

# A HEALTH-RELATED COST AND MORTALITY COMPARISON BETWEEN EARLY AND LATE-STAGE LUNG CANCER: A RETROSPECTIVE COHORT STUDY FROM A BRAZILIAN HEALTH MANAGEMENT ORGANIZATION (HMO)

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## OBJECTIVES

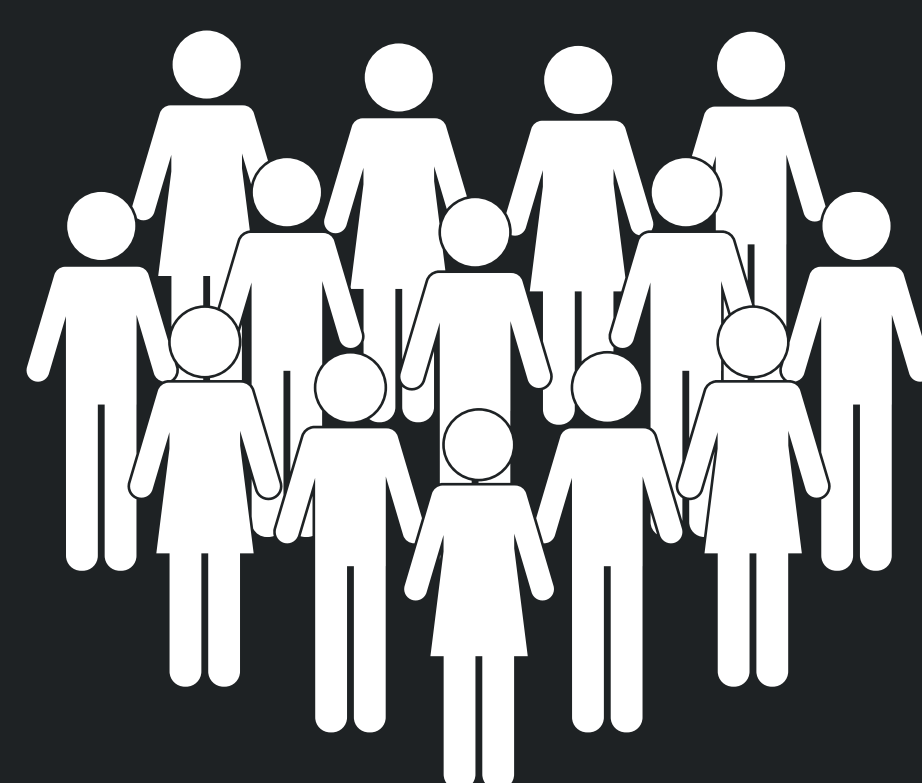
Lung cancer (LC) is the leading cause of cancer-mortality worldwide, and in Brazil, it is the fourth most incident cancer. The diagnosis of LC often happens at advanced stages and are associated with direct high-cost expenses. This study estimated the direct costs of care of LC by stage from HMO's perspective.



## METHODS

Retrospective study of patients identified with LC (ICD-10 code C34) between Sep/2019-Aug/2022 in a nationwide base of health insurance claims data of 59,163 beneficiaries. Primary outcome was the median cancer-related health care direct costs per-patient/month after diagnosis grouped by disease stage (TNM UICC 1988): early-stages (I/II)/late-stages (III/IV). These costs were analyzed until interruption of chemo/imuno or radiotherapy due to treatment toxicities, disease progression or death. Binary state of mortality was compared. Descriptive statistical and nonparametric analysis were used (Mann-Whitney U test and Kruskal-Wallis one-way analysis of variance), 95% confidence intervals, significance  $p < 0.05$ . Unit costs: R\$ 5.10/USD\$ 1.00.

**Sep/2019** — **Aug/2022**



**59,163**  
beneficiaries

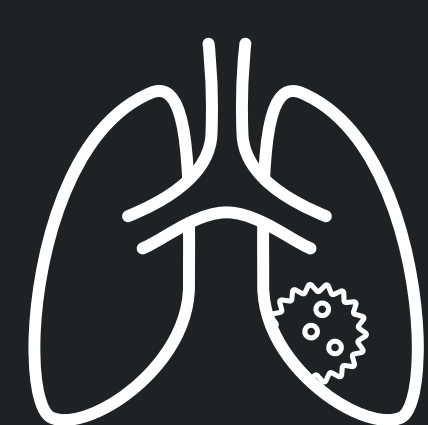
Primary outcome was the median cancer-related health care direct costs per-patient/month after diagnosis

**2 Groups**  
**early-stages**  
**late-stages**

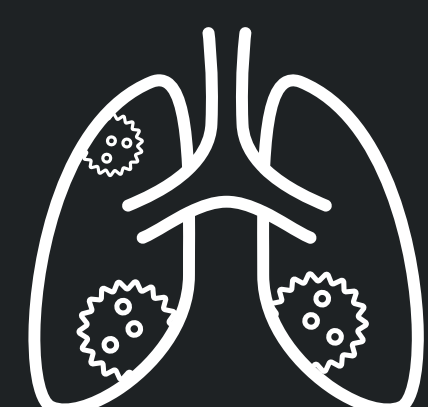
## RESULTS

53 patients meeting inclusion criteria were identified. Mean age, 70.2 years; 54.7%, women. Late-stages represented 86.8% of all patients. Significant incremental median monthly cost (SD) was identified, associated with substantially higher disease-related costs at advanced stages, ranging from USD\$ 664 (USD\$5,112) for stages I/II tumors to USD\$6,836 (USD\$4,662) for stages III/IV ( $p = 0.001$ ). The most expensive items consisted of systemic anticancer drugs in both groups (76.0% and 79.7%, respectively). Mortality was 12.5% for initial stages and 46.7% advanced stages ( $p = NS$ ).

**Mean age, 70.2 years**  
**54.7% women**



for stages I/II tumors  
**USD\$ 664**



for stages III/IV ( $p = 0.001$ )  
**USD\$ 6,836**

**Mortality**  
**12.5%**  
for initial stages

**46.7%**  
advanced stages ( $p = NS$ )

## CONCLUSIONS

In our study, LC was diagnosed essentially at late-stage, which is associated with higher direct costs and mortality when compared to initial-stage. The study highlights the importance of developing effective strategies to diagnose and treat LC at earlier stages and may guide decisions of policymakers regarding the allocation of resources in Brazilian private market and payer perspective.

## REFERENCES

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