Cost-Effectiveness of Atezolizumab for Adjuvant Treatment of Patients With Stage IIIA PD-L1+ Non-Small Cell Lung Cancer

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BACKGROUND
- Lung cancer is the second most common cancer and is responsible for the most cancer-related deaths worldwide among both men and women1
- Non-small cell lung cancer (NSCLC) accounts for the majority (88%) of all lung cancer cases, and approximately half of all patients are diagnosed with Stage I-II disease, or early NSCLC (anatomic1,2)3
- Lobectomy with or without neoadjuvant or adjuvant treatment is the primary treatment option for operable patients with eNSCLC, and chemotherapy has been the standard of care for adjuvant treatment of resectable stage IA-II ANSCLC4
- Improvements in overall survival have been modest for patients with eNSCLC receiving adjuvant chemotherapy, with high rates of recurrence, especially for stage I-II disease5
- Atezolizumab demonstrated a significant disease-free survival (DFS) benefit as first-line neoadjuvant chemotherapy (S3) and was approved for the Food and Drug Administration in the US as adjuvant following resection and platinum-based chemotherapy for adults with Stage I-IIIA American Joint Committee on Cancer 7th edition NSCLC and PD-L1 expression on ≥1% of tumor cells (PD-L1+)6,7
- PD-L1 expression has been shown to increase the cost of recurrence and decrease the observed ICER further

OBJECTIVE
- To examine the cost-effectiveness of atezolizumab vs BSC following adjuvant chemotherapy in resected patients with Stage I-IIIA PD-L1+ NSCLC in the US

METHODS

Table 1. Base case model attributes

<table>
<thead>
<tr>
<th>Model attribute</th>
<th>Description</th>
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<tbody>
<tr>
<td>Time horizon</td>
<td>Lifetime</td>
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<tr>
<td>Structure</td>
<td>Markov model (Figure 1)</td>
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<tr>
<td>Intervention</td>
<td>Atezolizumab</td>
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<tr>
<td>Target population</td>
<td>US commercial payer</td>
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<tr>
<td>Perspective</td>
<td>Mortality adjustment: probability of death among cured patients is 25% greater than the general population using a standardized mortality ratio of 1.25</td>
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<tr>
<td>Clinical inputs</td>
<td>Atezolizumab dosage (1200 mg every 3 weeks) and treatment duration (median, 10.4 months; range, 5-18; mean, 8.2 months; SD, 3.5) were based on IMpower150 data (data cutoff: 21 January 2021; follow-up duration, 32 months)8,9,10</td>
</tr>
<tr>
<td>Utilities</td>
<td>Health state utility values based on EQ-5D scores published in the literature and in the IMpower150 trial (Table 3)</td>
</tr>
<tr>
<td>Costs</td>
<td>Drug costs associated with treatment of eNSCLC and recurrences were based on wholesale acquisition costs for the base case, and average selling price for the Medicare scenario</td>
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<tr>
<td>DISCLOSURES</td>
<td>SO, AJ, CN, JB and JL are employees and shareholders of Genentech Inc, a member of the Roche Group</td>
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RESULTS
- Atezolizumab was cost-effective in 91% of iterations at a WTP threshold of $150,000, atezolizumab was cost-effective vs BSC for 1L metastatic health state (Figure 3)
- At a WTP threshold of $150,000, atezolizumab is cost-effective vs BSC for the adjuvant treatment of resected patients with PD-L1+ Stage I-IIIA NSCLC, supporting utilization of this regimen as the new standard of care in this setting

REFERENCES
- CPT code Commercial Medicare
- ASP selling price13 for the Medicare scenario

CONCLUSIONS
- The extrapolation of DFS across time was based on 32 months of median EMPower150 follow-up time, which leads to uncertainty around the incremental benefit of the intervention after the trial follow-up period
- Some clinical inputs, including health utilities, were unavailable from EMPower150 and were derived from the published literature, which may have introduced bias related to differences between underlying study populations
- Additional non-drug treatment costs potentially associated with locoregional and metastatic recurrence were not included in the base case analysis, providing conservative results on the inclusion of additional costs would increase the cost of recurrence and decrease the observed ICER further

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