

OP60 Community Funding Prioritization Of Drug Treatments: A Discrete Choice Experiment

Simon Fifer (simon.fifer@cappre.com.au),
Bronwyn West and Samson Kong

Introduction: Allocating government resources for drug treatments continues to be a challenge in health care, particularly given the increasing number of high-cost personalized drug treatments, finite resources, and aging population. Since taxpayers fund government health budgets, it is important to understand how they think funding should be distributed, considering attributes such as cost of drug treatments, risk of dying, commonality of medical conditions, and quality of life changes with drug treatments. The aim of this study was to understand what attributes of a medical condition and treatment determine a community's willingness to fund new drug treatments. Two decision-making contexts were explored: the allocation of funds from a health budget and a willingness-to-pay (WTP) perspective.

Methods: A representative sample of 500 Australian adults completed an online survey. The survey comprised two discrete choice experiments (DCEs) with different framing: an allocation of government funds and a WTP for drug treatments. The government allocation DCE allowed a choice between two hypothetical alternatives, each describing the medical condition and the drug treatment, while the WTP for funding showed one hypothetical alternative with an option to not fund the drug treatment. Seven DCE attributes, informed by a literature review, were displayed in each choice set relating to the medical condition (risk of dying, prevalence, and ages affected) and to the drug treatment (change in quality of life, additional life-years, availability of other drug treatments, and cost to the government and the taxpayer).

Results: The resulting DCE model will establish the funding prioritization choices made by the general community. We expect changes in quality of life and risk of dying to be very important attributes. Of key interest for this study is how the difference in the decision-making context impacts preferences. We expect taxpayers to employ a stricter rule set in funding decisions when paying out of pocket (WTP exercise).

Conclusions: The findings from this research have implications for decision makers when aligning funding decisions with community preferences and values.

OP61 Value Of Disinvestment: The Journey From Possibility To Reality

Ku Nurhasni Ku Abd Rahim (kunurhasni@moh.gov.my),
Hanin Farhana Kamaruzaman,
Mohamed Hirman Abdullah and
Izzuna Mudla Mohamed Ghazali

Introduction: In recent years, most countries have struggled to meet the annual demand for increases in healthcare resources. This scenario poses a significant challenge for those who pay for or manage healthcare services, namely the clinicians and hospital managers. Thus, value-based implementation for resource allocation may include disinvestment initiatives to maximize benefits to patients and the population. The purpose of this study was to explore the feasibility of incorporating a systematic and explicit value assessment in hospital-based decision-making for the prioritization of resource allocation.

Methods: An evidence-informed stakeholder engagement workshop was held with approximately 50 hospital directors and utilized a scenario analysis of making decisions for hospital procurement. The key question discussed was what should be considered when making decisions about resource allocation and disinvestment in health services at the hospital level. The participants were divided into five groups with a mix of multilevel institutional categories. Each group was given a similar resource allocation scenario, a wish list, and a shift list. The participants were involved in a facilitated discussion on the process, criteria for prioritization, and the justification of their final selections. Subsequently, a deliberative discussion was held at the end of the workshop to explore the feasibility of this prioritization method.

Results: Prioritization criteria that were identified and unanimously agreed upon included effectiveness, safety, burden of disease, suitability of services, human resources and facilities, and economic considerations. The deliberative discussion also highlighted the impact of the disinvestment of services, managing the expectation of patients and clinicians, and monitoring and audit mechanisms.

Conclusions: The value of disinvestment should not compromise access to services and quality of care. There is a huge potential for implementing a systematic and explicit value assessment in hospital-based decision-making for prioritization of resource allocation. Further refinement of the process and mitigation of challenges will enable its use.

OP62 Development Of The Oral Health Risk Adjustment Model To Predict The Outpatient Dental Expenditure In Children With Autism

Mei-chi Lai (mclai723@cde.org.tw), Ruei-Yi Chang,
Li-Ying (Grace) Huang, Shu-Mei Hsu, Ying-Li Chen and
Perng-Haur Wang

Introduction: National health insurance (NHI) Taiwan has provided additional markups on dental service fees for people with specific disabilities, and the expenditure has increased significantly from TWD473 million (USD15 million) in 2016 to TWD722 million (USD24 million) in 2022. The purpose of this study was to determine oral health risk and to develop a risk assessment model for capitation outpatient dental payments in children with Autism.

Methods: Based on the literature and expert opinion, we developed a level of oral health risk model from the claim records of 2019. The model uses oral outpatient claim data to analyze: (i) the degree of caries disease; (ii) the level of dental fear or cooperation; and (iii) the level of tooth structure. Each factor was given a score from zero to four and a total score was calculated. Low-, medium-, and high-risk groups were formed based on the total points. The oral health risk capitation models are estimated by ordinary least squares using an individual's annual outpatient dental expenditure in 2019 as the dependent variable. For subgroups based on age group and level of disability, expenditures predicted by the models are compared with actual outpatient dental expenditures. Predictive R-squared and predictive ratios were used to evaluate the model's predictability.

Results: The demographic variables, level of oral health risk, preventive dental care, and the type of dental health care predicted 30 percent of subsequent outpatient dental expenditure in children with autism. For subgroups (age group and disability level) of high-risk patients, the model substantially overpredicted the expenditure, whereas underprediction occurred in the low-risk group.

Conclusions: The risk-adjusted model based on principal oral health was more accurate in predicting an individual's future expenditure than the relevant study in Taiwan. The finding provides insight into the important risk factor in the outpatient dental expenditure of children with autism and the fund planning of dental services for people with specific disabilities.

OP63 Incorporating Machine Learning Methods In Health Economic Evaluations: A Case Study On Depression Prevention

Joran Lokkerbol (joran.lokkerbol@gmail.com)

Introduction: New methodologies such as machine learning are becoming widely available and are increasingly used. However, more guidance on their role in the context of economic evaluations would be beneficial.

Methods: We developed a machine learning model to predict recurrent depressive episodes and incorporated the model outcomes in a health economic model to assess the cost effectiveness of offering targeted prevention of recurrent depression. We considered the impact on cost effectiveness (defined as cost per quality-adjusted life-year) for machine learning models with different thresholds for classifying a patient as being at risk, resulting in different precision-recall pairs.

Results: Targeted prevention of recurrent depression could enhance the cost effectiveness of depression treatment by preventing a small number of recurrent depressive episodes in patients where the estimated risk of recurrence is relatively high. More depressive episodes could be prevented with the trade-off of less cost effectiveness for the healthcare system.

Conclusions: Health economic modeling approaches can be augmented with machine learning methods, which broadens the areas in which evidence can be generated for policy makers to base their budget allocation. The precision of such predictive machine learning

models must be high enough to be able to improve a care-as-usual healthcare system. Machine learning models generally let you set the level of precision acquired, at the cost of a possibly low recall, thereby limiting the impact on the healthcare system as a whole. More and better data for training these machine learning models will allow developed models to better distinguish patients who will and won't develop a recurrent depressive episode, and for higher recall given a desired precision threshold. This will translate into a more substantial improvement in the treatment of depressive disorders in the healthcare system.

OP66 Adoption Of The World Health Organization Algorithm For Essential Medicines In The Philippine National Formulary Listing Process

Sheena Jasley Samonte (sgsamonte@doh.gov.ph), Princess Allyza Mondala, Lara Alyssa Liban, Patrick Wincy Reyes, Anne Julienne Marfori, Anna Melissa Guerrero, Bu Castro, Isidro Sia, Maria Minerva Calimag, Cecilia Maramba-Lazarte and Imelda Peña

Introduction: The Philippine National Formulary (PNF) System preceded the health technology assessment (HTA) process in the Philippines, which was institutionalized in 2019. The transition led to previously prioritized topics of expert bodies overseeing the PNF System being endorsed to the HTA Council. However, the advent of COVID-19 forced the HTA Philippines to focus on emergency assessment needs and financing recommendations for the national government, resulting in limited capacity to assess non-public health emergency topics. To address this and improve patient access to medicines, we adopted the World Health Organization (WHO) process for evaluating and selecting medicines in the National Essential Medicines List (NEML).

Methods: In assessing the pre-pandemic topics, we matched the population, intervention, comparator, and outcomes of the WHO clinical evidence reviews with those scoped with relevant stakeholders and performed local costing analyses to ensure applicability of findings to the Philippine setting. When needed, we subjected the topics to price negotiation or conducted qualitative assessments.

Results: We found the method efficient in expediting the decision-making process of the HTA Council. However, given the limited internal capacity of the HTA Philippines to conduct assessments for all ongoing HTA tracks, some of the topics responsive to Universal Health Care will be outsourced to the HTA Research Network, which is yet to be established. There is also a need to improve alignment among the topics being assessed, since the priorities of the proponents, national health program, and national payer have already evolved.