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On the Radar
Editor: Dr Niall Johnson niall.johnson@safetyandquality.gov.au
Contributors: Niall Johnson

Journal articles

An environmental disinfection odyssey: evaluation of sequential interventions to improve disinfection of Clostridium difficile *isolation rooms*
Sitzlar B, Deshpande A, Fertelli D, Kundrapu S, Sethi AK, Donskey CJ.
Infection Control and Hospital Epidemiology 2013;34(5):459-465.

Notes	Article recounting how a series of **interventions to clean hospital rooms after the discharge of patients known to have *Clostridium difficile*** drove detection of positive cultures in those rooms **from 67 percent to 7 percent**. The reported study examined three sequential cleaning and disinfection interventions during a 21-month period at a (US) Veterans Affairs medical centre. The authors report that providing education to “environmental services” personnel and the use of fluorescent markers to provide monitoring and feedback of the thoroughness of cleaning reduced the number of positive cultures to 57 percent. Adding automated ultraviolet radiation devices then reduced positive cultures to 35 percent. When the facility also added a daily dedicated disinfection team with supervisory review, positive cultures were reduced to 7 percent.
DOI	http://dx.doi.org/10.1086/670217

For more information on the Commission's work on healthcare associated infection, see http://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/

Missed medication doses in hospitalised patients: a descriptive account of quality improvement measures and time series analysis
Coleman JJ, Hodson J, Brooks HL, Rosser D
International Journal for Quality in Health Care 2013 [epub].

Notes	Medication error is perhaps the largest category of healthcare error. This paper focuses on one particular category of medication error, missed medication doses in hospitalised patients and how a British teaching hospital developed interventions and the impact of those interventions. The paper reports on a retrospective time-series analysis of weekly dose administration data that was undertaken to investigate the changes in overdue doses rates over a 4-year period in a National Health Service (NHS) teaching hospital, following the implementation of interventions associated with an electronic prescribing system used within the hospital. The system was a locally developed electronic prescribing and administration system (Prescribing, Information and Communication System or PICS) with an audit database containing details on every drug prescription and dose administration. The interventions included: (i) the ability for doctors to pause medication doses; (ii) clinical dashboards; (iii) visual indicators for overdue doses and overdue doses (iv) Root Cause Analysis (RCA) meetings and a National Patient Safety Agency (NPSA) Rapid Response Alert. The authors report that "rates of both missed antibiotic and non-antibiotic doses decreased significantly upon the introduction of clinical dashboards (reductions of 0.60 and 0.41 percentage points, respectively), as well as following the instigation of executive-led overdue doses RCA meetings (reductions of 0.83 and 0.97 percentage points, respectively) and the publication of an associated NPSA Rapid Response Alert. Implementing a visual indicator for overdue doses was not associated with significant decreases in the rates of missed antibiotic or non-antibiotic doses." They also note that "providing hospital staff with information about overdue doses at a ward level can help promote reductions in overdue doses rates."
DOI	http://dx.doi.org/10.1093/intqhc/mzt044u

For more information on the Commission's work on medication safety, see http://www.safetyandquality.gov.au/our-work/medication-safety/

Identifying and Addressing Preventable Process Errors in Trauma Care
Pucher P, Aggarwal R, Twaij A, Batrick N, Jenkins M, Darzi A
World Journal of Surgery 2013;37(4):752-758.

Notes	The urgency and variation of care required in the trauma setting may make identifying lapses in safety and quality less readily immediate. This paper sought to identify preventable process errors in trauma care by examining weekly case review meetings for a UK trauma centre over 1 year. Of the 1,752 major trauma patients admitted over the study period, 169 preventable errors were identified through analysis of case review meetings and case-note review. Clear **patient harm was identified in 3.6 % of cases**, with **risk of harm**

	in 30 %. Most errors occurred during the initial phase of care in the emergency department (51 %) and resulted most commonly in delays (56 %). The majority of errors were identified as process-related (88 %), with 62 % of them considered errors of omission. The authors note that "Error theory suggests that protocols or checklists may most effectively address these errors"
DOI	http://dx.doi.org/10.1007/s00268-013-1917-9

Surgical adverse events: a systematic review
Anderson O, Davis R, Hanna GB, Vincent CA
American Journal of Surgery 2013 [epub].

Prevalence and nature of adverse medical device events in hospitalized children
Brady PW, Varadarajan K, Peterson LE, Lannon C, Gross T
Journal of Hospital Medicine 2013 [epub].

Notes	A pair of items adding to our knowledge on adverse events. The first provides a review of surgical adverse events while the second look at adverse events with children involving medical devices. Anderson et al undertook their systematic review so as to quantify potentially preventable patient harm from the frequency, severity, and preventability of the consequences and causes of **surgical adverse events**. From the 14 record reviews, covering 16,424 surgical patients, they found that **adverse events occurred in 14.4% of patients**, and **potentially preventable adverse events occurred in 5.2%**. The consequences of **3.6% of adverse events were fatal**, **10.4% were severe**, **34.2% were moderate**, and **52.5% were minor**. They also note that "Errors in nonoperative management caused more frequent adverse events than errors in surgical technique." Brady et al sought to investigate the prevalence and nature of adverse medical device events (AMDEs) in tertiary care children's hospitals. Their retrospective cohort study covered of patients at 44 children's hospitals. Interrogating the Pediatric Health Information System (PHIS) the study included all inpatient stays with an AMDE-related diagnosis from January 1, 2004 to December 31, 2011. Of 4,115,755 admissions in the PHIS database during the study period, 136,465 **(3.3%) had at least 1 AMDE**. That authors also report that "Vascular access and nervous system devices together represented 44.4% of paediatric AMDE admissions. The majority (75.5%) of AMDE admissions were of children with complex chronic conditions. The most common age group was patients aged 2 years or less at the time of their first AMDE-related admission. AMDEs occur commonly in a population cared for in tertiary children's hospitals."
DOI	Anderson et al http://dx.doi.org/10.1016/j.amjsurg.2012.11.009 Brady et al http://dx.doi.org/10.1002/jhm.2058

Wrong site surgery in otolaryngology–head and neck surgery
Liou T-N, Nussenbaum B
The Laryngoscope 2013 [epub].

Notes	Somewhat related to the previous papers on surgical adverse events and checklists is this review study that looks at one specific surgical domain: otolaryngology. The study examined the literature (1980–2013) and public patient safety reports on the scope, root causes, and prevention of wrong site surgery with emphasis on otolaryngology. The authors report that otolaryngology procedures constitute 0.3% to 4.5% of all

	wrong site surgery events, and **wrong site surgery accounts for 4% to 6% of all medical errors in otolaryngology**. A significant proportion (9% to 21%) of otolaryngologists reported experiences with wrong site surgery over their career, and the events most frequently resulted in temporary injuries to the patient with few cases of permanent disability or death. They also note that that while otolaryngology procedures have similar root causes for wrong site events as other specialties, inverted imaging and ambiguity in site marking are particular challenges. They go on to suggest that interventions that be considered include a protocol to confirm imaging accuracy, a specialty- or procedure-specific checklist, and a standardised alternative to site marking when marking is impractical.
DOI	http://dx.doi.org/10.1002/lary.24140

BMJ Quality and Safety online first articles

Notes	*BMJ Quality and Safety* has published a number of 'online first' articles, including: • Resilient actions in the **diagnostic process** and system performance (Michael W Smith, Traber Davis Giardina, Daniel R Murphy, Archana Laxmisan, Hardeep Singh) • **Human factors** and ergonomics as a patient safety practice (Pascale Carayon, Anping Xie, Sarah Kianfar)
URL	http://qualitysafety.bmj.com/onlinefirst.dtl

International Journal for Quality in Health Care online first articles

Notes	*International Journal for Quality in Health Care* has published a number of 'online first' articles, including: • **Patient experiences** with inpatient care in rural China (Heather Sipsma, Yu Liu, Hong Wang, Yan Zhu, Lei Xue, R Alpern, M Dale, and E Bradley) • **Information technology** interventions to improve **medication safety** in primary care: a systematic review (Miriam Lainer, Eva Mann, and Andreas Sönnichsen)
URL	http://intqhc.oxfordjournals.org/content/early/recent?papetoc

Online resources

[USA] Patient Notification Toolkit
A Guide to Assist Health Departments and Healthcare Facilities with Conducting a Patient Notification Following Identification of an Infection Control Lapse or Disease Transmission
http://www.cdc.gov/injectionsafety/pntoolkit/index.html
The US CDC (Centers for Disease Control and Prevention) has produced this toolkit that provides guidance and resources to help organisations inform patients about infection control lapses.