The objective of this study is to analyze the evolution of the use and costs of pharmacological therapies, which include chemotherapy, targeted therapy, hormone therapy and immunotherapy from a healthcare payer perspective.

WHY — cancer is one of the main causes of illness and death, representing one of the highest public and private healthcare costs worldwide

WHAT — to analyze the evolution of the use and costs of pharmacological therapies, which include chemotherapy, targeted therapy, hormone therapy and immunotherapy

WHERE — Brazil

WHEN — september/2019 to august/2022

HOW — retrospective cohort study from an administrative database patients diagnosed with cancer who received pharmacological treatment

METHODS

Retrospective cohort study from an administrative database, which consists of all health plan beneficiaries diagnosed with cancer and who received pharmacological treatment during the last 36 months (September/2019 to August/2022). Based on Period 1 (P1, Sep/2019 to Aug/2020), we analyzed the evolution in the other periods (P2 and P3, Sep/2020 to Aug/2021 and Sep/2021 to Aug/2022, respectively) of the use of chemotherapy and the costs involved (per capita and per patient treated). We also look through the evolution of expenses with oral antineoplastic therapies and their proportion in relation to other routes of administration. We a evaluated the most prescribed active ingredients in the period. Microsoft Excel® v2010 and Qlik Sense® v13.21 were used for relative and absolute frequencies, means and standard deviation (95% confidence intervals, significance when p<0.05).

P1 – Sep/19-Aug/20   **P2 – Sep/20-Aug/21**   **P3 – Sep/21-Aug/22**
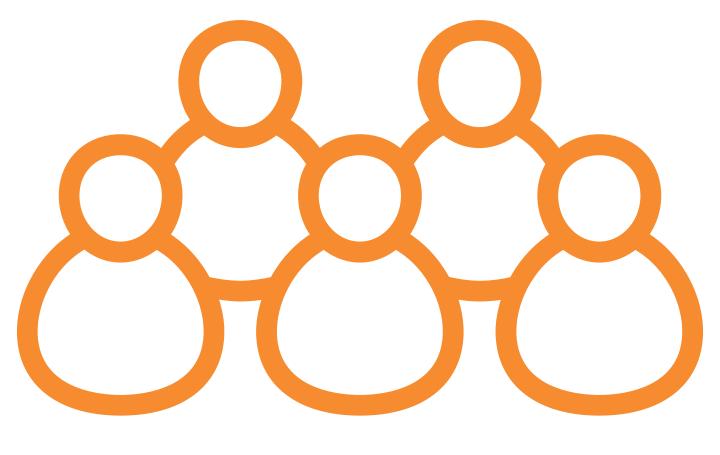
RESULTS

During the study period, 982 beneficiaries (683, 601 and 572, respectively in P1, P2 and P3) underwent treatment with antineoplastic therapies (mean age 68 years, 50.7% women). In P1, 1.6% of the total exposed received some type of chemotherapy. In the following intervals, the percentage increased: P2=1.7% and P3=2.1%. Although the cost per patient treated increased by only 4.7% in 36 months, the annual expense per patient, that is, all beneficiaries of the plan and not just those diagnosed with cancer, increased by 40.5%. It should be noted that the variation that occurred in P2 in relation to P1 was 7.8%, however, in P3 compared to P2, 30.3%. The proportion of patients receiving oral antineoplastics in relation to all treated individuals remained relatively stable (P1=53.6%, P2=54.7% and P3=52.3%). The ten active ingredients with the highest financial consumption and corresponding to more than half of the total expenses were: nivolumab, daratumumab, bevacizumab, trastuzumab, pembrolizumab, pertuzumab, enzalutamide, atezolizumab, paclitaxel and brentuximab vedotin.

% treated + 34.2%

cost per exposure + 40.5%

cost per patient + 4.7%

982 beneficiaries

68 years

51% women

CONCLUSIONS

Molecular and immunological therapies have revolutionized cancer treatment and improved patient outcomes and survival; however, the advent of these new treatment options represents an additional challenge for the healthcare system. In the last 36 months, as showed in this study, the per capita cost of cancer treatment has increased by around 40%, particularly in the last period, which coincides with the expansion of the national list of mandatory coverages in Brazil and the resumption of procedures due to the cooling of the pandemic by the new coronavirus. During the period, the proportion of patients receiving oral drugs in oncology was maintained, and only one of these molecules is among the ten drugs with the highest financial consumption. Minimizing the financial impact of the new technologies used to treat cancer, through responsible management focused on the patient and based on the best scientific evidence, is fundamental for maintaining the sustainability of the system.

KEY POINTS

▶ Cancers are a leading cause of mortality, accounting for nearly 10 million annual deaths worldwide, or 1 in 6 deaths.

▶ The economic burden and the health burden were distributed unequally across countries, world regions, and country income groups.

▶ In Brazil, cancer, in addition to being one of the main causes of illness and death, represents one of the highest public and private healthcare costs.

▶ The ten active ingredients with the highest financial consumption and corresponding to more than half of the total expenses were: nivolumab, daratumumab, bevacizumab, trastuzumab, pembrolizumab, pertuzumab, enzalutamide, atezolizumab, paclitaxel and brentuximab vedotin. Only one of those is an oral antineoplastic drug.

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