

# US Payer Cost-of-Care Analysis for Durvalumab in Combination with Etoposide/Platinum vs Atezolizumab-Based Regimens in 1L ES-SCLC Setting

William Wang,<sup>1</sup> Jonathan Gbolahan,<sup>2</sup> Rebeca Mora,<sup>2</sup> Tiffany Varughese Jacob,<sup>2</sup> Victor Genestier<sup>3</sup>

<sup>1</sup>AstraZeneca, Mississauga, Ontario, Canada; <sup>2</sup>AstraZeneca, Gaithersburg, Maryland, United States; <sup>3</sup>Amaris Consulting, Toronto, Ontario, Canada

## Objective

- To evaluate the first-year economic burden of treating newly diagnosed extensive-stage small cell lung cancer (ES-SCLC) patients in the first-line with durvalumab + etoposide/platinum (EP) versus atezolizumab + EP, and atezolizumab + EP with maintenance lurbinectedin + atezolizumab from the US Medicare and Commercial payer perspectives.

## Conclusions

- This analysis demonstrated that durvalumab + EP was consistently the least costly 1L ES-SCLC option for US Medicare and Commercial perspectives in the first year of treatment, driven predominantly by lower drug acquisition costs.

## Plain language summary

### Why did we perform this research?

ES-SCLC is an aggressive disease associated with poor prognosis and high healthcare costs, particularly in the first-year after diagnosis. Immunotherapy in combination with EP chemotherapy has become a standard first-line treatment, offering improved clinical outcomes compared with chemotherapy alone.

The CASPIAN trial demonstrated that durvalumab in combination with EP provides a meaningful survival benefit vs. EP alone and established this regimen as a standard-of-care treatment option for patients with ES-SCLC. At the same time, other immunotherapy-based regimens have also been evaluated in clinical trials, resulting in multiple available first-line options.

With increasing treatment choice, understanding the economic implications of these regimens is important for healthcare decision-makers. Therefore, the objective of this study was to assess the one-year economic burden of durvalumab + EP compared with other commonly used immunotherapy-based regimens, from both US Medicare and commercial payer perspectives.

### How did we perform this research?

A cost-of-care analysis using a one-year time horizon was conducted to assess the total costs for a theoretical 1-million-person cohort treated with durvalumab + EP versus atezolizumab + EP and atezolizumab + EP followed by maintenance therapy with lurbinectedin plus atezolizumab.

### What were the findings of this research?

This analysis demonstrated that durvalumab + EP was consistently the least costly 1L ES-SCLC option for Medicare and Commercial perspectives in the first year of treatment, driven predominantly by lower drug acquisition costs.

### What are the implications of this research?

Durvalumab + EP, as established in the CASPIAN trial, represents a clinically effective first-line treatment option for ES-SCLC that is also the least costly option among the immunotherapy-based regimens available. In this analysis, durvalumab + EP was associated with lower overall costs compared with other immunotherapy-based regimens, driven primarily by lower drug acquisition costs. These findings suggest that durvalumab + EP may offer value to healthcare systems by combining clinical benefit compared to EP with cost savings compared to other immunotherapy-based regimens in the first year of treatment.



Please scan this quick response (QR) code with your smartphone camera or app to obtain a copy of the material. Alternatively, please use the link below.

<https://bit.ly/4tweFw0>

Copies of this poster obtained through the QR code or link are for personal use only and may not be reproduced without written permission of the authors.

## Methods

- Lung cancer is one of the five most diagnosed cancers and the leading cause of cancer-related deaths in the US, with small-cell lung cancer (SCLC) accounting for about 15% of all cases.<sup>1,2</sup> The standard 1L treatment for extensive-stage (ES-) SCLC until recently has been platinum-based chemotherapy (cisplatin or carboplatin) combined with etoposide.<sup>3</sup>
- Durvalumab is a monoclonal antibody designed to target and block the programmed death ligand 1 (PD-L1) pathway.<sup>4</sup>
- The CASPIAN trial (NCT03043872) found that durvalumab in combination with platinum-etoposide (EP) chemotherapy significantly increased overall survival (OS) benefit for patients with ES-SCLC versus chemotherapy alone.<sup>5</sup>
- In 2020, durvalumab in combination with platinum-based chemotherapy was approved by the US Food and Drug Administration (FDA) and the European Medicines Agency (EMA) as 1L treatment in patients with ES-SCLC and became a standard of care (SoC).<sup>6,7</sup> Other SoC in ES-SCLC include Atezolizumab in combination with carboplatin and etoposide, approved by FDA and EMA in 2019, and Atezolizumab + EP followed by maintenance therapy with lurbinectedin + atezolizumab, approved by FDA in 2025 and received a positive opinion from the Committee for Medicinal Products for Human Use (CHMP) for EMA approval.<sup>8,9</sup>

## Methods

### Analytical approach

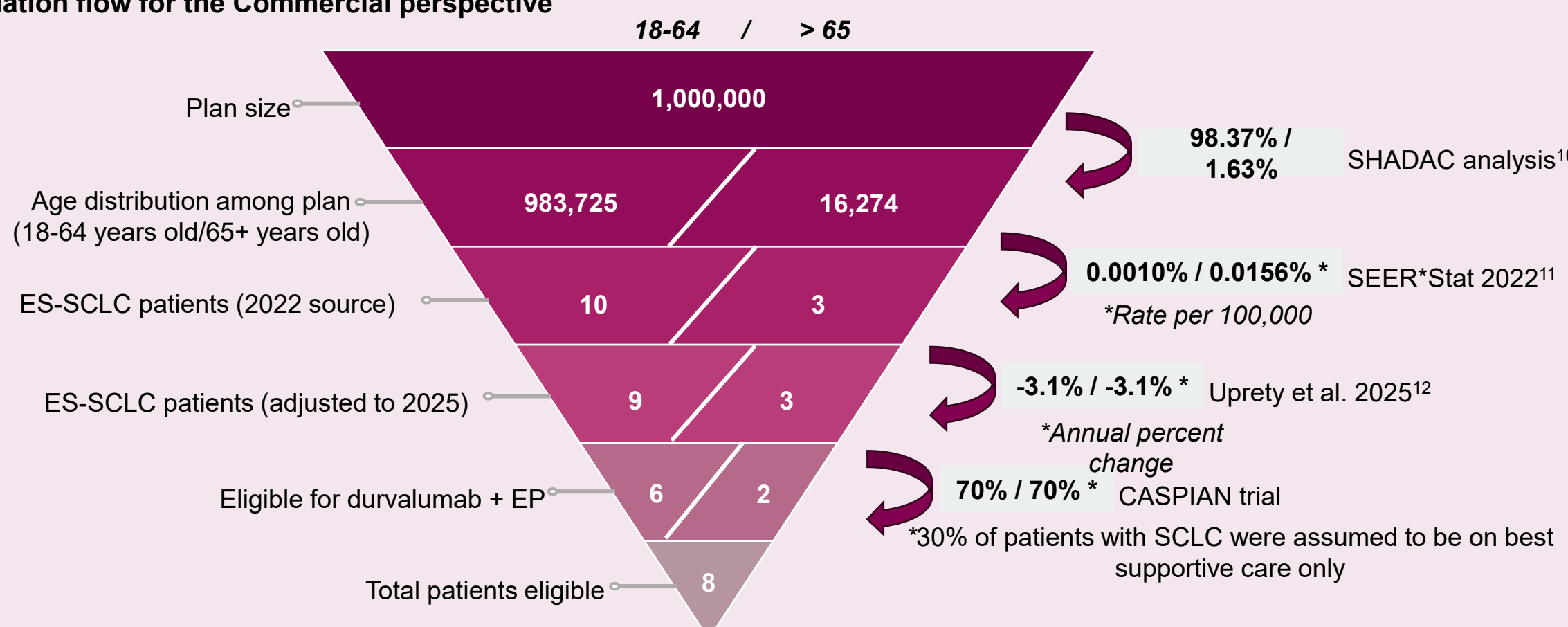
- A cost-of-care analysis was conducted from a US-payer perspective (Medicare and Commercial) using a one-year time horizon. It incorporated efficacy estimations to accurately capture the costs and resource use associated with the use of durvalumab + EP and its relevant comparators in different health states for patients with ES-SCLC.
- This analysis included 1L drug acquisition costs, 1L drug administration costs, healthcare resource use (HCRU) costs, adverse events (AE) costs associated with 1L treatment, and subsequent treatment costs. All historical costs were adjusted for inflation.
- Outputs are provided as the total cost, at both the cohort and per-patient level over a one-year time horizon for durvalumab + EP and its comparators, as well as the cost difference between durvalumab + EP and its comparators.

### Inputs

#### Population

- The perspectives for this analysis were Commercial and Medicare from US:
  - A hypothetical cohort of 1,000,000-member plan
  - Two age groups (18-64 years old / >65 years old) were used in the epidemiological funnel to get more precise data on the disease incidence and the age distribution among each perspective.
  - The analysis considered the age-standardized incidence rates in the US.
- The population flow is presented in **Figure 1** for the Commercial perspective. In 2025, in a hypothetical 1-million-member plan, approximately 8 patients with pathologically confirmed ES-SCLC are eligible and included in the analysis in the Commercial perspective. Following the same approach, 90 patients are eligible in the Medicare perspective, explained by higher incidence in the Medicare age distribution.

Figure 1. Population flow for the Commercial perspective



#### 1L drug acquisition and administration costs

- Dosing schedule for all treatment regimens were based on their respective clinical trials. For the Atezolizumab + EP followed by maintenance therapy with lurbinectedin + atezolizumab, the analysis assumed that all patients receive both the induction and maintenance therapies.
- Acquisition and administration costs for each treatment were obtained from InHealth2022, Redbook, HCUPnet or AstraZeneca's internal information to inform the commercial perspective<sup>13-15</sup> and from HCUPnet, US Bureau of Labor Statistics and Centers for Medicare & Medicaid Services (CMS) for Medicare perspective.<sup>16-18</sup>
- ASP pack prices were applied for the Medicare perspective, while WAC pack prices were applied for the Commercial perspective.

## Results and interpretation

- Total results are presented per patient for the Medicare and Commercial perspectives (**Figure 2** and **Figure 3**).

Figure 2. Medicare perspective – results for one patient

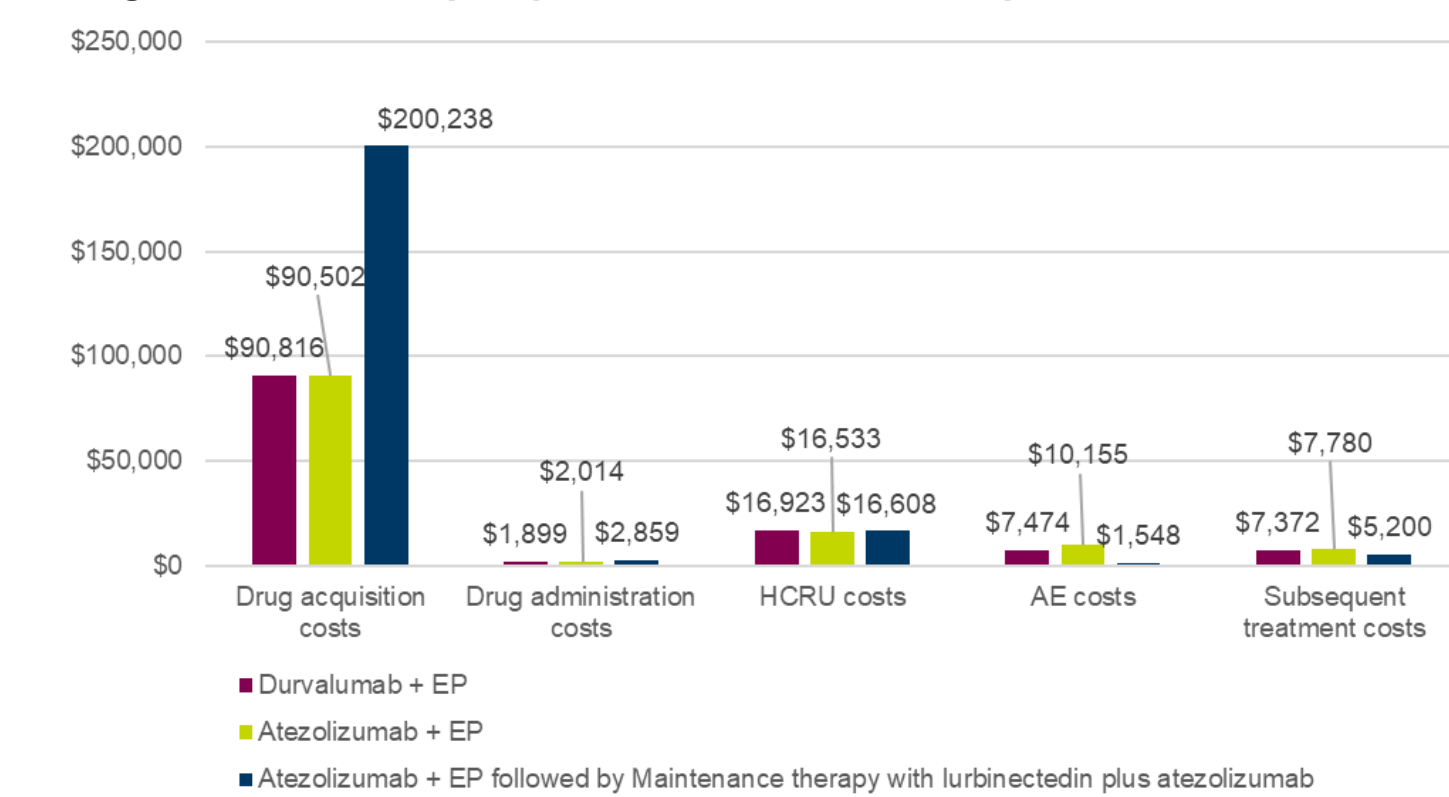
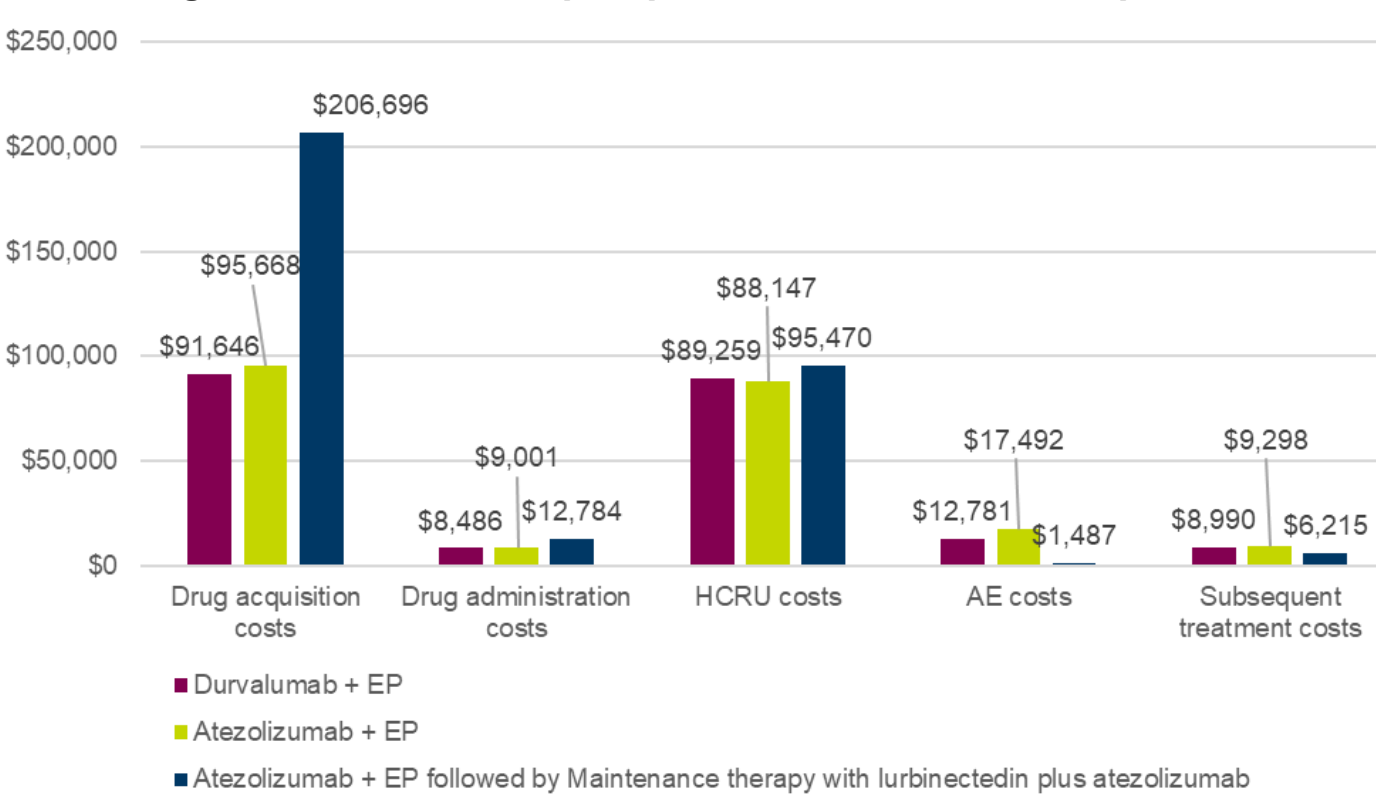


Figure 3. Commercial perspective – results for one patient



- Total results are presented for a hypothetical 1,000,000 cohort for the Medicare and Commercial perspectives (**Table 4** and **Table 5**).

Table 4. Medicare perspective – Entire cohort

|                                   | Durvalumab + EP     | Atezolizumab + EP   | Atezolizumab + EP followed by maintenance therapy with lurbinectedin plus atezolizumab |
|-----------------------------------|---------------------|---------------------|--|
| <b>Drug acquisition costs</b>     | \$8,134,627         | \$8,106,496         | \$17,935,814   |
| <b>Drug administration costs</b>  | \$170,065           | \$180,378           | \$256,070  |
| <b>HCRU costs</b>                 | \$1,515,789         | \$1,480,926         | \$1,487,637  |
| <b>AE costs</b>                   | \$669,426           | \$909,563           | \$138,661  |
| <b>Subsequent treatment costs</b> | \$660,283           | \$696,864           | \$465,790  |
| <b>Total costs</b>                | <b>\$11,150,190</b> | <b>\$11,374,227</b> | <b>\$20,283,973</b>  |

Table 5. Commercial perspective – Entire cohort

|                                   | Durvalumab + EP    | Atezolizumab + EP  | Atezolizumab + EP followed by maintenance therapy with lurbinectedin plus atezolizumab |
|-----------------------------------|--------------------|--------------------|--|
| <b>Drug acquisition costs</b>     | \$720,008          | \$751,607          | \$1,623,890  |
| <b>Drug administration costs</b>  | \$66,668           | \$70,717           | \$100,437  |
| <b>HCRU and monitoring costs</b>  | \$701,258          | \$692,523          | \$750,051  |
| <b>AE costs</b>                   | \$100,413          | \$137,423          | \$11,679   |
| <b>Subsequent treatment costs</b> | \$70,626           | \$73,049           | \$48,827   |
| <b>Total costs</b>                | <b>\$1,658,973</b> | <b>\$1,725,319</b> | <b>\$2,534,884</b>   |

Table 1. Analysis summary

| Item                          | Overall approach  |
|-------------------------------|---|
| <b>Population estimations</b> | Incidence cohort approach   |
| <b>Perspective</b>            | US<br>• Commercial<br>• Medicare  |
| <b>Time horizon</b>           | 1 year  |
| <b>Data source</b>            | CASPIAN trial, Published literature for IMPower133 and IMforte clinical trials  |
| <b>Population</b>             | <b>Adult patients aged 18 years and above newly diagnosed with ES-SCLC<sup>19</sup></b>   |
| <b>Intervention</b>           | • Durvalumab + EP   |
| <b>Comparators</b>            | • Atezolizumab + EP<br>• Atezolizumab + EP followed by maintenance therapy with lurbinectedin + atezolizumab                        |
| <b>Efficacy estimation</b>    | Restricted mean of OS, PFS, and TTD (over 1 year)   |
| <b>Subsequent treatments</b>  | • Basket of treatments informed from CASPIAN and IMpower133 trial data for durvalumab and atezolizumab based regimens, respectively |

#### Health states

- This cost-of-care analysis incorporated efficacy estimations to accurately capture the costs and resource use associated with the use of durvalumab + EP, atezolizumab + EP therapy, and atezolizumab + EP therapy with maintenance lurbinectedin + atezolizumab.
- One-year restricted mean survival time for each OS, PFS and TTD were calculated, estimated from Paz-Ares 2022<sup>20</sup> for durvalumab + EP, and estimated based on the median time to event from Liu 2021<sup>21</sup> for atezolizumab + EP, and from induction time + median time from randomization from Paz-Ares 2025<sup>22</sup> for atezolizumab + EP with maintenance lurbinectedin + atezolizumab. Restricted mean survival times are presented in **Table 2**. Time spent in atezolizumab + EP with maintenance lurbinectedin + atezolizumab assumes all patients receive the maintenance phase.

Table 2. One-year restricted mean survival times

| Regimen  | Overall survival | Progression-free survival | Time to treatment discontinuation |
|--|------------------|---------------------------|-----------------------------------|
| Durvalumab + EP  | 8.84 months      | 5.92 months               | 5.92 months                       |
| Atezolizumab + EP  | 8.72 months      | 5.99 months               | 5.99 months                       |
| Atezolizumab + EP with maintenance lurbinectedin + atezolizumab <sup>*</sup> | 9.35 months      | 7.52 months               | 7.52 months                       |

<sup>\*</sup>The IMforte trial is maintenance only while CASPIAN/IMPower133 are induction + maintenance. Survival and safety data are not directly comparable across trials. No adjustment was made for potential demographic or disease characteristics differences across trial populations.

Table 3. Time spent in each health state in the analysis

| Regimen   | PFS, on treatment | Post-Progression, on subsequent treatment | Time spent in Death |
|---|-------------------|---|---------------------|
| Durvalumab + EP   | 5.92 months       | 2.93 months                               | 3.16 months         |
| Atezolizumab + EP   | 5.99 months       | 2.73 months                               | 3.28 months         |
| Atezolizumab + EP with maintenance lurbinectedin + atezolizumab | 7.52 months       | 1.83 months                               | 2.65 months         |

- Health state occupancy were derived as follows and presented for each treatment regimen in **Table 3**:
  - Time spent in PFS, on treatment: informed by PFS,
  - Time spent in post-progression, on subsequent treatment: difference between OS and PFS,
  - Time spent in death: difference between full year (12 months) and OS.

#### Subsequent treatments

- This analysis included subsequent treatments (acquisition and administration costs) and their respective durations from the CASPIAN and IMpower133 trials respectively for the durvalumab + EP and atezolizumab + EP comparisons. In this analysis durations were capped based on the time spent in post progression. For atezolizumab + EP with maintenance lurbinectedin + atezolizumab, a hypothesis was made to consider the same data as IMpower133 for the proportion of patients in 2L and 3L of therapy and the distribution of each subsequent therapy.

- The proportion of patients who received subsequent treatments after progression was 52.7% and 51.7% from 1L to 2L for durvalumab + EP and atezolizumab-based regimens, respectively, and 34.5% and 30.8% between 2L and 3L. As durations of subsequent treatments were capped to time spent in post progression, a small proportion of patients received 3L treatment in the analysis.

- Subsequent treatments considered included immunotherapies, chemotherapy-based regimens and single agent chemotherapy.

#### Healthcare resource use

- Healthcare resource use was derived from NICE TA798<sup>23</sup> and assumed to be representative of the US practice. It includes outpatient oncology visit, chest radiography, CT scan, ECG, community nurse visit, cancer nurse visit, GP surgery visit, and blood test. It was assumed to be similar between treatments but dependent on the health state (PFS on and off treatment, progressed disease).

- Costs were informed by InHealth 2022<sup>13</sup> for the commercial perspective and CMS Physician Fee Schedule (2025)<sup>15</sup> or CMS Lab Fee Schedule (2024)<sup>24</sup> for the Medicare perspective.

#### Adverse events

- Grade 3+ adverse events occurring in at least 1% of the treatment arms were considered in this analysis. For lurbinectedin + atezolizumab maintenance, adverse events occurring in the induction phase were not considered and therefore total adverse events rates may be underestimated.

- Adverse events costs were included as one-off costs at the beginning of the analysis and sourced from HCUPnet, US Bureau of Labor Statistics.<sup>25,26</sup>

- Across both Medicare and Commercial perspectives, durvalumab + EP were associated with the lowest overall costs.

- In Medicare, total per patient costs were the lowest for durvalumab + EP (\$124,482), compared with atezolizumab + EP (\$126,984), and lurbinectedin + atezolizumab maintenance (\$226,453).

- In Commercial plans, per-patient total costs were also lowest for durvalumab + EP (\$211,161), versus the comparators (\$219,606 and \$322,651 for atezolizumab + EP and lurbinectedin + atezolizumab maintenance respectively).

- This analysis demonstrated that that durvalumab+EP was consistently the least costly 1L ES-SCLC treatment option for Medicare and Commercial perspectives in the first year of treatment.

- Cost savings were primarily driven by drug acquisition costs versus lurbinectedin + atezolizumab maintenance, considering the time spent on treatment for lurbinectedin and the associated price, with durvalumab + EP accounting for savings of \$109,736 per Medicare patient and \$111,028 per Commercial patient. Versus atezolizumab + EP, cost savings in favor of durvalumab + EP are seen in drug administration costs, AE costs and subsequent treatment costs.

## References

- AstraZeneca. Imfinzi approved in the EU for the treatment of extensive-stage small cell lung cancer. Updated September 1, 2020.
- American Cancer Society. Lung Cancer Statistics. How Common is Lung Cancer? Last Revised January 16, 2025.
- Jiang S, et al. BMC Cancer. 2021;21(1):1308.
- National Cancer Institute. NCI Dictionaries. Durvalumab. Accessed April 7, 2026.
- ClinicalTrials.gov. NCT03043872: CASPIAN. 2025.
- U.S. Food & Drug Administration. FDA approves durvalumab for extensive-stage small cell lung cancer. 2020. Accessed April 7, 2026.
- U.S. Food & Drug Administration. FDA approves atezolizumab for extensive-stage small cell lung cancer. 2019. Accessed April 7, 2026.
- European Medicines Agency. Imfinzi. 2018. Accessed April 7, 2026.
- U.S. Food & Drug Administration. FDA approves lurbinectedin in combination with atezolizumab or atezolizumab and hyaluronidase-injections for extensive-stage small cell lung cancer. 2025. Accessed April 7, 2026.
- SHADAC analysis of the American Community Survey (ACS) Public Use Microdata Sample (PUMS) files. SHADAC analysis of [DATA SOURCE]. State Health Compare, SHADAC, State Health of Minnesota, statehealthcompare.shadac.org. Accessed September 12, 2025.
- SEER\*Stat Software.
- Uprety D, et al. Cancer Med. 2025;14(3):e70608.
- InHealth 2022 Physicians' Fee & Coding Guide – Spiralbound – Wasserman Medical & Dental. Accessed September 12, 2025.
- Micromedex RED BOOK. Accessed September 12, 2025.
- CMS. Physician Fee Schedule Q1 2025 | CMS. 2025. Accessed September 12, 2025.
- HCUPnet. AHRQ Data Tools – Agency for Healthcare Research and Quality. Accessed September 12, 2025.
- U.S. Bureau of Labor Statistics. Consumer Price Index - Medical care. Accessed September 12, 2025.
- CMS. ASP Pricing Files | CMS. January 2025. Accessed September 12, 2025.
- Paz-Ares L, et al. The Lancet. 2019;394:1929-1939.
- Paz-Ares, et al. ESMO Open. 2022 Apr;7(2):100408.
- Liu S, et al. Journal of Clinical Oncology. 2021;39(6):619-630.
- Paz-Ares, et al. The Lancet. 2025;405:2129-2143.
- National Institute for Health and Care Excellence. TA798. 2022.
- CMS. Lab Fee Schedule. 2024. Accessed September 12, 2025.
- HCUPnet: <https://databasis.ahrq.gov/hcupnet/>. Accessed September 12, 2025.
- U.S. Bureau of Labor Statistics. Consumer Price Index for All Urban Consumers: Medical Care Services in U.S. City Average [CUSR0000AM2], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CUSR0000AM2>. September 12, 2025.

## Abbreviations

1L, first-line; 2L, second-line; 3L, third-line; AE, adverse event; ASP, average selling price; CMS, Centers for Medicare & Medicaid Services; CT, computed tomography; ECG, electrocardiogram; EMA, European Medicines Agency; EP, etoposide and platinum chemotherapy; ES-SCLC, extensive-stage small-cell lung cancer; FDA, Food and Drug Administration; GP, general practitioner; HCRU, healthcare resource use; OS, overall survival; PD-L1, programmed death ligand 1; PFS, progression-free survival; SCLC, small-cell lung cancer; TTD, time to discontinuation; US, United States; WAC, wholesale acquisition price.

## Acknowledgements

This study was supported by AstraZeneca.