

Budget Impact Analysis of Nivolumab plus Ipilimumab for the management of Advanced Unresected Malignant Pleural (MPM)

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Background

- Malignant pleural mesothelioma is a very uncommon malignancy of the pleura, the membrane that surrounds the lungs¹. It is caused by asbestos fibers which have the potential to grow into mesothelioma tumors over time¹.
- MPM treatments are available, but for many people with this type of rare cancer, a cure isn't possible.
- Quantifying the potential budget impact of these new treatments is of interest to health care decision-makers.

Objective

- To estimate the budget impact of nivolumab plus ipilimumab for the management of patients with MPM in the United States over a time horizon of 5 years.

Methods

- An Excel-based model was developed to estimate the budget impact for a U.S. health plan from a payer perspective by introducing the combination of nivolumab plus ipilimumab, which represents the newest treatment for MPM.
- The comparators were nivolumab and pembrolizumab, and our analysis included treatment and administration costs for the management of MPM.
- Dosing, duration of therapy, treatments and administration costs were based on clinical trials and literature search^{2,3,4}.

Table 1. Total Budget Impact over 5 years associated with the introduction of Nivolumab plus Ipilimumab

Scenarios						
A. Predicted budget impact in scenario without Nivolumab plus Ipilimumab						
	2023	2024	2025	2026	2027	
Total Cost	5,882,997\$	6,302,357\$	6,751,612\$	7,232,890\$	7,748,476\$	33,918,332\$
B. Predicted budget impact in scenario with Nivolumab plus Ipilimumab						
	2023	2024	2025	2026	2027	
Total Cost	6,704,505\$	7,622,458\$	8,637,214\$	9,757,909\$	10,453,487\$	43,175,574\$
C. Budget impact (difference between A and B)						
Cumulative Cost	821,508\$	1,360,101\$	1,885,602\$	2,525,019\$	2,705,011\$	9,257,242\$

Results

- In a hypothetical scenario of 100 incidence cases in 2023 with 0%–1% annual growth, it was estimated that there would be approximately 100 eligible incident MPM patients in 2023, increasing to 102 eligible incident patients in 2027.
- With an assumed market share of approximately 20% for nivolumab plus ipilimumab in 2023, the net budget impact would be \$821,507. With a 50% market share in 2027, the budget impact would be \$2,705,011.

Conclusion

- Treatment of MPM patients with nivolumab plus ipilimumab has a budget impact with a cumulative increase in cost of \$9,257,242 over a time horizon of 5 years.
- This increase in cost is due to the higher PFS value for nivolumab plus ipilimumab (7 months) compared to only (3 months) for nivolumab and pembrolizumab.

References

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