

To improve access to PBT, the South Australian Health and Medical Research Institute (SAHMRI) submitted an application to the Medical Services Advisory Committee (MSAC) including a cost utility analysis (CUA) comparing PBT with PRT to treat specific pediatric/adolescent and young adult (AYA) and rare adult tumors.

**Methods:** A systematic review identified 28 comparative, mostly real-world studies to support the conclusion that PBT has superior safety and non-inferior efficacy to PRT in the requested indications. The key challenge for the CUA was to quantify the cost and quality of life implications of the superior safety profile across a wide range of indications with a limited comparative evidence base. A simple lifetime decision analytic model was developed which modeled the rates, costs and utilities associated with relevant toxicities. The complications of radiotherapy are often chronic and included secondary malignancies, visual impairments, endocrine dysfunction, dysphagia, hearing loss and intellectual disability. Some of these toxicities are only applicable to patients with cranial cancers. Therefore, the event rates applied in the evaluation were adjusted to account for the proportion of patients within each population estimated to have extracranial cancers.

**Results:** When results in the adult and pediatric/AYA populations were weighted across the expected utilization of PBT (34% adults, 66% pediatric/AYA) in each population, PBT was dominant relative to PRT.

**Conclusions:** In November 2020, MSAC recommended funding PBT in specific populations at high risk of long-term side effects from PRT. To address uncertainties around the evidence base, MSAC further requested the following:

- All patients receive comparative photon/proton plans to determine eligibility
- A national registry is established for patients treated with PBT.

## PP76 From Hospital-based Health Technology Assessment (HTA) To Treatment Decision: What Decisions Actually Result After HTA In A Resource Constrained Environment?

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**Introduction:** The Northern Region Clinical Practice Committee (NRCPC) conducts hospital-based health technology assessments (HTA) to provide advice to hospital managers regarding both the implementation of new technologies and the configuration of existing services. To assist in the comparison of dissimilar health technologies applied across different disciplines and different hospitals, the NRCPC developed a prioritization tool. This abstract reports the use of the tool over the 17-year period that the committee has been in operation.

**Methods:** The score given to each HTA depends on cost-utility, predicted health improvements and the quality of evidence. In addition to the scoring tool, editorial notes are provided to contextualize the agreed score and to explain the NRCPCs interpretation of the evidence.

**Results:** Most of the time hospital managers have made decisions concordant with the recommendations of the NRCPC; submissions are recommended to be implemented, declined, or receive interim approval with data collection. The latter often occurs when there are uncertainties about efficacy, but no (or very few) safety concerns, or where there are uncertainties about whether the proposed costs are reproducible in the hospital setting. In these cases, management responses often require submitters to undertake a limited number of cases and collect data for audit over a one-to two-year period. Low-scoring submissions are often declined, whereas high-scoring submissions have not been declined to date. The interim approval (with data collection) strategy has had variable outcomes based on the willingness of the implementing clinicians to collect accurate data about both costs and outcomes. From 2005 to 2022, the NRCPC received 146 submissions. This poster reports graphical representations of the decisions made over the NRCPCs period of operation.

**Conclusions:** The NRCPC scoring tool has been successful to date in providing a framework for decision makers to allow consistent, unbiased and objective assessments of dissimilar technologies. Prioritization tools in hospital-based HTA are beneficial to decision makers in hospital settings.

## PP79 Publication Trends Of Network Meta-analyses In Europe And Asia: A Focus On Cardiovascular Disease

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**Introduction:** The objective of this research was to compare trends in publications of network meta-analyses (NMAs) in cardiovascular diseases (CVDs) in Asia-Pacific (APAC; China, Japan, Singapore, South Korea, Thailand) and Europe (United Kingdom [UK], Germany, France, Spain, Italy), with a focus on volume, collaborations and methods.

**Methods:** Freely available NMAs assessing pharmacological or surgical interventions for CVD in terms of mortality or major adverse cardiovascular events, published in 2012 or later, by authors affiliated with institutions in the target countries were identified via MEDLINE and Embase. CVDs were grouped using the International Classification of Diseases, Tenth Edition (ICD-10).

**Results:** Across the 193 publications identified, heart diseases such as atrial fibrillation, aortic stenosis and heart failure (ICD-10 I30-I52) were the most common indications reported (38%). The majority of publications involved authors in APAC countries (63%) and 40% from Europe. Cumulative numbers of publications from APAC surpassed those from Europe from 2018 onwards. Authors were

largely affiliated with institutions in China (50%), the UK (20%) and Italy (20%). One hundred and forty-five publications were by authors affiliated with institutions in a single country; 91 percent of publications from APAC and 44 percent from Europe, indicating different patterns of collaboration within these regions. In terms of reporting methodologies, 39 percent of included publications did not specify whether a frequentist or Bayesian framework was used (43% in APAC, 34% in Europe). Among those that reported, the Bayesian framework was more commonly used.

**Conclusions:** Whilst there is a growing trend in NMA publication counts generally, the rate of increase in APAC was higher than Europe, particularly in the years following adoption of health technology assessment (HTA) procedures in APAC. The volume of publications not reporting the framework used was substantial, despite requirements for this in reporting guidelines e.g., PRISMA. Where reported, the Bayesian framework may have been favored due to its advocacy by some health technology assessment bodies.

## PP80 The Value of Intraoperative Neural Monitoring During Thyroid Surgery In China: A Literature Review

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**Introduction:** Recurrent laryngeal nerve (RLN) injury has been a frequent source of malpractice litigation following thyroid surgery. Intraoperative neural monitoring (IONM) has been widely applied to avoid RLN injury in thyroid surgery in developed countries, but China cannot achieve the same application rate currently. To improve the recognition and application of IONM in China, this literature review aims to synthesize the evidence on the value of IONM in China.

**Methods:** A comprehensive literature review was conducted by searching through PubMed, CNKI and Wan Fang to identify studies about the IONM technology for protecting RLN during thyroid surgery in Chinese clinical data.

**Results:** Nineteen Chinese clinical trials of IONM during thyroid surgery published from 2012 to 2022 were included for review. Almost all studies recruited adults who need thyroid surgery and only one study enrolled geriatric patients. There were three (3/19) prospective studies and two were randomized controlled trials that both showed that IONM helped surgeons to detect the RLN with less time and reduce the injury of RLN in reoperative thyroid surgery. Major studies (16/19) conducted retrospective analysis and six of them (6/16) only had an IONM group that showed that IONM technology can avoid damage to the RLN. The remaining ten studies (10/16) compared patients with and without IONM during the surgery. Compared with the non-IONM group, nine studies (9/10) stated IONM technology has an advantage in the reduction of RLN injury rate and seven studies (7/10) claimed IONM was helpful in reducing the time of surgery. One study believed IONM was beneficial to reducing bleeding during the

surgery and another study reported a lower incidence of hypoparathyroidism with the IONM group.

**Conclusions:** The value of IONM for protecting RLN during thyroid surgery and improving operation efficiency has been thoroughly proven by the above Chinese clinical trials. Further economic evaluations and patient-reported outcomes research of IONM with Chinese hospital data will help better assess the value of IONM.

## PP81 Efficacy Of Transcranial Direct Current Stimulation For Depressive Episode Disorders

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**Introduction:** Depression is a general term that describes different depressive disorders which are highly prevalent and disabling, characterized by decreases in quality of life. Transcranial Direct Current Stimulation (tDCS) is a non-invasive brain modulation technique used, among other purposes, for the treatment of chronic pain and headache. In order to clarify the effect of this stimulation on depressive disorders, the objective of this review was to evaluate efficacy and safety of treatment with tDCS for depressive disorders.

**Methods:** A systematic research study was carried out on 30 June 2022 in MEDLINE (by Pubmed), Embase, Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), PsycInfo e Global Mental Health databases. Were included systematic reviews (SR) with meta-analysis that selected patients with depression, in use of tDCS, using as comparator sham stimulation (placebo) or any other treatment (pharmacologic or no) or any comparison between pre-and post-intervention.

**Results:** Eight SR with meta-analysis of randomized clinical trials (RCTs) on the efficacy and safety of tDCS in the treatment of depressive disorders were retrieved. Subjects were assessed for clinical response, remission, change in scores on depression scales, occurrence of procedure-related adverse events, and treatment dropout. Three systematic reviews showed results that point to the effectiveness of tDCS for the clinical response outcome and one considering the remission outcome. As for the outcome measured by the change in depression scale scores, all included reviews showed favorable results for tDCS. It is noteworthy that the studies included in the reviews have methodological limitations. With regard to safety,