PP40 The Use Of "Softer" Outcomes In The NICE Health Technology Assessment Process: The Case Of Multiple Sclerosis

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Introduction: Multiple sclerosis (MS) is characterized by a significant humanistic burden, as this is a chronic progressive disease associated with high levels of disability and need for caregiver support. Our objective was to explore to what extent "softer" outcome measures are considered as part of the health technology assessment (HTA) process of medications evaluated for the management of MS. **Methods:** We performed a review of all Technology Appraisal Guidance (TAs) available at the National Institute for Health and Care Excellence (NICE) website, relating to the management of MS, in order to identify outcomes used either by the manufacturer or discussed by the Committee, that were beyond the typical ones around the clinical evidence, side effects, and costs associated with each technology under evaluation. The review focused on outcomes relating to the caregiver burden, the ease of use of the medication under evaluation, and the fatigue reported by patients. **Results:** Fifteen TAs were identified. Eight (53%) of the TAs included information on the caregiver burden, where the manufacturers applied caregiver disutilities in the cost-effectiveness analyses, which were deemed appropriate by the Committee. Six (40%) of the TAs further included a discussion on the ease of use for specific medications where the Committee concluded that the benefits of the mode of administration may not have been captured in the cost-effectiveness analysis. Fatigue was discussed in two TAs; the Committee provided conflicting conclusions around this measure, but in the most recent TA, it recognized that fatigue was an important outcome measure. **Conclusions:** Based on the above findings, it appears that "softer" outcome measures are deemed relevant in the HTA process for treatments aimed for MS, on top of the measures typically used in the HTA process; this highlights the importance of recording the humanistic burden of disease in a holistic way.

PP41 Enhancing Health Technology Assessment Through Behavioral Economics: A Strategic Approach To Sustainable Healthcare Innovation

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Introduction: Behavioral economics (BE) offers a spectrum of underutilized tools that could significantly enhance health technology assessment (HTA). This study proposes integration of BE into HTA, recognizing that understanding behavioral drivers can help in evaluating health technologies' sustainability and adoption rates, thereby aligning HTA more closely with real-world healthcare dynamics and patient needs. **Methods:** The study reviews existing key BE concepts and proposals for integrating BE concepts such as loss aversion, present bias, framing effects, and social norms influence into HTA framework. Loss aversion refers to the tendency of people to prefer avoiding losses rather than acquiring equivalent gains, while present bias is the tendency to prioritize immediate rewards over future benefits. Framing effect is the cognitive bias where people decide on options based on whether they are presented with positive or negative connotations. **Results:** Loss aversion can increase patient adherence to chronic disease management technologies by emphasizing the avoidance of negative health outcomes. Present bias limits adopting preventive technologies, where immediate costs overshadow long-term benefits. Framing effects may determine how the presentation of technologies influences acceptance; for example, by framing a new surgical device as reducing the risk of postoperative complications (a positive frame), rather than not increasing the risk (a negative frame), it may be more readily accepted. Additionally, use of default options in electronic health records can improve data accuracy, and recognizing social norms can drive broader adoption and success of telehealth solutions. **Conclusions:** Integrating BE with HTA methodology offers a pathway to more patient-centered and sustainable health technology implementation, with an emphasis on patient behavior patterns. This approach enables HTA to more effectively address human behavior intricacies, ensuring that health technology evaluations are both comprehensive and relevant to the evolving needs of healthcare systems and patients.

PP42 Implementing A Sustainable Enhanced Recovery From Surgery Pathway After Hip And Knee Arthroplasty: A Budget Impact Analysis

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Introduction: Increasing resources are devoted to osteoarthritis surgical care in Australia annually, with significant expenditure attributed to hip and knee arthroplasties. Safe, efficient, and sustainable models of care are required. This study aimed to determine the impact on healthcare costs of implementing an enhanced short-stay model of care (ESS-MOC) for arthroplasty at a national level.

Methods: Budget impact analysis was conducted for hospitals providing arthroplasty surgery over the years 2023 to 2030. Population-based sample projections obtained from clinical registry and administrative datasets of individuals receiving hip or knee arthroplasty for osteoarthritis were applied. The ESS-MOC assigned 30 percent of eligible patients to a shortened acute-ward-stay pathway and outpatient rehabilitation. The remaining 70 percent received a current practice pathway. The primary outcome was total healthcare cost savings post-implementation of the ESS-MOC, with return on investment (ROI) ratio and hospital bed-days utilized also estimated. Costs are presented in Australian dollars (AUD) and United States dollars (USD), at 2023 prices.

Results: Estimated hospital cost savings for the years 2023 to 2030 from implementing the ESS-MOC were AUD641 million (USD427 million) (95% CI: AUD99 million [USD66 million] to AUD1,250 million) [USD834 million]). This corresponds to a ROI ratio of 8.88 (1.3 to 17.9) dollars returned for each dollar invested in implementing the care model. For the period 2023 to 2030, an estimated 337,000 (261,000 to 412,000) acute surgical ward bed-days, and 721,000 (471,000 to 1,028,000) rehabilitation bed-days could be saved. Total implementation costs for the ESS-MOC were estimated at AUD72 million (USD46 million) over eight years.

Conclusions: Implementation of an ESS-MOC for eligible arthroplasty patients in Australia would generate significant cost and healthcare resource savings. This budget impact analysis demonstrates a best practice approach to comprehensively assessing value, at a national level, of implementing sustainable models of care in high-burden healthcare contexts. Findings are relevant to other settings where hospital stay following joint arthroplasty remains excessively long.

PP43 Budget Impact Analysis Of Next-Generation Sequencing Coverage In Taiwan's National Health Insurance

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Introduction: The exploration of molecular characteristics has emerged as a prominent trend to advance precision medicine. The utilization of genetic testing to guide therapy is integral to precision medicine. This study aims to investigate the potential patient populations for the reimbursement of next-generation sequencing (NGS) and assess the budget impact from the perspective of Taiwan's single insurer, the National Health Insurance Administration.

Methods: To comprehend the scope for medicines with companion diagnostics (CDx) involved, we analyze the U.S. Food and Drug Administration-approved/cleared diagnostic tests, conduct a literature review to identify medicines approved by the European Medicines Agency that require a CDx, and identify the medicines with CDx involved covered by the National Health Insurance (NHI) in Taiwan. Subsequently, we explore the potential reimbursement indications for NGS testing and conduct a budget impact analysis to

evaluate the expected financial impact for the NHI over a five-year period. Furthermore, sensitivity analyses are conducted to deal with uncertainty.

Results: We have compiled 13 cancer types for which NGS can serve as a companion diagnostic. These encompass non-small-cell lung cancer, colorectal cancer, breast cancer, ovarian cancer, biliary tract cancer, acute myeloid leukemia, acute lymphoblastic leukemia, melanoma, cholangiocarcinoma, prostate cancer, pancreatic cancer, gastrointestinal stromal tumor, and thyroid cancer/medullary thyroid cancer. The implementation of NGS reimbursement in NHI will benefit 25,000 to 30,000 patients undergoing targeted therapies. The projected incremental budget impact ranges from TWD570 million to TWD650 million (USD19 million to USD22 million) over five years.

Conclusions: This study focuses on evaluating the financial impact of incorporating NGS testing into NHI reimbursement for relevant cancer drug indications. The findings can serve as references for the planning of reimbursement policies. However, with the advancement of precision medicine, it is foreseeable that there will be a broader range of applications for NGS, and its cost will gradually decrease.

PP45 Core Outcome Sets For Research And Core Outcome Sets For Routine Care: Do They Overlap?

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Introduction: Core outcome sets (COS) are increasingly being developed for routine care, but it is unclear how they compare to COS for research for a given condition, particularly regarding recommended outcomes. If similar, embedding COS within clinical practice creates opportunities for improving data for real-world evidence. This work aims to compare outcomes in COS for different settings.

Methods: Cancer, neurology, cardiovascular, rheumatology, and orthopedic COS within the Core Outcomes Measures in Effectiveness Trials (COMET) database were reviewed to create matched sets of COS (COS that were developed for the same condition but different settings). Recommended outcomes were extracted along with information on COS scope (condition, population, and intervention), patient involvement, and year of publication. Specific outcome matches (e.g., cognition and executive capacity) and general outcome matches (e.g., mobility and physical function) were identified within each matched COS set to report the number and percent of distinct outcomes recommended for both settings.

Results: Eighteen matched sets were identified. The median (IQR) number of distinct outcomes recommended for both settings was 6 (4, 8) and the median (IQR) percent of all distinct outcomes that were recommended for both settings, of those included across both settings, was 20 percent (12%, 33%), ranging from nine percent for stroke rehabilitation to 50 percent for psoriatic arthritis. Variation due to potential factors such as outcome granularity, number of