PD20 Economic Assessment And Budget Impact Model Of Injectable Ganciclovir For Cytomegalovirus Infection In Immunosuppressed Patients In Brazil

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Introduction: Cytomegalovirus (CMV), a prevalent human herpes virus, has long periods of latency. It can reactivate following immunosuppression causing diverse clinical manifestations. In immunocompetent individuals, CMV infections are usually asymptomatic. However, in immunosuppressed individuals, such as patients with human immunodeficiency virus, CMV infections can cause serious complications. Antiviral treatment is crucial for minimizing health risks and preventing severe outcomes, such as retinitis and colitis, in this population.
Methods: A cost-effectiveness analysis was conducted using a decision tree model to estimate the incremental cost-effectiveness ratio (ICER) of ganciclovir (1 mg/mL) for people with acquired immunodeficiency syndrome (AIDS) affected by CMV-related retinitis or colitis. The model compared ganciclovir therapy to no ganciclovir, with the outcome being progression of CMV disease. Budget impact was considered over a five-year time frame with 100 percent diffusion among patients with AIDS and CMV-related colitis.
Results: In patients with AIDS and CMV-related retinitis, use of ganciclovir incurred an incremental cost of BRL29,378.95 (USD5,188.70) with an incremental effectiveness of 0.51 in the therapeutic response rate and an ICER of BRL57,605.79 (USD10,173.93). For those with AIDS and CMV-related colitis, ganciclovir incurred an incremental cost of BRL10,040.71 (USD1,773.32), with an incremental effectiveness of 0.26 and an ICER of BRL38,618.11 (USD6,820.45). The estimated cumulative budget impact, considering 100 percent ganciclovir diffusion over five years, was BRL1,124,800,751.17 (USD198,654,342.23) and BRL571,223,309.75 (USD100,885,415.26) for patients with AIDS CMV-related retinitis and colitis, respectively.
Conclusions: The application of economic evaluation and budget impact tools is crucial for maintaining health system sustainability. Introducing treatments with high ICERs and budget impact can jeopardize the health system and access to treatments. Upholding criteria, such as the willingness-to-pay threshold, is essential for ensuring the sustainability and continuity of health care.

PD22 Economic Evaluation Of Polygenic Risk Scores In Clinical Practice: A Systematic Review

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Introduction: Implementation of polygenic risk scores (PRS) may improve disease prevention and management, but its benefits and costs are still to be quantified. The review aimed to summarize evidence on the economic evaluation of PRS, exploring how their use impacts healthcare resource utilization, cost outcomes, and overall cost-effectiveness in order to help guide healthcare decision-making and resource allocation.
Methods: The PubMed, Scopus, and Web of Science databases were searched. The search terms were constructed to identify full economic evaluations of healthcare programs containing PRS aimed at assessing the risk of diseases or other health outcomes in any target population. The search strategy was adapted to fit each database's research criteria. The literature search was supplemented by scanning the reference lists of retrieved articles. No language or date restriction was applied. The database search was rerun just before the final analysis. This research was supported by the European Commission and the Ministry for Universities and Research under the National Recovery and Resilience Plan (M4C2-I1.3 Project PE_00000019 "HEAL ITALIA").
Results: Of the 1,891 articles screened, seven economic evaluations were included. They were conducted between 2020 and 2022 in Asia (n=1), Australia (n=1), Europe (n=2), and the USA (n=3). The field of application was ophthalmology (n=2), oncology (n=1), cardiovascular (n=2), nephrology (n=1), and endocrinology (n=1). The time horizon was lifetime (57%) or between five and 40 years (43%). The most frequent viewpoint was the health system perspective (n=5). The target populations included healthy people or individuals at risk for a specific disease. Performing PRS tests was found to be a dominant strategy, with lower costs and better health outcomes in all studies.
Conclusions: Although the integration of PRS in clinical practice seems to be a cost-effective strategy, the small number of studies available and the heterogeneity in the field of application and the target populations limits the generalizability of results. A health technology assessment approach could be useful for summarizing the evidence on all domains of PRS implementation.

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