



Economic Impact of Blister-Packaging on Medication Adherence in First-Line Multiple Myeloma Treatment

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BACKGROUND

- Medication nonadherence for oral oncolytics is common, leading to worsened outcomes, disease progression, increased mortality, and higher healthcare costs.¹⁻⁴
- Multiple myeloma is a severe and highly prevalent blood cancer with a U.S. prevalence of 157,561 and an incidence of 35,780.⁵
- Multiple myeloma has a 5-year survival rate of 61%.⁶
- Blister-packaging medications has shown to improve adherence.⁷⁻¹⁰
- However, its impact has not adequately been evaluated in multiple myeloma.

OBJECTIVE

The objective of this study was to model the impact of blister-packaging first-line oral oncolytics on healthcare costs in multiple myeloma.

METHODS

- An economic model was developed to estimate the impact of blister-packaging first-line oral oncolytics for treating multiple myeloma on healthcare costs through increased medication adherence.
- Patients were defined as adherent if they had a PDC_z 80%.¹¹
- The perspective of the model was the U.S. healthcare system, utilizing a one-year time-horizon.
- Input parameters were derived from peer-reviewed literature.^{5, 11-12}
- All costs were adjusted to 2024 U.S. dollars.¹³
- The number of patients in the model was the U.S. incidence of multiple myeloma in 2024 (35,780 patients).⁵
- The baseline population in the model had 28.9% of patients who were adherent before intervention.¹¹
- The implementation of blister-packaging first-line multiple myeloma medications increased the number of patients adherent to therapy by 13%.¹²
- Per-patient impacts of adherence included increases in medication costs (+\$81,542), medical cost reductions (-\$124,895), total healthcare cost savings (-\$43,353).¹¹

RESULTS

FIGURE 1: Patient Identification Flowchart of the Model

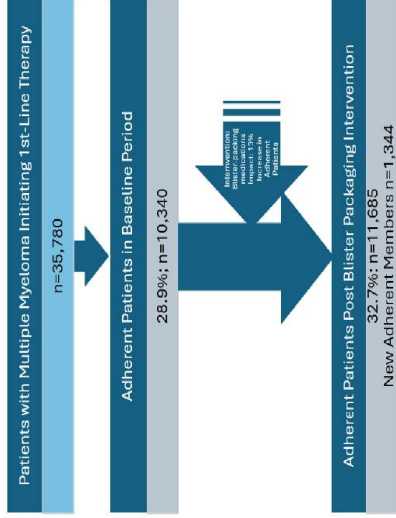


TABLE 1: Model Inputs

Input Parameter	Model Input	Reference
Time Horizon	1-Year	N/A
Number of Patients with Multiple Myeloma Initiating Therapy	35,780	Siegel 2024 ⁵
Percent of Adherent Population Prior to Blister-Packaging Intervention	28.9%	Dashputre 2020 ¹¹
Increase in Adherence due to Blister-Packaging Intervention	13%	Zedler 2011 ¹²
Incremental Impact Per Adherent Patient on Medical Costs	\$81,542	Dashputre 2020 ¹¹
Incremental Impact Per Adherent Patient on Pharmacy Costs	(\$124,895)	Dashputre 2020 ¹¹
Incremental Impact Per Adherent Patient on Total Healthcare Costs	(\$43,353)	Dashputre 2020 ¹¹

FIGURE 2: Incremental Impact of Increased Medication Adherence on Aggregate U.S. Healthcare Costs

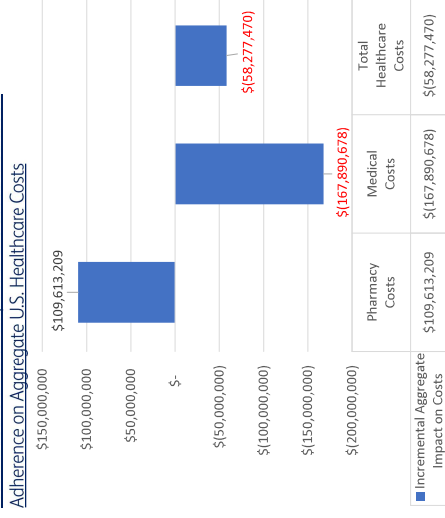
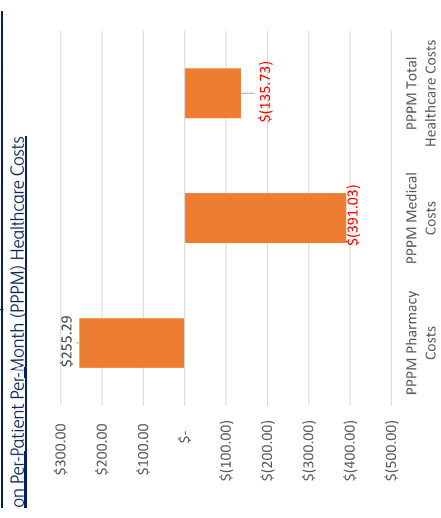


FIGURE 3: Incremental Impact of Increased Medication Adherence on Per-Patient Per-Month (PPPM) Healthcare Costs



DISCUSSION

- This economic analysis assessed the potential impact of blister-packaging oral oncolytics for multiple myeloma on medication adherence and healthcare costs.
- Patients adherent to therapy for multiple myeloma have a significant reduction in inpatient admissions and outpatient healthcare visits (aIRR: 0.64, 95% CI: 0.57-0.72; aIRR: 0.78, 95% CI: 0.74-0.81; respectively).¹¹
- The ASCO/NCODA Patient-Centered Standards for Medically Integrated Dispensing provide strategies including medication adherence packaging to help promote medication adherence to oral oncolytics.¹⁴
- The governmental agency BC Cancer in Canada recommends blister-packaging oral oncolytics to promote safe administration and increase medication compliance.¹⁵

CONCLUSION

- Increased medication adherence associated with blister packaging in first-line multiple myeloma treatment was projected to reduce healthcare costs by over \$58 million annually.

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