©WESTWICK-FARROW MEDIA
REPRODUCED WITH PERMISSION



©stock.adobe.com/au/Kaspars Grinvalds

Complicating the complicated

Ramon Z Shaban*, Philip L Russo, Brett G Mitchell, Julie E Potter

Hospital-acquired complications data on urinary tract infections is unreliable, and could result in hospitals being incorrectly financially penalised.

In the Autumn 2018 issue of *The Australian Hospital and Healthcare Bulletin*, Shaban[1] provided an overview of the recent rise of financial penalties for preventable hospital-acquired complications (HACS) within the Australian health system. The Australian Commission on Safety and Quality in Healthcare (ACSQHC) has established 16 hospital-associated complications — a "complication for which clinical risk mitigation strategies may reduce, but not necessarily eliminate, the risk of that complication occurring"[1,2] — for which price prevention will shortly apply. The underlying philosophy of this approach is that all hospital-acquired complications can be reduced, but not necessarily eliminated, by providing patient care that mitigates avoidable risks to patients.

Infections of the urinary tract are one of the most common healthcare-associated infections, with the main risk factor being the use of an indwelling urinary catheter.[3] In broad terms, a urinary tract infection (UTI) is a general term referring to infections in the lower urinary tract (urethra to the bladder) or the upper urinary tract (ureters to the kidneys). Catheter-associated UTI (CAUTI) refers to infections that are associated with indwelling urinary catheter use.[3] Patients with UTIs are at risk of progression to sepsis, a condition with increased mortality.[4] Patients with symptomatic UTIs will require treatment, such as removing a catheter and antimicrobials.[5] Asymptomatic bacteriuria can often occur without urinary tract symptoms and may not require treatment with antibiotics, even in the presence of a urinary catheter.[3]

The ACSQHC reports that CAUTIs are the most prevalent of all hospital-acquired UTIs in Australia, and make up at least 80% of all hospital-acquired UTIs.[6] In response to this, the ACSQHC has recently published >

©WESTWICK-FARROW MEDIA
REPRODUCED WITH PERMISSION

HAC Tool Kits to assist health services with the implementation of this new price-prevention framework. In this publication, the ACSQHC reports that:

In 2015–16, hospital-acquired UTIs accounted for 26.6% of all hospital-acquired infections.[2] On average, a patient with a hospital-acquired UTI will remain in hospital for 20.6 days longer than a patient without this complication[2] and a hospitalisation involving a hospital-acquired UTI may therefore be associated with $42,724 in extra costs, with the national average cost per admitted acute overnight stay being $2,074.[5,6]

"...HACs data needs be derived from valid and reliable systems, especially if they are associated with financial penalties."



The validity of certain elements of data used by the ACSQHC to underpin UTI prevention measures and costs is uncertain. The suggested incidence of UTIs would appear to be consistent with previous studies.[7,8] However, there are no reliable Australian data, particularly in the absence of national surveillance and national HAI point prevalence studies.[9] Numerous studies have shown that appropriate statistical methods are required to estimate the contribution of infection to length of stay. Failing to account for these will result in a large overestimation of length of stay. A recent Australian study has shown that healthcare-associated UTIs may be associated with approximately four additional days in hospital.[10] A further issue is that numerous studies have shown that coding data is a poor predictor of HAIs incidence,[11-13] providing further evidence for robust HAI surveillance systems. If coding data is used for financial gain or penalty, the process is vulnerable to gaming.[14]

There is no question that HACs are here to stay. What we argue is that the source of HACs data needs be derived from valid and reliable systems, especially if they are associated with financial penalties.

The dressing protector that keeps wounds dry while showering

Keep-Dri Dressings



An effective solution to wound management and infection control in the hospital and home.



Rectangle protectors available in four sizes – Perfect for small to large wounds, catheters, hip replacements and drainage sites.

Bag protectors available in two sizes – Perfect for leg and arm casts, knee replacements and varicose veins.

- Waterproof and hypoallergenic
- Ready made
- Simple to use
- Benefits nurses, patients and hospitals
- Time and money saving

Nursing Innovations
ABN 92 347 834 602 002

Australian owned and manufactured
T +61 8 9271 4844 F +61 8 9271 4846
E nursinnov@iprimus.com.au
www.nursinginnovations.com.au

***Professor Ramon Z Shaban** is Clinical Chair and Professor of Infection Prevention and Control at the University of Sydney and Western Sydney Local Health District, within the Susan Wakil School of Nursing and Midwifery and the Marie Bashir Institute for Infectious Diseases and Biosecurity. ramon.shaban@sydney.edu.au

Dr Philip L Russo is an Alfred Deakin Postdoctoral Research Fellow at the Centre for Quality and Patient Safety Research - Alfred Health Partnership, Deakin University.

Professor Brett G Mitchell is Professor of Nursing and Director of the Lifestyle Research Centre at Avondale College.

Ms Julie E Potter is a Senior Research Officer at the University of Sydney and Western Sydney Local Health District, within the Susan Wakil School of Nursing and Midwifery and the Marie Bashir Institute for Infectious Diseases and Biosecurity.

References

1. Shaban RZ. Tackling errors in health care: the rise of financial penalties for preventable hospital-acquired complications. Aust Hosp Healthcare Bull. 2018; Autumn 2018:22-23.
2. Australian Commission on Safety and Quality in Health Care. Hospital-acquired complications. 2018. Accessed 05 February, 2018.
3. National Institute for Health and Care Excellence (NICE). APG Catheter-associated urinary tract infection: antimicrobial prescribing. In development [GID-APG10005], Evidence review-draft for consultation. 2018; https://www.nice.org.uk/guidance/GID-APG10005/documents/evidence-review. Accessed 30 May, 2018.
4. European Association of Urology (EAU) Urological Infections Guidelines Panel. EAU Guidelines. 2018; http://uroweb.org/guideline/urological-infections/#3. Accessed 30 May, 2018.
5. National Institute for Health and Care Excellence (NICE). Complicated urinary tract infections: ceftolozone/tazobactam. Evidence summary [ESNM74]. 2016; June 2016: www.nice.org.uk/guidance/esnm74.
6. Australian Commission on Safety and Quality in Health Care. Selected best practices and suggestions for improvement for clinicians and health system managers-Hospital-acquired complication 3: Healthcare-Associated Infections. In: Sydney: Australian Commission on Safety and Quality in Health Care; 2018: https://www.safetyandquality.gov.au/wp-content/uploads/2018/03/Healthcare-associated-infection-detailed-fact-sheet.pdf.
7. Zarb P, Coignard B, Griskeviciene J, et al. The European Centre for Disease Prevention and Control (ECDC) pilot point prevalence survey of healthcare-associated infections and antimicrobial use. Euro Surveillance. 2012;17(46).
8. Magill SS, Edwards JR, Bamberg W, et al. Multistate point-prevalence survey of health care-associated infections. N Engl J Med. 2014;370(13):1198-120
9. Russo PL, Cheng AC, Mitchell BG, Hall L. Healthcare-associated infections in Australia: tackling the 'known unknowns'. Aust Health Rev. 2018;42(2):178-180.
10. Mitchell BG, Ferguson JK, Anderson M, Sear J, Barnett A. Length of stay and mortality associated with healthcare-associated urinary tract infections: a multi-state model. J Hosp Infect. 2016;93(1):92-99.
11. van Mourik MS, van Duijn PJ, Moons KG, Bonten MJ, Lee GM. Accuracy of administrative data for surveillance of healthcare-associated infections: a systematic review. BMJ Open. 2015;5(8):e008424.
12. Mitchell BG, Ferguson JK. The use of clinical coding data for the surveillance of healthcare-associated urinary tract infections in Australia. Infect Dis Health. 2016;21(1):32-35.
13. Redondo-González O, Tenías JM, Arias Á, Lucendo AJ. Validity and reliability of administrative coded data for the identification of hospital-acquired infections: An updated systematic review with meta-analysis and meta-regression analysis. Health Serv Res. 2018;53(3):1919-1956.
14. Trick WE. Decision making during healthcare-associated infection surveillance: a rationale for automation. Clin Infect Dis. 2013;57(3):434-440.