PP113 Common Methodological Issues In Systematic Reviews Supporting Single Technology Appraisal Submissions To The National Institute for Health and Care Excellence

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Introduction: This project aimed to identify methodological issues reported by Evidence Review Groups (ERGs) in the systematic reviews (SR) supporting single technology appraisal (STA) submissions to the National Institute for Health and Care Excellence (NICE). STA submissions contain SRs related to the clinical and cost-effectiveness of the proposed intervention and NICE require the methods for these reviews to be clearly detailed in the submission. The intention of this project was to identify methodological aspects of submissions where companies may need additional guidance or support to provide the evidence required for efficient and effective decision-making and in turn facilitate timely access to clinical innovation.
Methods: From 2019, 61 STAs were identified from the NICE website, of which 46 were included. We extracted information about the data requests or clarification questions raised by the ERG in relation to the methodological section of both the clinical and cost effectiveness SRs reported in the STA. We then categorized these data and grouped by theme to determine the most common methodological issues faced by companies. We did not assess whether comments made by the ERG were accurate or justified.
Results: For both clinical and cost-effectiveness SRs, the most frequent clarification questions arose from the search methods section, specifically seeking information about missing intervention or comparator terms, the use of search filters and search platforms. Clarification questions were also commonly asked about the appropriateness of interventions and comparators. There were very few clarification questions asked about screening, data extraction or risk of bias assessment.
Conclusions: Companies looking to submit an STA should align their submission methodology to established best practice guidance for systematic reviewing to ensure their methods are fit for purpose and avoid unnecessary delays to the STA process. Consistency with the PRISMA reporting standards would help ensure that the ERG is provided with the information needed to assess the appropriateness of the STA methodology and is likely to reduce the need for clarification questions.

PP118 The Value Of New Antibiotic Treatment Strategies In Zhejiang Province, China

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Introduction: The rising antimicrobial resistance (AMR) and the difficulty in developing new antibiotics are causing a global public health problem. This analysis aims to better understand the clinical and economic value of new antibiotic treatment strategies, in order to inform clinical and antibiotic formulary decisions.
Methods: We applied a published and validated dynamic disease transmission and cost-effectiveness model of AMR with a 10-year time horizon and discount rate of five percent to evaluate the clinical and economic outcomes of introducing a new antibiotic, namely, Ceftazidime/Avibactam (CAZ-AVI) for treating AMR infections in Zhejiang Province, China. Together with piperacillin-tazobactam (pip/taz) and meropenem, we explored the impact of six treatment strategies across three common infections (complicated intra-abdominal infection (cIAI), hospital-acquired/ventilator-associated pneumonia (HAP/VAP) and infections with limited treatment options (LTO)), and pathogens (Escherichia coli, Klebsiella spp., and Pseudomonas aeruginosa). These treatment strategies included (i) current treatment strategy (pip/taz and meropenem, no CAZ-AVI), (ii) CAZ-AVI at the third line, (iii) CAZ-AVI at the second line, (iv) CAZ-AVI at the first line, (v) first line diversity (i.e., equal pip/taz and CAZ-AVI at the first line; meropenem at the last line) and (vi) all-lines diversity (pip/taz, meropenem and CAZ-AVI used randomly and only once). The data with a total of 10,905 patients were collected from a tier-3 hospital from 2018 to 2021.
Results: Under the current treatment strategy, the hospital length of stay (LOS) and costs over ten years were estimated to be 1,588,763 days and CNY3,898,198,802 (USD559,781,348), respectively, associated with 142,999 quality-adjusted life-years (QALYs) lost, resulting in the resistance of pip/taz and meropenem being 42.0 percent and 49.9 percent respectively. In contrast, the other five treatment strategies all have shown improved outcomes, among which the "all-lines diversity" carried the greatest benefit, saving CNY1,646.04 (USD236.37) for each additional QALY gained, with the net monetary benefit being CNY24,727,102,215 (USD3,550,811,878).
Conclusions: Introducing CAZ-AVI had positive impact on clinical and economic outcomes for treating AMR, and diversifying early the antibiotics might yield the best benefits.

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