

SOCIETAL AND ECONOMIC IMPACT OF IMMUNOTHERAPY FOR NSCLC TREATMENT IN BULGARIA

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INTRODUCTION:

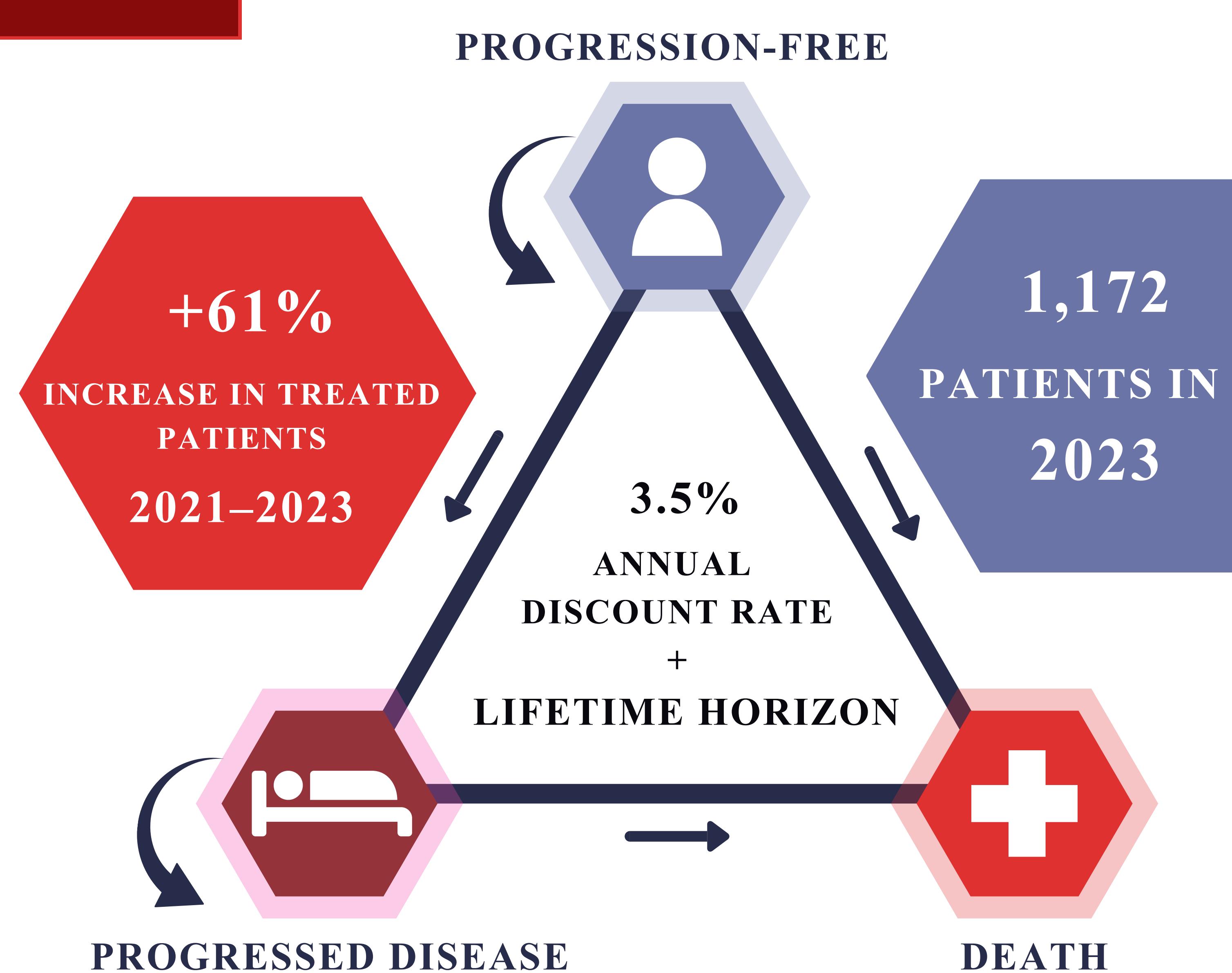
Non-small cell lung cancer (NSCLC) accounts for the majority of lung cancer cases and remains a leading cause of cancer-related mortality worldwide. This analysis aimed to estimate the societal and economic impact of immunotherapy for NSCLC in Bulgaria by modelling projected health outcomes and translating quality-adjusted life years (QALYs) gained into economic productivity, focusing on working-age patients across disease stages and treatment lines.

METHODS:

A partitioned survival model (PSM) with three health states and a 3.5% annual discount rate over a lifetime horizon was developed. The model is adaptable to other countries with similar data availability. QALY gains per patient were estimated based on disease stage and treatment line, using survival and utility data from published clinical trials. These stage-specific health gains were multiplied by the number of treated patients in each group, based on real-world data from the Bulgarian National Health Insurance Fund (NHIF). Between 2021 and 2023, the number of NSCLC patients treated with immunotherapy increased by 61%, reaching 1,172 individuals.

CONCLUSIONS:

Immunotherapy in NSCLC demonstrates strong societal and economic value, particularly when initiated earlier in the disease course. The substantial QALY gains and measurable GDP contributions highlight the dual benefit of improving individual outcomes and supporting national economic productivity.



RESULTS:

The economic impact was estimated by calculating the cumulative GDP contribution—combining the number of working-age patients, projected additional years lived within working age, and the average annual GDP per employed person, using National Statistical Institute data. QALY gains were highest in early-stage patients (8.37), followed by first-line advanced-stage treatment (2.89) and second-line treatment (1.21). The total GDP contribution associated with these working-age patients was estimated at EUR 17,533,507.

HEALTH AND ECONOMIC OUTCOMES



GDP CONTRIBUTION: €17.5 MILLION



EARLY STAGE: +8.37 QALY

ADVANCED – 1ST LINE: +2.89 QALY

ADVANCED – 2ND LINE: +1.21 QALY

