a new objective, it is common to ask whether a meta-analysis is feasible to assess the objective. I argue that more appropriate questions to ask are: 1) What data address the research question?; 2) What does a qualitative assessment of those data tell us? Are there any controversies or challenges in interpreting or comparing them?; and finally 3) Can a quantitative meta-analysis mitigate these difficulties? In many cases, a proper and thorough "visual analysis" of the data is an effective and sufficient process to generate compelling evidence, draw inferences, and support decision-making. ***Conclusions:*** Meta-analysis is a powerful tool for comparative effectiveness analyses and one method of evidence synthesis. Qualitative evidence synthesis is often undervalued but can also be a powerful tool in making sense of diverse data.

MSR32
COVID-19 BEDS' OCCUPANCY AND HOSPITAL COMPLAINTS: A PREDICTIVE MODEL

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Objectives: COVID-19 pandemic limited the number of patients that could be promptly and adequately taken in charge. The proposed research aims at predicting the number of patients requiring any type of hospitalizations, considering not only patients affected by COVID-19, but also other severe viral diseases, including untreated chronic and frail patients, and also oncological ones, to estimate potential hospital lawsuits and complaints. ***Methods:*** An unsupervised learning approach of artificial neural network's called Self-Organizing Maps (SOM), grounding on the prediction of the existence of specific clusters and useful to predict hospital behavioral changes, has been designed to forecast the hospital beds' occupancy, using pre and post COVID-19 time-series, and supporting the prompt prediction of litigations and potential lawsuits, so that hospital managers and public institutions could perform an impacts' analysis to decide whether to invest resources to increase or allocate differentially hospital beds and humans capacity. Data came from the UK National Health Service (NHS) statistic and digital portals, concerning a 4-year time horizon, related to 2 pre and 2 post COVID-19 years. ***Results:*** Clusters revealed two principal behaviors in selecting the resources allocation. In case of increase of non-COVID hospitalized patients, a reduction in the number of complaints (-55%) emerged. A higher number of complaints was registered (+17%) against a considerable reduction in the number of beds occupied (-26%). Based on the above, the management of hospital beds is a crucial factor which can influence the complaints trend. ***Conclusions:*** The model could significantly support in the management of hospital capacity, helping decision-makers in taking rational decisions under conditions of uncertainty. In addition, this model is highly replicable also in the estimation of current hospital beds, healthcare professionals, equipment, and other resources, extremely scarce during emergency or pandemic crises, being able to be adapted for different local and national settings.

MSR33
APPLICATION AND FEASIBILITY OF INDIRECT TREATMENT COMPARISON OF SWITCH MAINTENANCE AND NON-MAINTENANCE ONCOLOGY REGIMENS TO INFORM HTA DECISION-MAKING

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Objectives: Switch maintenance trials (SMT) typically enroll patients with stable disease after induction chemotherapy with subsequent randomization to treatment or comparator. Outcomes (eg, survival) are measured from randomization rather than start of induction chemotherapy. Thus, traditional indirect treatment comparison (ITC) methods may not be feasible to compare outcomes from SMT with emerging non-maintenance trials measured from induction initiation in an intent-to-treat (ITT) population. In several cancers, switch maintenance has become the standard of care (SOC) to which emerging non-maintenance treatments may be expected to compare outcomes against. However, no methods have been established to do so. We sought to identify HTA evaluations across cancer types that compared SMTs with traditional trials to suggest possible approaches to overcome challenges in ITC. ***Methods:*** We conducted a review of HTA evaluations conducted by NICE, SMC, CADTH, PBAC, and ICER across cancer types to identify assessments of switch maintenance. Evaluations were assessed for attempts to conduct ITC to non-maintenance ITT trials and discussion of methodological limitations. ***Results:*** 32 HTA assessments were identified for SMTs. None attempted an ITC against non-maintenance trials, instead considering only the in-trial comparator or other switch maintenance. Cited limitations were fundamental differences in the patient populations and the point of randomization. ***Conclusions:*** No standard approach exists to compare SMT to non-maintenance trials. HTA evaluations to date have largely been limited to the in-trial comparator. Conceptually, comparisons to non--maintenance regimens could be accomplished by using external data to adjust the SMTs to reflect the ITT population from initiation of induction chemotherapy, as is done in re-randomized trials in other diseases (eg, ulcerative colitis). Further, adjustment to non-maintenance treatment to match the SMTs could be attempted by selecting for patients with extended stable disease using an MAIC approach. Additional research is needed to validate these approaches and to establish best practices.

MSR34
FORECASTING THE LONG-TERM TREATMENT EFFECT DURATION OF IMMUNO-ONCOLOGY THERAPIES: AN ANALYSIS OF THE PREDICTIVE ACCURACY OF TREATMENT WANING METHODS APPLIED TO PEMBROLIZUMAB IN NON-SMALL CELL LUNG CANCER

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Objectives: Treatment waning is a common uncertainty in health technology assessment, and choice of waning methodology can have a substantial impact on estimated survival.[1] This research investigated the accuracy of four waning methods used in past National Institute for Health and Care Excellence appraisals in predicting overall survival (OS) for immuno-oncology therapies, using pembrolizumab in KEYNOTE-024 as a case study. ***Methods:*** Four waning methods were applied to pembrolizumab OS data from a 25-month data-cut of KEYNOTE-024. Methods 1 and 2 assumed full treatment effect until 5 years, after which all effect was lost relative to chemotherapy. Methods 3 and 4 linearly waned treatment effect between 2 and 5 years, based on the trial two-year stopping rule.[1] Predicted LYs were calculated over 5.5 and 10-year horizons, using best-fitting curves for pembrolizumab (Gompertz) and chemotherapy (lognormal). Predicted LYs were compared with more mature LY estimates from a later (5.5-year) data-cut of KEYNOTE-024, calculated over a 5.5-year time horizon (using pembrolizumab Kaplan-Meier data directly), and over a 10-year horizon (by extrapolating the Kaplan-Meier data using the best-fitting curve [log-logistic] with no waning applied). ***Results:*** Predicted LYs over a 5.5-year horizon ranged from 2.81 (Method 4) to 2.93 (Method 1). Over a 10-year horizon, predicted LYs ranged from 3.69 (Method 4) to 4.38 (Method 1). The more mature LY estimates were 2.74 and 3.87 over a 5.5 and 10-year horizon, respectively. LYs predicted by Method 4 aligned most closely with the more mature LY estimates when calculated over both time horizons. ***Conclusions:*** Waning based on gradually equalizing hazards (Method 4) demonstrated the greatest predictive accuracy compared to the other methods explored. Further research is needed to confirm whether this finding is generalisable to other treatments and indications. [1]Micallef J, et al. When Does a Treatment Effect Really Stop? Exploration of Different Methods for Modelling Treatment Waning. ISPOR 2022

MSR35
SYSTEMATICALLY VALIDATING HEALTH ECONOMIC MODELS USING THE PROBABILISTIC ANALYSIS CHECK DASHBOARD (PACBOARD)

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Objectives: Health economic (HE) models are routinely developed and used to support health policy decisions, but are often not publicly available. Additionally, relatively few HE models are extensively validated and validation efforts are only occasionally reported systematically. This lack of validation may undermine HE model credibility and increases the chance of taking wrong decisions, potentially leading to health losses. Solving this issue requires new approaches to validating HE models when the underlying model is unavailable. Metamodelling, i.e. fitting a statistical model (e.g. linear regression) to a HE model's inputs and corresponding outputs, can generate insights in how such models work and into their inputs-outputs relationships. The aim of this study was to develop an interactive dashboard to systematically explore and validate HE models' inputs and outputs. ***Methods:*** The R shiny Probabilistic Analysis Check dashBOARD (PACBOARD) was developed using insights from literature, health economists, and a data scientist. PACBOARD requires users to upload the inputs and corresponding model outputs of a probabilistic analysis. Functionalities of PACBOARD are: 1) validating and inspecting model inputs and outputs using standardised validity tests (e.g. checking whether all cost inputs are positive) and interactive plots; 2) visualising and investigating the inputs-outputs relationships using metamodelling. PACBOARD also allows to make predictions using the fitted metamodel. A HE model containing errors (e.g. negative costs and transition probabilities) was developed to test the functionalities of PACBOARD. PACBOARD metamodelling predictions were validated against the original model's outputs. ***Results:*** PACBOARD automatically identified all errors in the incorrect HE model. Metamodelling predictions were similar compared to the original model outputs. ***Conclusions:*** PACBOARD is a unique tool to standardise and increase the transparency of HE model validation efforts, without requiring access to the original HE model. It increases the feasibility of validating HE models regardless of model type and disease domain.

MSR36
MODELLING OF UK GENERAL POPULATION UTILITY: THE ALDVMM APPROACH IN PRACTICE

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Objectives: A new NICE DSU report on age and sex-adjusted general population utility was recently published (Hernández Alava et al. 2022). The authors fitted a three-component adjusted limited dependent variable mixture model (ALDVMM) to