

Selected research, publications, and resources to promote evidence-informed risk management in Canadian healthcare organizations. Prepared by Healthcare Risk Management staff at the Healthcare Insurance Reciprocal of Canada (HIROC). Titles with an open lock icon  indicate that a publication is open access. For all others a subscription or library access is required; the librarian at your organization may be able to assist you. Please contact riskmanagement@hiroc.com for assistance if required.

HOT OFF THE PRESS

OBSTETRICS/SAFETY

[Recommendations from a national panel on quality improvement in obstetrics](#)

Lefebvre G, Calder L, De Gorter R, et al. *J Obstet Gynaecol Can.* 2019 (May);41(5):653-659.

Article to describe the recommendations of a Canadian panel on quality improvement in obstetrics related to five areas of greatest medico-legal risk: 1) induction and augmentation of labour, 2) assisted vaginal delivery, 3) shoulder dystocia, 4) decision to delivery time for Caesarean section, 5) collaborative care. Authors noted intrapartum fetal surveillance featured prominently in discussions as one of the overarching themes; the expert panel indicated there are gaps in consistent and reliable training for healthcare professionals in intrapartum fetal surveillance across the country. Discussions of interventions to improve quality of care included standardized processes; checklists; audit and feedback; mentoring and coaching; simulation; shared decision making guides; interprofessional communication training. Tables summarizing the knowledge gaps, promising interventions, and barriers to and opportunities for spread for each of the five risk areas are provided.

PATIENT DETERIORATION/SEPSIS

[Computer-aided National Early Warning Score to predict the risk of sepsis following emergency medical admission to hospital: a model development and external validation study](#)

Faisal M, Richardson D, Scally A, et al. *CMAJ.* 2019 (April);191(14):E382-E388.

Study in the UK to investigate the extent to which accuracy of the National Early Warning Score (NEWS) could be enhanced by computer models (cNEWS) to predict the risk of sepsis. The NEWS was introduced in England in 2012 to identify acutely ill patients and is derived from seven vital sign readings routinely collected by nursing staff. Nearly 74,000 emergency department admissions from three hospitals over two years were used to test three cNEWS models: M0 (NEWS alone); M1 (NEWS with age and sex); M2 (NEWS and its subcomponents, with age, sex, and diastolic blood pressure). Results showed the M2 model best predicted sepsis, which authors found unsurprising as it incorporated the most information. In addition to providing an early trigger for sepsis screening, possibly as soon as the first set of vital signs has been electronically recorded, authors noted the advantages of cNEWS include no additional burden of data collection and it can be automated.

MEDICATION/TRANSITIONS

[Barriers and facilitators with medication use during the transition from hospital to home: a qualitative study among patients](#)

Daliri S, Bekker C, Buurman B, et al. *BMC Health Serv Res.* 2019 (online, March):1-10.

Study in the Netherlands to identify perspectives of patients on the barriers and facilitators of medication use during transitions from hospital to home. Nineteen patients who met inclusion criteria associated with occurrence of medication-related problems took part in three focus groups. Results found three themes for barriers: lack of personalized care (e.g. pre-discharge information on medication use); inefficient information transfer (e.g. communication between healthcare providers); problems in the organization of healthcare (e.g. discharge process). Two themes for facilitators were identified: personal medication counsellors in the care continuum, targeted to patients in need of extra care; and post-discharge follow-up care (e.g. home visits). Authors noted perceived barriers by patients could be unknown or invisible to healthcare providers as patients' assessment of quality in care is not always aligned with that of healthcare providers.

SAFETY/PATIENT REPORTING

[“I just have to take it” – patient safety in acute care: perspectives and experiences of patients with chronic kidney disease](#)

New L, Goodridge D, Kappel J, et al. *BMC Health Serv Res.* 2019 (online, March):1-11.

Study at a Canadian tertiary care centre to explore safety experiences of patients with chronic kidney disease and to describe the willingness to report incidents utilizing an existing telephone safety reporting system. Face to face interviews were conducted with 30 patients at the bedside, with the majority of participants being hospitalized five times in past five years. Results showed patient identified safety threats such as: medication practices, sharing a room with patients on isolation protocols, lack of cleanliness, and roommates perceived to be threatening. There was a general lack of awareness of the presence of a safety reporting system that was accessible to patients and families by telephone and an overall unwillingness to report perceived safety incidents. Fear of repercussions, poor health, and dependence on health providers for current and future care limited participants to report concerns. Authors concluded that actively inviting patients to speak up maybe more effective when combined with a psychologically safe environment.

MEASUREMENT/SOCIAL ROBOTS

[Robot for health data acquisition among older adults: a pilot randomised controlled cross-over trial](#)

Boumans R, van Meulen F, Hindriks K, et al. *BMJ Qual Saf.* 2019 (online, March):1-7.

Study setting in the Netherlands to explore the effectiveness and acceptability of using a healthcare professional robot assistant to acquire patient reported outcome measurement data from older adults. Using a randomized controlled cross-over study, a social robot and a nurse administered three questionnaires and a total of 52 questions, with 42 participants from an outpatient clinic. The interaction design was focused on the patients' self-assessment of their current frailty, wellbeing and resilience in coping with illness and the data similarity was compared of the nurse and robot, which showed moderate to substantial agreement. Results showed the mean robot interview duration was 16.57 minutes which was not significantly longer than the nurse interviews of 14.92 minutes. The robot autonomously completed 92.8% of interviews. Authors concluded that social robots may effectively and acceptably assist healthcare professionals by interviewing older adults.

ARTIFICIAL INTELLIGENCE

[Stand-alone artificial intelligence for breast cancer detection in mammography: comparison with 101 radiologists](#)

Rodriguez-Ruiz A, Lang K, Gubern-Merida A, et al. *J Natl Cancer Inst.* 2019 (online, March):1-7.

Retrospective study in Europe and the US to compare the accuracy of an artificial intelligence (AI) system in detecting breast cancer using digital mammography with that of 101 radiologists. The same 2652 exams were analyzed, 653 of which were diagnosed as malignant, by both the radiologists and the AI system. Results showed the accuracy of the AI system was comparable to that of the radiologists. Authors suggested that while these results are promising, further research should evaluate the effectiveness of AI systems in detecting breast cancer in true screening scenarios as the performance of the radiologists in this study was affected by a “laboratory effect” resulting from reading enriched data sets using retrospective analysis. Authors noted future studies could assess the ability of the AI system to identify type, characteristics or location of lesions in true screening processes.

ERRORS/SECOND VICTIMS

Psychological and psychosomatic symptoms of second victims of adverse events: a systematic review and meta-analysis

Busch I, Moretti F, Purgato M, et al. *J Patient Saf.* 2019 (online, April):1-14.

Systematic review of the prevalence of psychological and psychosomatic symptoms of second victims. Of the 18 studies reviewed, reports of 11,649 healthcare providers involved in adverse events were evaluated. Results showed the most prevalent symptoms with second victims were troubling memories (81%), anger towards themselves (75%), regret/remorse (72%), distress (70%), fear of future errors (56%), embarrassment (52%), guilt (51%) and sleeping difficulties (35%). The authors concluded the psychological symptoms of second victims have serious repercussions for wellbeing and fitness of the healthcare care workforce and the evidence should be useful to develop, implement and evaluate support programs tailored to the specific needs of second victims.

GOVERNANCE/HEALTH SYSTEM TRANSFORMATION

Experimenting with governance: Alberta's Strategic Clinical Networks

White D, Virk N, Jackson, M, et al. *Healthc Q.* 2019 (January);21(4):37-42.

Article examining the implementation and impact of the Strategic Clinical Networks (SCNs) created within Alberta Health Services (AHS). Sixteen SCNs, comprised of healthcare professionals, researchers, government representatives and patients and families, were created as a strategy to improve quality and safety in healthcare across the province. Each SCN developed three projects designed to restructure care in the following areas: 1) low value therapeutic choices or test-ordering tendencies; 2) provincial care integration projects; 3) vulnerable populations. While authors suggested a holistic review of the impact of the SCNs is still needed to assess the advances in healthcare as a result of their implementation, there have been a number of improvements to date. Authors noted the work of the Cardiovascular Health and Stroke SCN has resulted in improved stroke care for rural populations in the following areas: access (greater than 1,100 people received stroke care not previously available), quality (88% of patients received early stroke rehabilitation assessments within 48 hours) and outcomes (29% decrease in long term care admissions).

WORKPLACE VIOLENCE

Embedding psychiatric risk flags within an electronic health record: initial findings and lessons learned

Paterson J, Fernandes J, Hunter K, et al. *Healthc Q.* 2019 (January);21(4):54-60.

Study to assess the impact of a risk flagging tool in the electronic health record (EHR) on incidents involving potentially aggressive or violent patients. A Canadian psychiatric hospital with 30,000 outpatients and over 400 inpatient beds implemented six risk flags into their EHR: 1) Aggression/violence; 2) Sexual aggression; 3) Weapons; 4) Arson; 5) Letter of trespass; 6) Unauthorized leave of absence. Results showed a decrease in both the total number of incidents and average incidents per patient following implementation of the risk flag. Participants noted when they interacted with patients who had been flagged, they exercised more caution and requested more information about how to deal with the patient. Authors suggested the improved communication surrounding patients with risk flags may have resulted in improved patient care and fewer incidents involving those patients.

 **Other Resources of Interest (all )**

[**As home care expands, let's make it safer for everyone**](#) (March 2019). Health Affairs (US) blog article outlining five recommendations for improving the safety of care in the home.

[**Can we import improvements from industry to healthcare?**](#) (March 2019). The British Medical Journal (UK) article discussing three healthcare improvement techniques borrowed from other industries.

[**Chaperone roles in risk management**](#) (April 2019). American Society for Healthcare Risk Management article with best practice recommendations for the use of chaperones during patient physical examinations.

[**Health Information and Privacy PHIPA decision 87**](#) (February 2019). Information and Privacy Commissioner of Ontario decision concerning a refusal to provide access to personal health information for reason of bad faith.

[**Health Information and Privacy PHIPA decision 89**](#) (February 2019). Information and Privacy Commissioner of Ontario decision upholding a health information custodian's search for personal health information records.

[**How IBM Watson overpromised and undelivered on AI health care**](#) (April 2019). Institute of Electrical and Electronics Engineers (US) article highlighting projects using artificial intelligence and the current status.

[**How to talk about patient safety**](#) (March 2019). The Frameworks Institute (US) report and recommendations on patient safety communications and how to put them into practice.

[**Medicinal use of cannabis based products and cannabinoids**](#) (April 2019). The British Medical Journal (UK) article on cannabis based products and cannabinoids for medicinal use, types of products and evidence.

[**The Topol review: preparing the healthcare workforce to deliver the digital future**](#) (February 2019). National Health Service (UK) report with recommendations for the existing and future workforce.