

Estimating
the Budget and Health Impact

of the PD-1/PD-L1 inhibitor class

in Poland

February 2021

Objectives

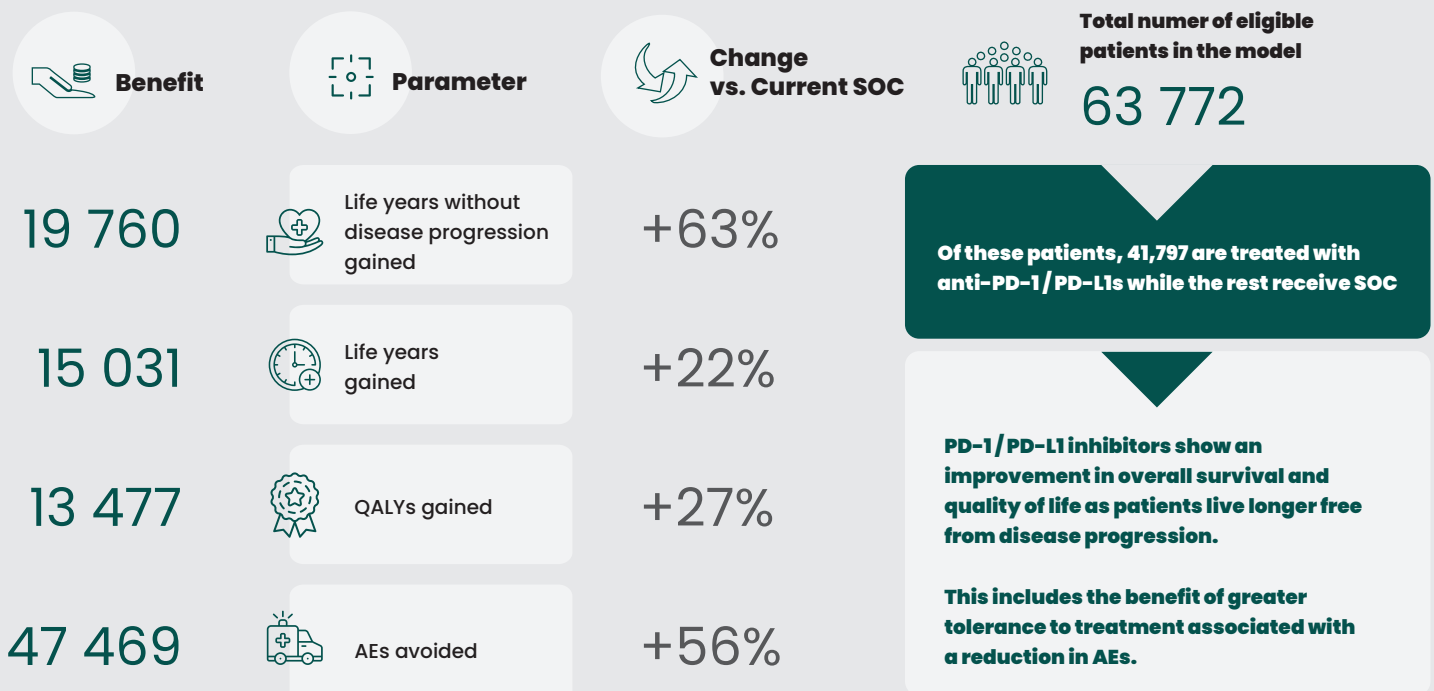
Immunotherapy has transformed cancer care, offering improved outcomes in a range of indications, greater quality of life, survival benefits, and regimen tolerability. However, the rapid expansion of immuno-oncology (IO) treatment options and their use has led to concerns about potentially putting healthcare budgets under strain. The objective of this study was to estimate the potential public health and budget impact of PD-1/PD-L1 inhibitors in Poland.

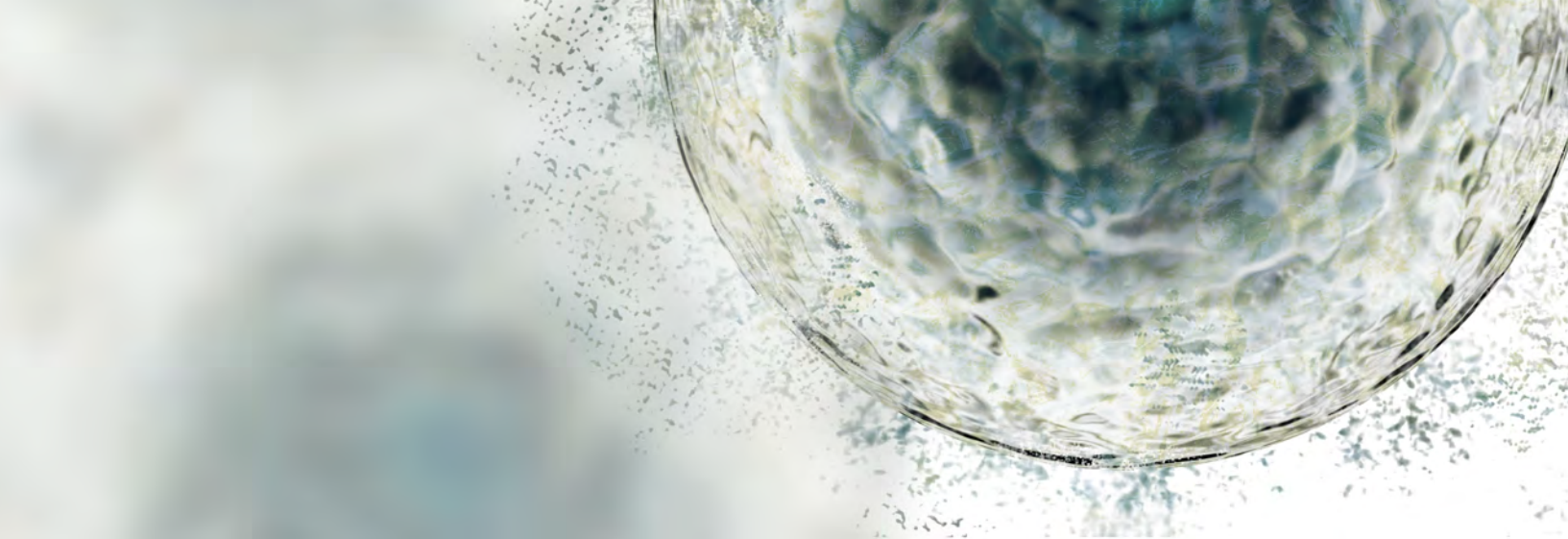
Methods

Budget impact analysis and partitioned survival modelling were used to estimate key clinical and economic outcomes in a world with and without PD-1/PD-L1 inhibitors in nine high-incidence cancer types: adjuvant melanoma, metastatic melanoma, first line (1L) non-small cell lung cancer (NSCLC), second line (2L) NSCLC, urothelial carcinoma, 1L renal cell carcinoma (RCC), 2L RCC, 1L head and neck cancer and 2L head and neck cancer, over a five-year period (2021-2025) compared to standard of care (SOC) treatments. Drug acquisition costs and market share assumptions were based on publicly available information, while efficacy and adverse events data were taken from clinical trials.

Results

Additional 15,031 life years, 19,760 progression-free life years, and 13,477 quality-adjusted life years are projected to be gained by using PD-1/PD-L1 inhibitors instead of the current standard of care between 2021 and 2025. We also expect a reduction in the number of high-grade adverse events by 56% compared to the SOC.





This average economic impact includes an average reduction in indirect costs of 144 million PLN per year and an average reduction in end of life costs of 11 million PLN per year.

The amount of total expenses depends not only on the prices of drugs, but also on other costs, i.e. monitoring costs, drug administration, PD-1 / PD-L1 tests costs, indirect costs, costs of treatment of adverse events or terminal care.

Scenario	Budget impact (in thousands PLN)					
	2021	2022	2023	2024	2025	Average
Basecase	1 432 309	2 350 298	2 623 277	2 782 004	2 942 492	2 426 076
Scenario 1*	1 285 882	2 106 355	2 345 511	2 481 482	2 618 918	2 167 630
Scenario 2**	993 026	1 618 470	1 789 977	1 880 438	1 971 771	1 650 736

**10% list price reduction*

*** 30% list price reduction*

Conclusion

PD-1/PD-L1 inhibitors can deliver significant survival benefits in cancer patients, with less severe side effects. The budget impact of PD-1/PD-L1 inhibitors in Poland is manageable but increasing usage of these treatments will require additional funds planning in the future.

