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Media Release

30 DAYS AFTER SURGERY: CRUCIAL INDICATOR OF QUALITY OF CARE

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WOMEN, older people and those with more comorbidities are more likely to have complications, discharge to a care facility, hospital readmissions or death in the 30 days after surgery than other population groups, according to research published today by the *Medical Journal of Australia*.

In a study designed to assess a proxy measure called DAH_{30} ("days alive and at home 30 days after surgery"), Dr Jennifer Reilly, a specialist anaesthetist at Alfred Hospital and Monash University, and colleagues analysed Medibank Private health insurance hospital claims data between 1 January 2016 and 31 December 2017, looking for associations between DAH_{30} and total hospital costs, and between DAH_{30} and surgery risk factors.

"Complete data were available for 126 788 of 181 281 eligible patients (69.9%); their median age was 62 years, 72 872 were women (57%), and 115 117 had undergone elective surgery (91%)," Reilly and colleagues reported.

"The median DAH_{30} was 27.1 days, the median hospital cost per patient was $10 358. The association between DAH_{30} and total hospital costs was moderate. Median DAH_{30} declined with age, comorbidity score, physical status score, and surgical severity and duration, and was also lower for women."

The DAH_{30} has been validated as a surgical outcome measure in several countries but until now the relationship between DAH_{30} and hospital costs had not been examined. Lower DAH_{30} – that is, fewer days spent alive and at home in the 30 days after surgery – was associated with higher total hospital costs, Reilly and colleagues found.

Other important implications of the results include:

- Unexplained variation in DAH30 as a quality indicator for surgical care requires further investigation, including the influence of surgical specialty and local practice patterns;
- the decline in DAH30 with patient age is not linear, but accelerates markedly for people older than 70 years of age;
- The effect of surgery duration for patients in the highest DAH30 quartile was similarly non-linear;
- Median DAH30 declined with patient age, the number and severity of comorbid conditions, and declining functional status, and was also lower for women;
- Surgical factors associated with lower DAH30 included more extensive or emergency surgery, surgery duration longer than two hours, unplanned return to the operating theatre, high dependency or intensive care unit admission for 24 hours or more, and post-surgical mechanical ventilation for 24 hours or more; and,
- The differences in DAH30 highlight the cumulative physical deconditioning and economic cost associated with post-surgical complications in people at high medical risk.

"DAH_{30} is a validated, patient-centred outcome measure of post-surgical outcomes; higher values reflect shorter hospital stays and fewer serious complications, re-admissions, and deaths," Reilly and colleagues concluded.

"DAH_{30} is practical proxy measure of cost-effective quality of care and unexplained variation, supporting its utility as an indicator of the quality of surgical care in Australia."

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