

# Canadian pediatric emergency department crowding not linked to death, serious adverse outcomes

June 10 2019

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Visiting a crowded pediatric emergency department in Canada may increase the likelihood of being hospitalized but is not linked to delayed hospitalization or death in children, according to research in *CMAJ* (*Canadian Medical Association Journal*).

Emergency department overcrowding is a problem in North America and has been associated with increased illness, death and lower patient and physician satisfaction.

"Although we found no significant association between overcrowding and [hospital admission](#) within 7 days or death within 14 days after discharge from hospital, we saw an increase in admissions among the sicker children and in return visits from kids who were less sick, with increasing degree of crowding" says Dr. Quynh Doan, BC Children's Hospital, and research director, Pediatric Emergency Medicine, University of British Columbia, Vancouver, BC.

The multicentre study analyzed more than 1.9 million pediatric emergency department visits at 8 hospitals in British Columbia, Alberta, Manitoba and Ontario over 5 years between 2010 and 2014.

"Possible explanations include a delay in timely initiation of medical interventions that could lead to deterioration requiring hospital admission; alternatively, clinicians may respond to emergency

department crowding with rising levels of caution in their disposition decision-making," write the authors.

In a related commentary, Drs. Alexander Moylan and Ian Maconochie, Department of Emergency Medicine, Imperial College Healthcare NHS Trust, United Kingdom, write, "there is no evidence that the trend of increasing attendances at pediatric emergency departments is reversing."

"Research into tools such as evidence-based early warning systems to support departments in providing safe care in the most demanding situations must support efforts to adapt to this challenge," the commentary authors conclude.

"The impact of pediatric emergency department crowding on patient and health care system outcomes: a multicentre cohort study" is published June 10, 2019.

Researchers in the UK developed a computer-aided National Early Warning Score (cNEWS) to determine if it could enhance the accuracy of predicting sepsis.

"The main advantage of these computer models is that they are designed to incorporate data that exist in the patient record, can be easily automated and place no extra burden on the hospital staff to collect additional information," says Professor Mohammed A. Mohammed, University of Bradford, Bradford, United Kingdom.

The cNEWS score can trigger screening for sepsis usually within 30 minutes of admission once routinely collected information has been electronically entered into the patient's medical record.

"These risk scores should support, rather than replace, clinical judgment. We hope they will heighten awareness of sepsis with additional

information on this serious condition," says Professor Mohammed.

cNEWS may now be introduced carefully into hospitals with appropriate information technology infrastructure and evaluated.

"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" is published April 8, 2019.

**More information:** *Canadian Medical Association Journal* (2019).  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.181426](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.181426)

*Canadian Medical Association Journal* (2019).  
[www.cmaj.ca/lookup/doi/10.1503/cmaj.190610](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.190610)

Provided by Canadian Medical Association Journal

Citation: Canadian pediatric emergency department crowding not linked to death, serious adverse outcomes (2019, June 10) retrieved 26 June 2024 from  
<https://medicalxpress.com/news/2019-06-canadian-pediatric-emergency-department-crowding.html>

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