

# Implications of COVID-19 treatment post-pandemic: The Bulgarian Perspective

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## Introduction

As of May 2024, the Bulgarian COVID-19 information portal reports 1,339,945 confirmed cases, with 8,117 currently active (0.13% prevalence).<sup>(1)</sup> Although a range of treatments have been developed for patients, supportive care is primarily used in patients who have already progressed to severe disease.<sup>(2)</sup> An unmet need for a drug treating moderate to severe COVID-19 exists.

## Methods

### Cost-Effectiveness Model (CEM)

- Adult analysis: Cost-effectiveness model with decision tree and Markov model over a lifetime
- Paediatric analysis: Average cost-effectiveness ratio (ACER) based on clinical data.

### Budget Impact Model (BIM)

- Five-year projection; Conducted using a Microsoft Excel model. Utilised data from the Bulgarian COVID-19 information portal.

## Results

Reimbursing the antiviral drug will cost BGN 20,484,042.86 for adults with pneumonia requiring oxygen, BGN 4,297,247.67 for adults with pneumonia not requiring oxygen, BGN 4,815,663.29 for paediatric patients with pneumonia requiring oxygen, and BGN 681,170.88 for paediatric patients with pneumonia not requiring oxygen, over five years.

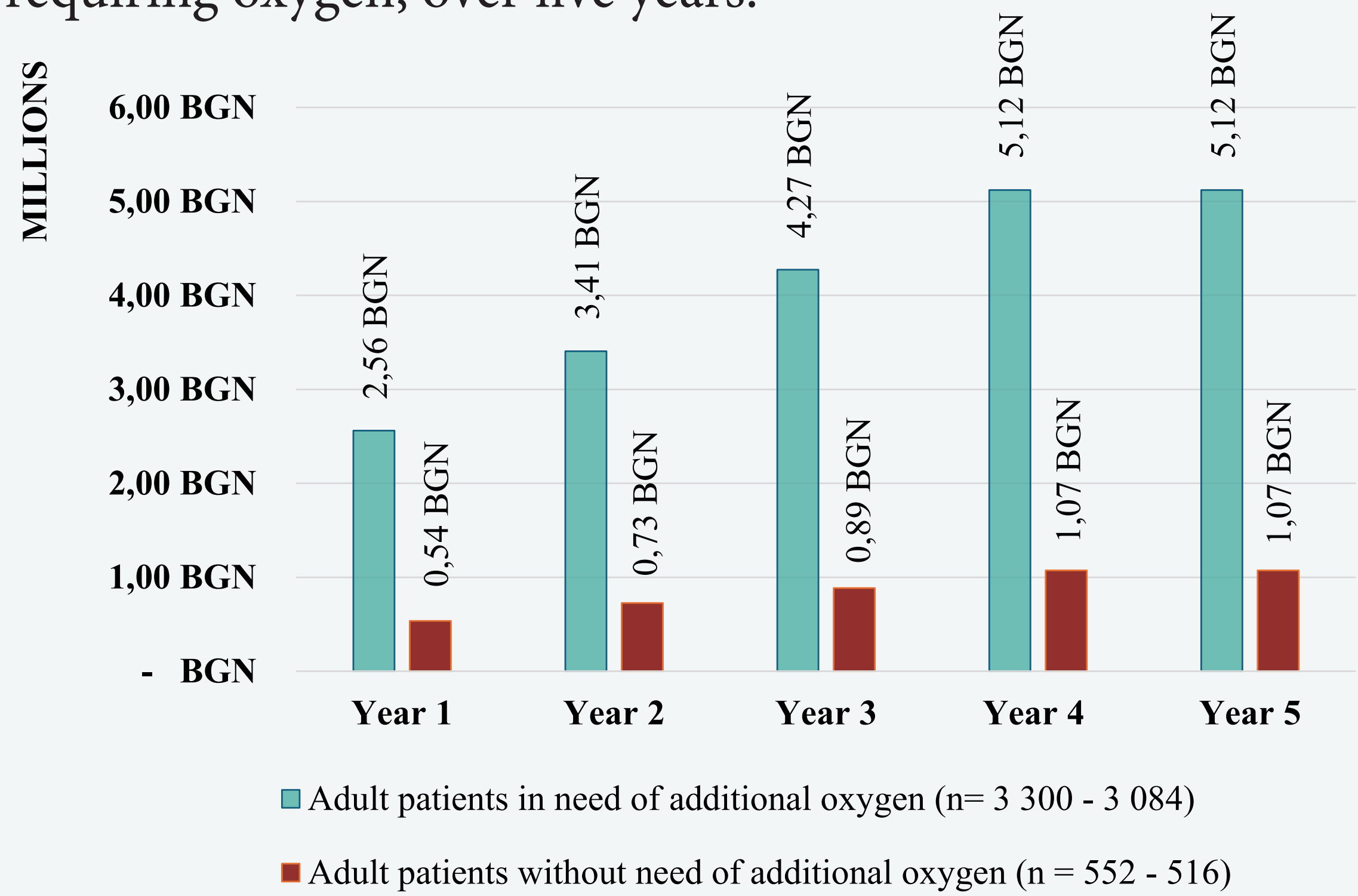


Figure 1. Budget impact of reimbursing the antiviral drug among adults with pneumonia

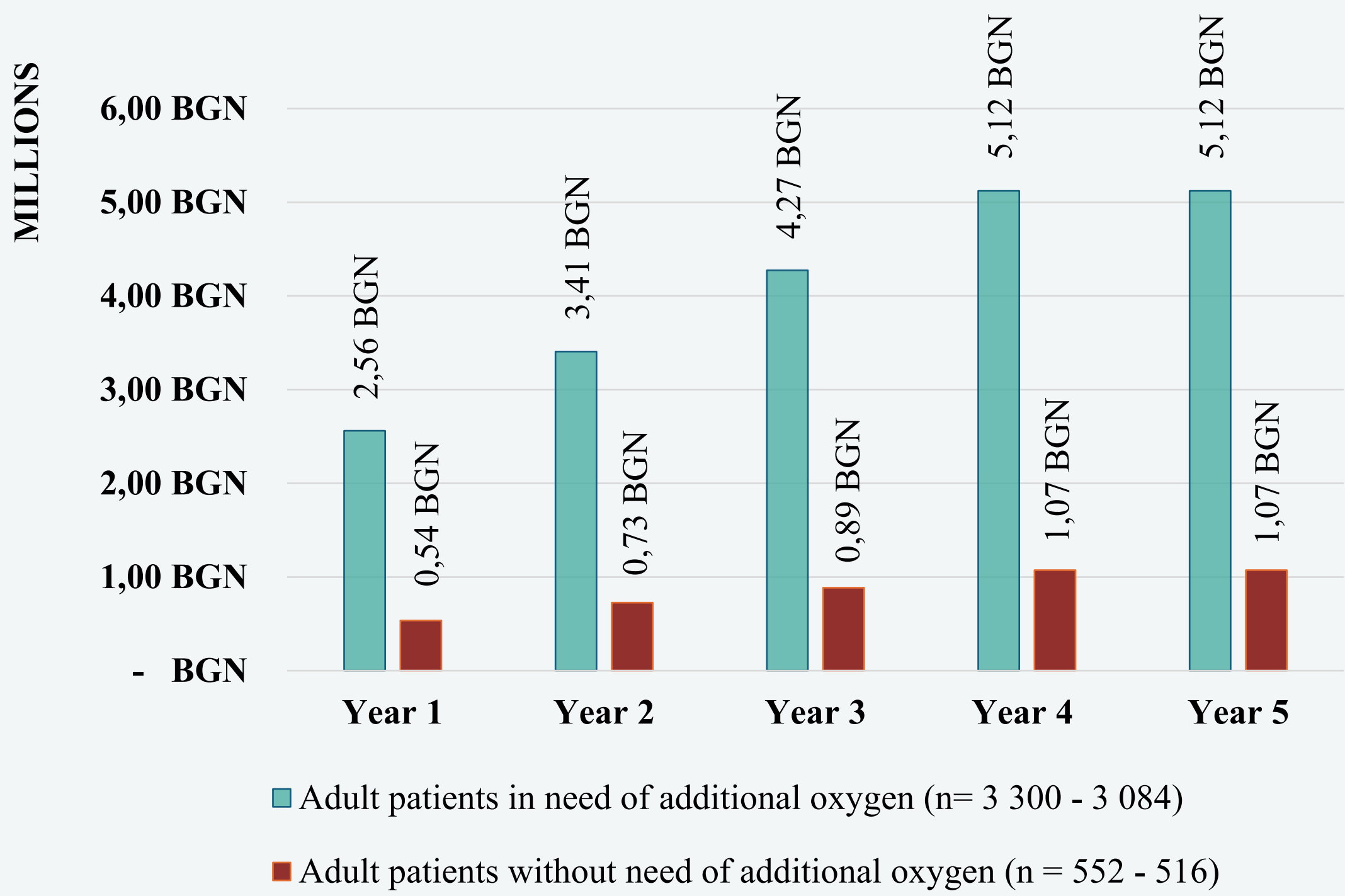


Figure 2. Budget impact of reimbursing the antiviral drug among pediatric patients with pneumonia

Despite the added costs, the CEM analysis reveals that drug increases health benefits by +2.82 LY of which +2.15 QALY per adult without oxygen requirement and by +2.45 LY, of which +1.87 QALY per adult with oxygen requirement, compared to the standard of care. The drug is considered cost-effective for adults both with and without oxygen needs. It is also cost-effective for the paediatric population, reducing the need for mechanical and non-invasive ventilation, as well as decreasing COVID-19 related hospitalization and mortality rates.

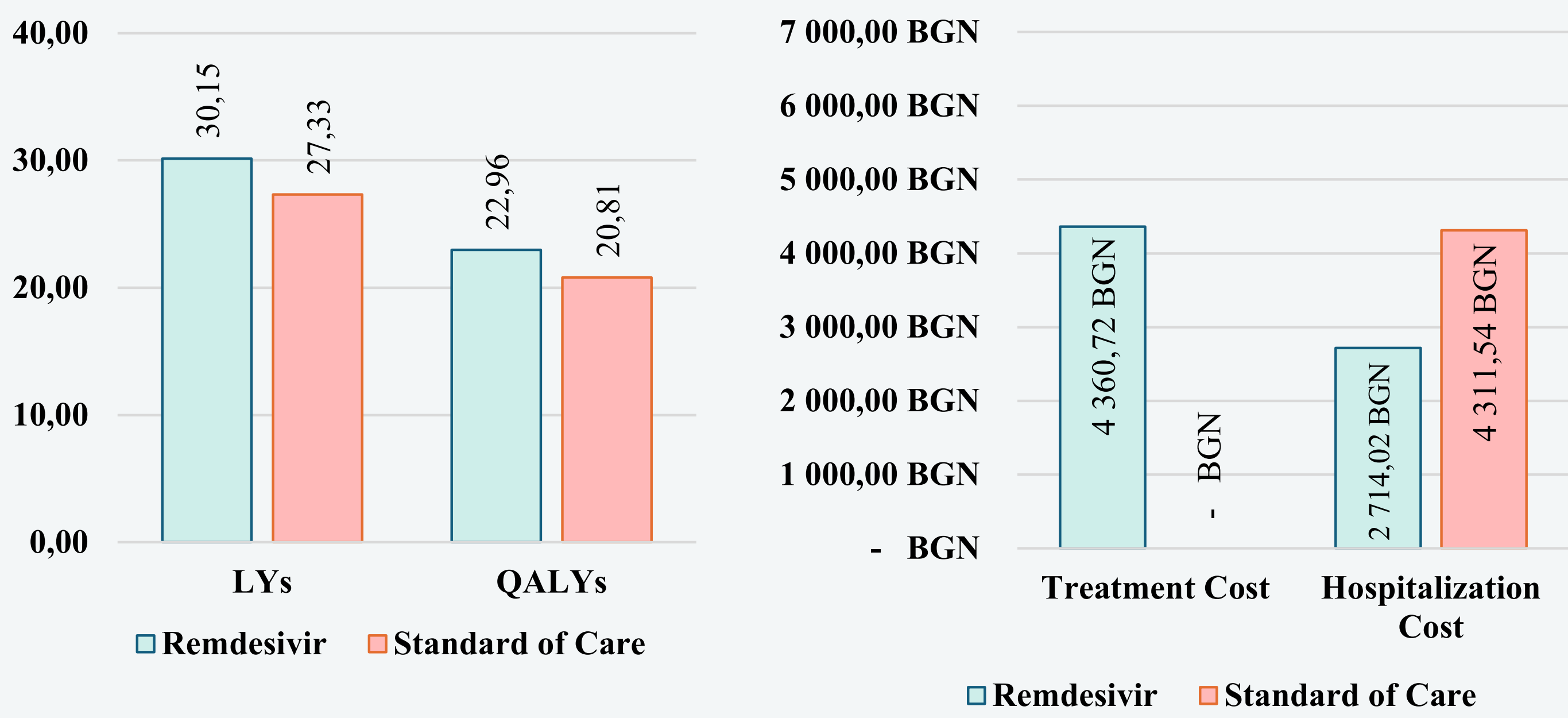


Figure 3. Cost of therapy, LYs and QALYs gained of the evaluated drug vs. standard of care among adult patients not requiring additional oxygen supply

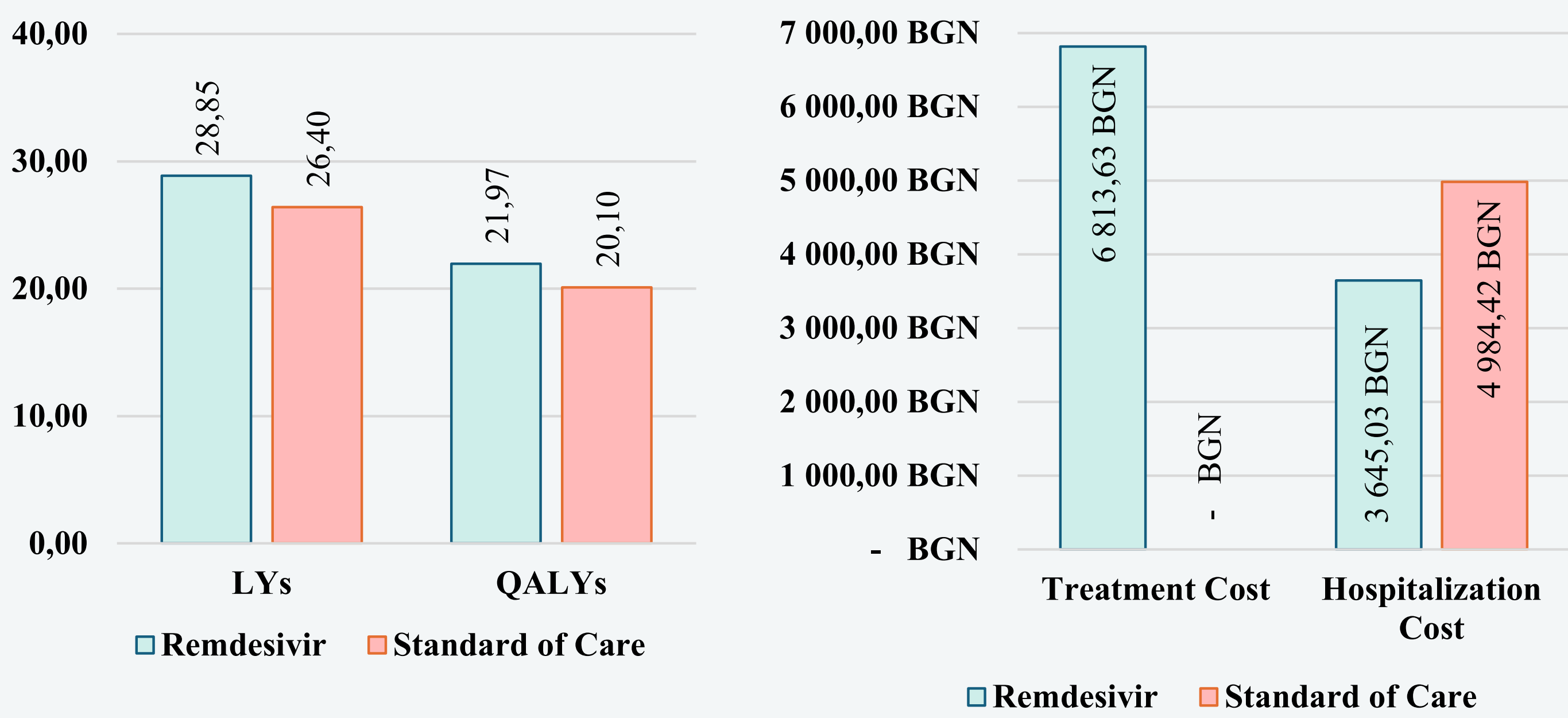


Figure 4. Cost of therapy, LYs and QALYs gained of the evaluated drug vs. standard of care among adult patients requiring additional oxygen supply

## Conclusion

Despite the incurred costs, reimbursing the drug would improve health outcomes and decrease the need for assisted ventilation, reducing hospitalisation costs for NHIF. The analyses demonstrate results from one country part of CEE.

## References

1. Covid-19.National Statistical Institute of Republic of Bulgaria. Accessed: May, 2024. <https://www.nsi.bg/en/content/18120/basic-page/covid-19>
2. Wong CKH, Wong JYH, Tang EHM, et al. Clinical presentations, laboratory and radiological findings, and treatments for 11,028 COVID-19 patients: a systematic review and meta-analysis. Sci Rep 2020;10:19765

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