

**Introduction:** With the increasing popularity of enhanced recovery protocols and the growing opioid epidemic, recent pain management pathways have emphasized opioid-sparing measures. As a result, gabapentinoids are being used following surgery and have become one of the most common opioid-sparing analgesics prescribed. However, they are not without risk, with several cases of respiratory depression and oversedation being reported.

**Methods:** This systematic review and meta-analysis aimed to evaluate the impact of gabapentinoids on sedative complications following abdominal surgery in order to guide future clinical decisions. The Pubmed and Embase databases were searched according to PRISMA guidelines to identify randomized controlled trials comparing gabapentinoids with placebo following abdominal surgery with respect to sedation complications. The Cochrane Risk of Bias Tool was used to assess study quality. A comparative meta-analysis was performed on the data.

**Results:** Of the 3,988 studies retrieved, 19 were eligible for meta-analysis. Eleven of the 19 studies assessed pregabalin (100 to 1,200 mg) and eight assessed gabapentin (300 to 1,200 mg). Postoperative sedation scores were higher in the gabapentinoid group ( $p < 0.01$ ) relative to placebo. Subgroup analyses demonstrated higher scores two hours after surgery for gabapentinoids ( $p = 0.03$ ), but no statistical difference at 24 hours ( $p = 0.19$ ). Different doses did not yield any differences on forest plot analyses.

Respiratory depression rates were higher in the gabapentinoid group, compared with placebo ( $p = 0.02$ ).

**Conclusions:** The preoperative use of gabapentinoids is associated with sedative complications, including respiratory depression. These results may help guide future perioperative pain protocols.

## OP157 Evaluating The Clinical And Economic Impact Of Adopting A Closed Peripheral Intravenous Catheter System In A Japanese Hospital

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**Introduction:** Up to 90 percent of inpatients require an intravenous catheter during their hospitalization. A closed, integrated peripheral intravenous catheter (PIVC) system has been shown to protect veins for longer and reduce the risk of complications and unnecessary restarts when compared with an open system. This study evaluated the annual clinical and economic outcomes of adopting a closed, integrated PIVC system, instead of an open system, for inpatients in a Japanese hospital.

**Methods:** A budget impact analysis was developed to estimate the clinical and economic impact for a 500-bed hospital with an 85 percent occupancy rate and a 96-hour catheter replacement protocol. For the analysis, the average length of stay for patients was 12 days and 90 percent of inpatients required a PIVC. Inputs such as catheter failure rate, complication rate, consumables costs, and complication

management costs were informed by global and local data sources. The outcomes evaluated included consumables utilization, complication events, nurse time, and overall cost impact.

**Results:** The analysis estimated that 12,604 patients required PIVCs. Moving from an open to a closed, integrated PIVC system resulted in a 68 percent reduction in consumables (3,786 fewer catheters and 36,315 fewer connecting accessories). Complications (occlusion, extravasation, phlebitis, and bending) were reduced by 62 percent (3,682 fewer episodes). Blood exposure was reduced by 98 percent (3,565 fewer episodes), and nurse time decreased by 17 percent (786 fewer hours). This resulted in a potential overall cost saving of JPY3,955,140 (USD28,756) annually, after offsetting the acquisition cost of JPY888,247 (USD6,458) associated with the closed system.

**Conclusions:** PIVC is the most common vascular access device used in hospitals, and insertion and maintenance are often performed by nurses. Fewer complications can be expected with a closed system, leading to better patient outcomes. In addition, nurses spend less time managing complications and replacing PIVCs, and consumables utilization is reduced. This results in improved operational efficiency and potential cost savings for hospitals.

## OP159 Quality Of Evidence For Clinical Benefit Of Cancer Medicines Assessed For Funding In Australia

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**Introduction:** This study aimed to describe the type of evidence available for and the clinical benefit of cancer medicines assessed for funding in Australia by the Pharmaceutical Benefits Advisory Committee (PBAC). The evidence was assessed with the European Society of Medical Oncology Magnitude of Clinical Benefit Scale version 1.1 (ESMO-MCBS).

**Methods:** All data on applications submitted to PBAC between 2010 and 2020 were independently extracted in duplicate from PBAC Public Summary Documents available online. Any disagreements were resolved through discussion. ESMO-MCBS ratings were retrieved from the ESMO-MCBS website. Substantial benefit for the ESMO-MCBS was defined as a grade A or B for (neo)adjuvant intent and four or five for palliative intent.

**Results:** In the study period, 182 cancer indications for 100 cancer medicines were examined by PBAC, including 124 (68%) for solid tumors (116 in the palliative setting) and 58 (32%) for hematological cancers. A total of 138 (76%) indications were recommended for public funding, 40 (22%) were rejected, and four (2%) were deferred. Randomized controlled trials (RCTs) were the main source of evidence in 154 indications (85%) and single-arm studies in 27 (15%) indications. RCTs were available in 113 (91%) and 41 (71%) of the solid tumor and hematological cancer indications, respectively. In submissions with RCTs, mature overall survival (OS) was reported in 81 (53%) indications. For indications with a statistically significant improvement in OS, the median gain was 3.0 months (range 0.9 to 17.0) for solid tumors and 8.2 months (range 1 to 9.1) for hematological cancers. The ESMO-MCBS score was available for

99 solid tumor indications. For indications in the palliative setting, 47 (52%) had substantial clinical benefit according to ESMO-MCBS v1.1, including 35 (51%) indications recommended by PBAC and six (35%) indications that were rejected.

**Conclusions:** These results show that only a minority of cancer medicine indications considered by PBAC are supported by a good level of evidence and provide a modest extension of patient survival.

## OP162 Making Local Economic Evaluation More Relevant: Using Expert Elicitation To Adjust Published Intervention Effects To Reflect Local Context

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**Introduction:** Expert elicitation is often used in economic analyses to estimate uncertain or unobserved parameters for decision models. However, it has rarely been used in the context of local decision-making. A pragmatic elicitation process was used during a local economic evaluation to prompt local experts to assess the relevance of the published evidence to their setting, and to adjust the published effect estimates to better reflect the intervention effect expected in their setting.

**Methods:** Elicitation was undertaken for two interventions that targeted the prevention of hospital-acquired hypoglycemia. Six clinical experts from within the Southern Adelaide Local Health Network (SALHN) were systematically presented with information on the setting of the published evaluation and their local setting. This included information on the hospital and quality of care, patient characteristics, and the research context. After comparing the settings, the experts were asked to estimate the most realistic, most pessimistic, and most optimistic intervention effects for their local context.

**Results:** The local intervention effect was estimated to be smaller than the published estimate for both interventions. For one intervention, this was driven by the lower complexity of the local patient cohort. For the other intervention, it was driven by differences in the scope of implementation, with hospital-wide local implementation expected to reduce staff buy-in relative to the targeted implementation used in the published evaluation. The elicited local intervention effects were used in a cost-consequence analysis to estimate the likely costs and effects of the interventions if they were implemented locally.

**Conclusions:** The pragmatic elicitation process provides a feasible and acceptable way to assess and transparently adjust the published effect estimates to better reflect the expected intervention effect in the local setting.

Including this step in local economic evaluations can increase the relevance of these evaluations to local decision makers. Further development and application of these methods may facilitate greater use of economic evaluation in local settings.

## OP163 Applying A Local Economic Evaluation Framework To Make Evaluations More Relevant For Local Decision Makers

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**Introduction:** Economic evaluation is infrequently used by local health services. To be useful to local decision makers, economic evaluations need to synthesize published evidence on effective interventions with local data and local stakeholder knowledge regarding patient and organizational contexts. A framework for local economic evaluation was applied by health economists working with a local health service to inform their decision-making regarding funding of health service delivery models to reduce hospital-acquired complications.

**Methods:** The framework engaged with local stakeholders to set priorities, assess the relevance of the published evidence, interpret local data, provide insight on the local context, and make recommendations to decision makers. It involved: (i) synthesizing the published evidence in a pragmatic review; (ii) determining local root causes and baseline incidence rates using local clinical and administrative data; and (iii) using expert elicitation to adjust published intervention effects to reflect the local context. This information was synthesized in a cost-consequence analysis that estimated the likely costs and effects of relevant interventions if they were implemented locally.

**Results:** Local stakeholders selected hypoglycemia and urinary tract infections as targets for intervention. Tools and resources developed for each case study included: clinical audit tools and analysis files; pragmatic literature reviews with templates to present interventions to local stakeholders; an expert elicitation framework; and R code for cost-consequence analyses that apply published and elicited intervention effects to local data.

**Conclusions:** The framework provided a feasible and acceptable process for undertaking local economic evaluations. Engagement with local stakeholders ensured the evaluations produced were relevant and tailored to the local setting and were therefore useful to local decision makers. The tools and resources developed can be applied by other local health services. The framework itself can be used for other case studies. However, the time and cost associated with the evaluations was not sustainable and alternative models for applying the framework need to be explored.