

databases: Medline, Embase, the Cochrane Library, and the [Centre for Reviews and Dissemination](#). Systematic reviews, randomized and non-randomized controlled trials, and case series studies evaluating the efficacy and safety of RFA in patients with vertebral metastases were included.

**Results.** Sixteen studies were included: two systematic reviews, 13 case series studies, and one comparative study. None of the systematic reviews identified any randomized controlled trials. Of the 14 included primary studies, 10 evaluated RFA in combination with vertebroplasty, three evaluated RFA in combination with kyphoplasty, and one study evaluated a combination of RFA and radiation therapy. In all cases, the evaluated patients had different types of cancer (e.g., breast, lung, or liver). The follow-up periods varied between the studies from one day to 12 months. The most commonly used RFA devices were the STAR™ Tumour Ablation System (Merit Medical Systems) and the OsteoCool™ Radiofrequency Ablation System (Medtronic).

**Conclusions.** RFA reduces pain, improves functional capacity, and provides greater local control of disease, potentially giving patients a higher quality of life, even in the context of metastatic disease. Although there is evidence on the safety and efficacy of this technology for the palliative treatment of vertebral metastases, more studies with higher methodological quality are needed. There were no studies available on the cost effectiveness of RFA for this indication.

### PP133 Developing A Novel Multifaceted Graphical Visualization For Treatment Ranking Within An Interactive Network Meta-Analysis Application

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**Introduction.** Network meta-analysis (NMA) is a key methodology for comparing the effectiveness of multiple interventions or treatments simultaneously. This project aimed to ascertain current methods and visualizations for treatment ranking within an NMA framework and to subsequently develop a novel graphic within MetaInsight (an interactive NMA web application), to aid clinicians and stakeholders when making decisions regarding the “best” intervention(s) for their patient(s).

**Methods.** Current literature on the methodology or visualization of treatment ranking published in the last 10 years was collated and studied. Based on the literature, a novel graphical visualization was developed using RShiny (RStudio, PBC) and integrated within MetaInsight, which is currently hosted on shinyapps.io.

**Results.** Bayesian analyses produce rank probabilities from which mean or median rank and surface under the cumulative ranking curve can be calculated. For frequentist analyses the p-value is available. The simpler methods may be easier to interpret, but they are often more unstable and do not encompass the whole analysis (and vice versa). To aid interpretation and facilitate sensitivity analysis, an interactive graphic was developed that presents rankings alongside treatment effect and study quality results.

**Conclusions.** Treatment ranking is useful, but the results should be interpreted cautiously, and the visualization should be

transparent and all-encompassing. A ‘living’ version of MetaInsight, with treatment ranking, would allow interested parties to follow the evidence base as it grows.

### PP140 Barriers And Prospects For The Development Of Hospital-Based Health Technology Assessment In Kazakhstan

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**Introduction.** The experience of implementing a hospital-based health technology assessment (HB-HTA) system in Kazakhstan is currently represented by only one organization, an independent HB-HTA unit established in 2015 in the Medical Center Hospital of the President’s Affairs Administration (the Hospital). Despite the demonstrated positive experience of the Hospital, the widespread implementation of the HB-HTA system in Kazakhstan has experienced some barriers that must be considered before further development can occur.

**Methods.** To determine the barriers to developing and implementing HB-HTA in Kazakhstani hospitals, data from the Hospital’s experience were obtained through a survey of Kazakhstan hospitals, conducted on behalf of the Ministry of Health Care. An official response was received from 29 hospitals. During the survey and discussions with hospital staff using the “brainstorming” method, several barriers to the development of HB-HTA in Kazakhstan were identified.

**Results.** Barriers at the system level included the lack of monitoring of the HB-HTA system at the national and regional levels and a lack of methodological support. Organizational barriers included a critically small number of HTA experts and the need for additional logistical support and funding from hospitals. The subjective factors we attributed to the rejection of the HB-HTA system by hospital management were the underestimation of lost profits and that HTA is a tool for promoting a transparent and open system for making managerial decisions.

**Conclusions.** Despite some barriers, the development of HB-HTA in Kazakhstan is a promising area. The heads of key hospitals in Kazakhstan demonstrated a readiness and understanding of the need to use the principles of health technology assessment and clinical and economic analysis to promote the active transfer and implementation of innovative medical technologies.

### PP145 VALIDATE Methodology For A Medication-Related Clinical Decision Support System: Innovating Or Going Back To Basics?

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