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Strategies for CAUTI prevention: Are we on the same page?

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Abstract:	Evidence-based CAUTI prevention guidelines outline strategies for CAUTI prevention, but which CAUTI prevention strategies are currently used in Australian healthcare facilities has not been investigated and remains unknown. A nation-wide CAUTI facility assessment survey would enable benchmarking of institutions and identify targets for improvement.
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TITLE: Strategies for CAUTI prevention: Are we on the same page?

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Highlights

- Evidence-based CAUTI prevention guidelines outline strategies for CAUTI prevention, but which CAUTI prevention strategies are currently used in Australian healthcare facilities has not been investigated and remains unknown.
- A nation-wide CAUTI facility assessment survey would enable benchmarking of institutions and identify targets for improvement.

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Catheter-associated urinary tract infection (CAUTI) creates a huge and often preventable burden for the healthcare system. In Australia, CAUTI accounts for 30% of healthcare-associated infections^{1,2}, leading to increased healthcare costs, length of stay, and patient morbidity¹. As the estimated cost to the healthcare system of one CAUTI is approximately US\$7,670³, CAUTI costs the Australian healthcare system millions of dollars each year.

Preventing CAUTI is a high priority patient safety issue included under Standard 3 of the National Safety and Quality Health Service Standards⁴. Healthcare-associated urinary tract infections, of which CAUTI represent a large proportion, also form part of the Australian hospital-acquired complication data set⁵. In order to reduce expenditure and improve patient outcomes, healthcare facilities are required to measure healthcare-associated infections (HAI), including CAUTI, and implement strategies targeting HAI risk factors.

Point prevalence surveys have reported 20%–26% of hospital patients in Australia have an indwelling urinary catheter^{6,7}. A point prevalence survey in six Australian hospitals identified an overall prevalence of healthcare-associated urinary tract infection as 1.4%, and CAUTI prevalence of 0.9%⁶. A larger and more recent study in 19 Australian hospitals reported a prevalence rate of healthcare-associated infections as 9.9%, including 2.4% urinary tract infection; 50% of the patients with a urinary tract infection had an indwelling urinary catheter⁷.

The main contributors to CAUTI are unnecessary catheterisation and prolonged use of catheters⁸, and the most effective prevention strategy is to insert catheters only when necessary and medically indicated, and to remove catheters promptly once no longer required⁹. Proactive approaches to timely assessment and removal of urinary catheters have been shown to reduce catheter dwell time¹⁰ and subsequent CAUTI prevalence, with associated reductions in morbidity, mortality, hospital length of stay, and cost savings^{3,11}.

Guidelines for preventing CAUTI specify the imperative of careful assessment of initial need for catheterisation, with daily reassessment of catheter need, catheter insertion and maintenance training for staff, education for patients, relatives and healthcare workers, and ongoing infection surveillance activities¹². However, which CAUTI prevention strategies are routinely being used in Australian hospitals remains unclear; there is no national benchmarking of training and competency assessment in CAUTI prevention for Australian healthcare workers. One Australian point prevalence study reported that documentation of the person inserting the catheter was lacking in 71% of patient records, with 61% lacking a documented reason for insertion⁶. With these findings, it cannot be assumed that compliance with guidelines is widespread.

Valid and reliable CAUTI facility assessment tools can provide valuable information to healthcare facilities¹³, aiding the prevention of CAUTI through identifying specific needs, and enabling targeted interventions for healthcare professionals, such as educational strategies, catheter avoidance, or policies for catheter insertion¹⁴. In the USA, 4-yearly facility assessment surveys have captured what US hospitals are doing to prevent CAUTI¹⁴. A widespread facility assessment survey of Australian hospitals could similarly identify gaps in local CAUTI prevention strategies so that targeted practice improvements could be implemented, as needed.

We attempted to validate the US Centers for Disease Control and Prevention CAUTI Targeted Assessment and Prevention Facility Assessment tool¹³ for use in Australian healthcare settings. An online content validity survey containing 49 questions was distributed via email to 15 Australian experts in infection prevention and management. Ethical approval was obtained from university ethics committee. Complete survey responses were obtained from only 5 participants and none of the items scored highly across all respondents. We were therefore unable to establish the validity of the CDC CAUTI facility assessment tool for use in Australian healthcare settings.

Identifying the current climate for CAUTI assessment and prevention strategies in Australian healthcare facilities remains an important benchmark for identifying areas requiring strategic improvements. We recommend further work should be undertaken to identify gaps in local CAUTI prevention strategies so that targeted practice improvements can be implemented and call on our colleagues for support in this area.

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AUTHORSHIP STATEMENT

GRB, MLW and NM conceived the validation study. GRB analysed the data and prepared the original draft manuscript. MLW, NM and BM contributed to data analysis and provided critical input. All authors approved the final version of the paper.

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ETHICAL CONSIDERATIONS

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