

# The Impact of Adjuvant Alectinib in Reducing Recurrences and Recurrence-Related Treatment Costs in Resected Early-Stage ALK+ Non-Small Cell Lung Cancer across Canada



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## Background

- Lung cancer is one of the most frequent causes of cancer-related death among men and women in Canada.<sup>1</sup>
- The risk of disease recurrence in patients with resected non-small cell lung cancer (NSCLC) remains high at approximately 41-68% within 5 years.<sup>2,3</sup>
- Anaplastic lymphoma kinase (ALK) positive NSCLC patients are at a particularly high risk of developing brain metastases associated with poorer overall survival, a high treatment burden, poorer quality of life, and significant economic burden.<sup>4-9</sup>
- There is an urgent need for new treatments that delay and reduce the risk of recurrence to metastatic disease given its significant burden to patients, caregivers, the healthcare system and society.
- Alectinib (ALECENSARO) is indicated as adjuvant treatment following tumour resection in adult patients with Stage IB (≥4 cm) - IIIA (according to AJCC/UICC 7th edition) ALK-positive NSCLC.<sup>10</sup>
- Alectinib demonstrated a statistically significant and clinically meaningful reduction in the risk of disease recurrence or death for patients compared with adjuvant chemotherapy in the phase 3 ALINA clinical trial (NCT03456076).<sup>11</sup>

## Objective

- To estimate the potential number of disease recurrences and the associated treatment costs in patients with resected ALK-positive NSCLC following introduction of alectinib in Canada, over the next decade (2025-2034).

## Methods

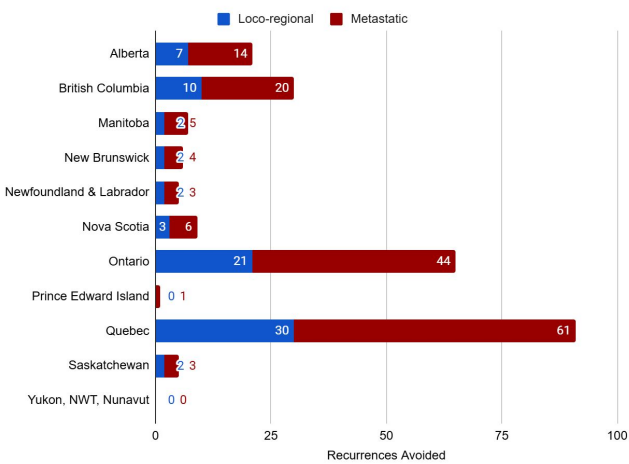
- The structure of the model was based on a previously reported epidemiological model, adapted to reflect a resected ALK-positive NSCLC population.<sup>12</sup>
- Over a 10-year period (2025-2034), the reduction in loco-regional and metastatic recurrences following treatment with adjuvant alectinib in resected ALK-positive stage IB-IIIA NSCLC patients, relative to best supportive care (BSC), defined as adjuvant platinum-based chemotherapy was analyzed.
- The eligible lung cancer population by province in Canada was estimated using data from Statistics Canada lung cancer CANSIM data, the literature and market research to obtain data on incidence, stage distribution, biomarker prevalence, and adjuvant treatment rates.
- Evidence on disease-free survival of patients treated with adjuvant alectinib was obtained from the ALINA trial, with extrapolations utilizing a log-logistic parametric function. In the base case, patients were assumed to be cured if they were disease-free after 5 years.
- Adoption of alectinib was assumed to be 75% of eligible patients.
- Reductions in treatment costs were estimated as the per patient cost of treating recurrent and metastatic NSCLC, using clinical evidence and expert opinion on the treatments that patients would receive after experiencing recurrence.

## Results

- Between 2025-2034, a total of 778 patients were projected to be eligible for treatment with adjuvant alectinib across Canada
- The number of loco-regional or metastatic disease recurrences predicted by scenario across Canada:
  - BSC only available - 521 recurrences (200 loco-regional, 321 metastatic)
  - Alectinib introduced - 282 recurrences (122 loco-regional, 160 metastatic)
- Introduction of alectinib as an adjuvant treatment in Canada is predicted to avoid 239 recurrences (46% reduction).
- The highest absolute reduction in recurrences was estimated in Quebec (N=91), followed by Ontario (N=65) and British Columbia (N=30). The breakdown in incremental recurrences avoided by province are presented in Figure 1.

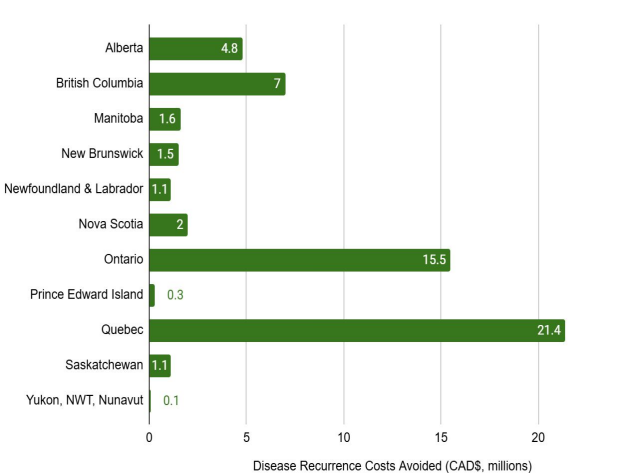
## Results (Continued)

**Figure 1. Estimated number of avoided recurrences with adjuvant alectinib vs BSC by province and recurrence type**



- Costs associated with managing disease recurrences (loco-regional and metastatic) by treatment across Canada were anticipated to be:
  - BSC only available - CAD\$ 117.8M
  - Alectinib introduced - CAD\$ 61.2M
- Adjuvant alectinib was estimated to reduce ~CAD\$ 57M (48% reduction) in recurrence treatment costs across Canada over 10 years. Costs avoided by province are presented in Figure 2.

**Figure 2. Estimated differences in costs of treated recurrences with adjuvant alectinib vs BSC by province (CAD\$, millions)**



## Conclusions

- Treatment with adjuvant alectinib is expected to result in a considerable population-level reduction of recurrences (46%) in resected stage IB-IIIA ALK+ NSCLC patients across Canada.
- The avoidance in these recurrences is anticipated to translate to a substantial decrease in the economic burden (48%) of the disease.
- Limitations with this analysis include the inherent uncertainty associated with extrapolation of clinical efficacy, and the combination of various public sources/published literature.
- Further research is needed to assess the long-term impact of this clinical improvement on economic and societal burden associated with the recurrent NSCLC.

## References

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