Introduction: Developed in 2014, the Systematic Review (SR) Toolbox has played a critical role in helping researchers to identify appropriate tools to support systematic reviews. Since the resource was launched, the systematic review and wider evidence synthesis process has evolved considerably. The way in which the SR Toolbox originally classified tools at launch had become dated. We updated and rebuilt the SR Toolbox in 2022 underpinned by a novel taxonomy to reflect the latest review and evidence synthesis landscape.
Methods: All guidance and software tools contained within the SR Toolbox were manually extracted in February 2022. Information contained from tool records were extracted by a single reviewer into an Excel spreadsheet, with a second reviewer checking a sample. The spreadsheet was translated to a Microsoft Access database underpinned with a new taxonomy to reflect the expansion of evidence synthesis methods and new review types (or 'families'). A brief analysis of the remapped tools was conducted to identify current gaps in software and guidance support for evidence synthesis. A new user interface was also developed.
Results: The updated version of the SR Toolbox was launched 13 May 2022. At that time, the resource included records on 235 software tools and 112 guidance tools. Regarding 'review families', most software tools (n = 223) and guidance documents (n = 78) were applicable to supporting systematic reviews. Fewer software (n = 66) and guidance (n = 22) tools were applicable to reviews of reviews, while qualitative reviews were less served by guidance documents (n = 19). In terms of 'review stages', most guidance documents were associated with quality assessment (n = 70), while most software was related to searching (n = 84) and synthesis (n = 82). To-date, there is a lack of software (n = 2) and guidance (n = 3) tools to support stakeholder engagement.
Conclusions: The SR Toolbox has received a significant update to ensure that tools are classified and shared based on the latest systematic review and evidence synthesis methods. As part of the update, analysis of the contents of the toolbox highlighted potential gaps in tool support for certain review types/stages.

PP87 Glecaprevir/pibrentasvir (Maviret®) Remains A Cost-effective Treatment For Chronic Hepatitis C Virus Infection After Changes To The Treated Population

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Introduction: The first direct-acting antiviral (DAA) therapies for chronic Hepatitis C virus (HCV) infection were reimbursed via Australia's Pharmaceutical Benefits Scheme (PBS) in March 2016. This was based on the recommendation from the Pharmaceutical Benefits Advisory Committee (PBAC) that the regimens would be acceptably cost-effective at an incremental cost-effectiveness ratio (ICER) of AUD15,000/quality-adjusted life-year (QALY). Broad access to DAA therapies has been a key strategy in driving a national health goal to eliminate viral hepatitis as a major health threat by 2030. Since the initial PBS listings for DAA therapies and subsequent listings of newer DAA treatments such as Maviret, the demographics and disease characteristics of currently treated patients have markedly changed. The aim of our analysis was to reassess the cost-effectiveness of Maviret, accounting for the changes of the treated population characteristics and retreatment in first-line failures and reinfected individuals.
Methods: To assess the cost-effectiveness six years after initial listing of Maviret, an update was made to the Markov model used to achieve PBS reimbursement for Viekira-Pak® in May 2016. Amendments to the Viekira-Pak model include: changes to baseline age and fibrosis distribution of treated patients, and incorporation of retreatment of first-line failures (those not achieving a sustained virologic response (SVR)) and reinfected individuals. Treatment-related inputs including SVR response rates, adverse events, treatment-related disutility and discontinuations were sourced from pivotal glecaprevir/pibrentasvir clinical trials.
Results: Using the published price of Maviret, the ICER is above AUD15,000/QALY but well below the commonly used ICER threshold in other chronic diseases (AUD45,000/QALY). When the confidential effective price is used, the ICER is under the AUD15,000/QALY cost-effectiveness threshold set by the PBAC for DAA therapies.
Conclusions: Despite substantial changes to the population seeking treatment in Australia since reimbursement in 2016, Maviret remains a cost-effective treatment for chronic HCV infection.

PP88 An Exploratory Analysis Of The Potential Cost-Benefit Of Delaying Kidney Disease Progression In Australia

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Introduction: Chronic Kidney Disease (CKD) is a condition that leads to end-stage renal disease (ESRD), characterized by a gradual loss of kidney function. In 2021, the healthcare system expenditure of CKD in Australia was estimated to be over AUD2.3 billion (USD1.5 billion), largely attributed to Kidney Replacement Therapy (KRT, dialysis or kidney transplantation). This exploratory analysis aims to calculate the cost-benefit to the Australian healthcare system should KRT be delayed.
Methods: The prevalence of ESRD with and without KRT between 2016 and 2021 was estimated, and a simple linear regression model was created to estimate the prevalence of ESRD with KRT between 2022 and 2026. The projected cost of KRT management in 2022 was

https://doi.org/10.1017/S0266462323002179 Published online by Cambridge University Press

calculated, enabling an approximate cost benefit presented as the number of patients needed to reduce expenditure by AUD1 million (USD0.7 million).
Results: In 2021, it was calculated that 34,554 patients live with ESRD in Australia, of which 28,542 patients are on KRT. The number of new patients on KRT increases linearly by an average of 943 patients per year and provided a model with a strong goodness-of-fit (R^2 = 0.99); predicting that the prevalence of patients on KRT is estimated to increase to 33,417 patients by 2026. Dialysis accounts for the highest cost associated with ESRD management, estimated to be AUD87,975/year/patient (USD58,253), and accounts for over AUD1.3 billion (USD0.9 billion) in annual expenditure. When considering the proportion of patients receiving KRT undergoing dialysis (52.6%), first-year renal transplant (3.4%), and post-kidney transplantation (43.9%), in 2022, the average annual cost per patient receiving KRT is estimated to be AUD57,565 (USD38,109). The prevention of KRT in 17.4 patients in 2022, decreasing to 15.4 patients in 2026, has the potential to save AUD1 million/year (USD0.7 million).
Conclusions: The prevalence of ESRD in Australia increases linearly and contributes to a significant cost to the Australian healthcare system. In 2022, preventing KRT in 17.4 patients (0.06%) can equate to a saving of AUD1 million/year (USD0.7 million), further decreasing to 15.4 patients (0.05%) in 2026.

PP90 Artificial Intelligence To Detect Ischemic Heart Disease In Non-traumatic Chest Pain At The Emergency Department – SmartHeart Study

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Introduction: An estimated 17.9 million people died from cardiovascular diseases (CVDs) in 2019, which is 32 percent of all global deaths and 85 percent were due to heart attack and stroke. Chest pain is one of the most common reasons for presenting to the emergency department (ED). It is increasingly recognized that artificial intelligence (AI) will have a significant impact on the practice of medicine in the near future and may help with diagnosis and risk stratification. We aim to estimate a diagnostic prediction of acute myocardial infarction by the development and validation of an AI model.
Methods: Data on 134 variables of 3,986 consecutive patients who presented to the ED with non-traumatic chest pain were included in the analysis. Using AI tools, a neural network model was developed to establish the risk of acute myocardial infarction (AMI) to achieve n=150 patients over 18 years of age attending the ED.
Results: The mean age was 65.5 (±13.7) years and 63.6 percent were male. Most (60.1%) patients were admitted to hospital, with only 20.3 percent diagnosed at hospital discharge with ischemic heart disease (IHD). All patients were followed up for two months, and 6.3 percent were readmitted to the ED, but none presented with an episode of IHD. In the data analysis of the entire sample we obtained a probability of diagnosing IHD by the SmartHeart model (S=93.1%, E=47.3%, PPV=31.0%, and NPV=96.4%). When we analyzed the sample of patients with no history of IHD (n=104), the diagnosis accuracy was as follows (S=100%, E=77.5%, PPV=42.8%, and NPV=100%).
Conclusions: Our AI model provides information to predict patients who are suffering from acute IHD. AI has been reported to outperform emergency physicians and current risk stratification tools to diagnose IHD, but has rarely been integrated into practice. This study highlights the diagnostic applicability and accuracy of this type of tool and that is why studies should be implemented to see its effectiveness in routine practice in EDs.

PP93 Health Technology Assessments For Rare Diseases In Australia: A Case Study On Cystic Fibrosis

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Introduction: Currently, no cure exists for the 1 in 2,500 Australian babies born with potentially fatal cystic fibrosis (CF). The authors conducted a health technology assessment (HTA) case study analysis of all regulatory approved CF treatments in Australia from January 1994 to July 2022. Submissions were also made under the Therapeutics Goods Administration and Pharmaceutical Benefits Advisory Committee (TGA-PBAC) parallel process.
Methods: Public summary and source materials were researched to understand relevant clinical and health economic evidence requirements, and access decisions from Australia's lead HTA body, PBAC.
Results: The review found that there are more than seven approved products in Australia. Of those, all four novel CF transmembrane conductance regulator (CFTR) modulating medications, which treat the underlying disease, received an orphan drug designation and were eventually listed. However, initial HTA decisions were mixed, with one recommended (25%), one not recommended (25%), and two deferred (50%). Clinical efficacy, cost-effectiveness, clinical need, as well as patient/carer-centric perspectives were most influential in HTA recommendations. Like other rare disease treatments, price, high incremental cost-effectiveness ratios (ICERs), uncertainty around cost-effectiveness and/or efficacy were key barriers to positive decisions. Notably, Australian stakeholders did not recommend CF medicines when their ICERs significantly exceeded a threshold of AUD200,000 (USD134,700) per quality-adjusted life year (QALY) gained. Administratively, Australia addresses risks associated with poor cost-effectiveness and high costs through managed access programs, risk-sharing agreements (RSA) and special pricing arrangements.
Recently approved elexacaftor-tezacaftor-ivacaftor would be inaccessible to many Australian patients without inclusion in the

https://doi.org/10.1017/S0266462323002179 Published online by Cambridge University Press