PP77 Cost-Effectiveness Of The Dengue Vaccine (TAK-003) In Brazil

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Introduction: Dengue is an arbovirus that causes an acute febrile illness transmitted by the Aedes aegypti mosquito. The TAK-003 vaccine produced with Vero cells using recombinant DNA technology from the live and attenuated virus was approved by the Brazilian regulatory agency for preventing dengue infection, regardless of previous infection.
Methods: A cost-effectiveness assessment comparing vaccinating specific age groups versus not vaccinating was conducted through a microsimulation model that tracked all epidemic rates over 20 years. Transitions between five health states (susceptible, asymptomatic, ambulatory, hospitalized, and death) were considered. Direct costs included vaccine costs and dengue healthcare (inpatient and outpatient). Quality-adjusted life years (QALY) were the primary outcome. Deterministic and probabilistic analyses explored key model uncertainties.
Results: At a price of USD34.00 per dose, the average incremental cost-effectiveness ratio (ICER) was USD11,724.40/QALY. In the probabilistic analysis, no simulation was below the threshold of USD8,000.00/QALY. In an alternative scenario, in which the price of the vaccine would not be subject to taxes in the case of direct import, the average ICER was USD10,378,09/QALY, with one percent of the simulations below the standard cost-effectiveness threshold.
Conclusions: At both price scenarios, dengue vaccine did not prove to be a cost-effective technology to be funded for patients between four and 60 years old. Sensitivity analyses showed that vaccine price is the most sensitive variable. This study can support price negotiations to improve access to the vaccine.

PP78 Data Extrapolation With Survival Curves: An Alternative Approach With Aggregated Data

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Introduction: Recently, there has been considerable emphasis on survival curves for data extrapolation, especially in the field of economic evaluation in oncology. Common methods for adjusting survival curves are complex and heavily reliant on individual patient data (IPD), which may not be feasible for health technology assessment (HTA). We propose an alternative method for survival curve extrapolation with direct adjustment to aggregated data.
Methods: Common parametric survival analysis models were tested: exponential, Weibull, log-normal, log-logistic, generalized gamma, and Gompertz. We had access to the IPD from a published randomized clinical trial (n=694) testing therapies (anastrozole and fulvestrant) for metastatic breast cancer with 10 years of follow-up on progression-free survival (PFS) and overall survival (OS) outcomes. After adjusting the original IPD, we sought to fit models to published aggregated data (Kaplan–Meier curves) using nonlinear regressions and optimization algorithms. Both methods were compared in terms of visual inspection and statistical fit quality (Akaike information criterion [AIC] and Bayesian information criterion [BIC]).
Results: Survival curves directly adjusted to aggregated data showed a visually similar profile compared to IPD adjustments. According to AIC/BIC values, Weibull and generalized gamma distributions best fit OS data, both in individualized and aggregated approaches. For PFS, log-logistic and log-normal curves were the best choices for the anastrozole arm, and for fulvestrant, the best choices were log-normal and generalized gamma for individualized data, and Gompertz and generalized gamma for the aggregated method. The proposed R language code proved to be reproducible and amenable to automation in future HTA applications.
Conclusions: Directly adjusting survival curves to aggregated data is a simple and useful alternative in situations where access to IPD is not feasible.

PP79 Challenges With Integrating Early-Stage Cancer Trial Endpoints Into Economic Models: Review Of Canadian And International HTA Recommendations

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Introduction: Therapies for early-stage cancers demonstrate clinical benefit with early endpoints that measure delayed or avoided disease recurrence, and survival benefits take years to confirm. Economic evaluations for health technology assessment (HTA) require assumptions about long-term benefits to project lifetime disease trajectories. We examined economic modeling approaches used in HTA for adjuvant/neo-adjuvant therapies to understand challenges, explore patterns, and identify opportunities for methodological improvements.
Methods: We included drug indications with Canadian Agency for Drugs and Technologies in Health (CADTH) reimbursement recommendations as of November 2023 for adjuvant/neoadjuvant treatment of early-stage solid tumors. We collected recommendation outcomes and details of submitted clinical and economic evidence. Adapting prior work and focusing on threats to validity arising from

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