Systematic literature review (SLR) of disease burden related to first-line (1L) unresectable, locally advanced, or metastatic esophageal squamous cell carcinoma (ESCC)

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ABSTRACT

Objectives: To conduct an SLR of disease burden associated with 1L treatments (immuno-oncology [IO] agents and other non-IO based treatments [i.e., chemotherapy or radiotherapy]) of unresectable, locally advanced, or metastatic ESCC, including health state utility values (HSUV), health-related quality of life (HRQoL) outcomes, economic evaluations; and healthcare resource use (HCRU).

Methods: Embase, Ovid MEDLINE®, and Cochrane CENTRAL were searched from inception to October 2023 for relevant English-language studies. Hand searches of the Tufts Cost-Effectiveness Analysis Registry, SLR bibliographies, health technology assessment agencies and conference proceedings were also conducted. Study selection was performed in duplicate. Study information and outcomes of interest were extracted.

Results: Of 1,614 records identified, 38 unique studies were included. HSUVs were reported for progression-free survival (PFS) and progressive disease (PD). HSUVs derived directly from trials of ESCC patients were rare (n = 1 trial, PFS: 0.91; PD: 0.37); most cost-utility analyses (CUAs) used utility values from other clinical indications (PFS 0.675–0.797, PD 0.33–0.73). Across HRQoL measures, IO agents plus chemotherapy were generally associated with improvements in HRQoL compared to chemotherapy alone. Most CUAs were conducted from the US or Chinese perspective and focused on cost utility for IO agents plus chemotherapy. Model parameters varied across CUAs, and incremental cost-utility ratios (ICURs) for IO agents ranged widely from $13,209–$666,832 USD (2020–2023); the highest ICURs were noted for serplulimab and nivolumab ($104,537–$666,832, 2022 USD), while lower ICURs were noted among tislelizumab, sintilimab, toripalimab, and camrelizumab ($13,209–$46,671, 2020–2022 USD), and the widest variation noted for pembrolizumab ($41,805–$550,211, 2020–2022 USD). Reported HCRU outcomes included hospitalization, length of stay, and outpatient visits.

Conclusions: This SLR provides a comprehensive overview of current evidence for burden of illness in 1L ESCC. These data provide valuable insights to payers for supporting reimbursement in worldwide markets.