

Medical complications in hospitalized children: The Canadian Paediatric Adverse Events Study

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More children experience complications or unintended injuries, especially related to surgery, in academic hospitals compared with community hospitals, but adverse events in the former are less likely to be preventable, according to the Canadian Paediatric Adverse Events Study published in *CMAJ* (*Canadian Medical Association Journal*).

Children are especially vulnerable to harms associated with medical care, such as [medication errors](#), surgical complications and [diagnostic errors](#).

A team of Canadian researchers undertook the Canadian Paediatric Adverse Events Study to determine the frequency, type, severity and preventability of harmful events in children in academic pediatric centres compared with those in community hospitals in Canada. They looked at medical charts of 3669 children admitted to hospital from April 2008 to March 2009 at 8 academic pediatric centres and 14 community hospitals in 7 provinces.

They found that 11.2% of children in academic centres had adverse events compared with 3.3% in community hospitals. The events occurring in academic hospitals were more likely to be non-preventable than those in community hospitals. Adverse events were highest in surgical patients (35.1%), followed by medical patients (29.8%) and ICU patients (13.3%). Emergency and maternal/obstetric adverse events were more common in [community hospitals](#) while surgical and ICU events

were more frequent in academic centres.

The higher rate of adverse events for children in [teaching hospitals](#) has been previously reported. The authors suggest it may be because there are more patients in these centres with complex illnesses, more caregivers and more handoffs between caregivers, health care trainees and other factors.

"We found a predominance of [adverse events](#) related to surgery," writes Dr. Anne Matlow, former Medical Director, Patient Safety, The Hospital for Sick Children (SickKids), currently Vice-President, Education, Women's College Hospital, with coauthors. "This high incidence in academic centres could be explained by the Canadian practice of performing most surgery in children under 5 years of age in such facilities."

"Our findings are likely not unique to Canada. Risk factors for unsafe care in pediatrics are universal, including children's physical characteristics and developmental variability," conclude the authors. "We hope our results will catalyze widespread efforts to improve pediatric health care in Canada."

More information: Adverse events among children in Canadian hospitals: the Canadian Paediatric Adverse Events Study, *CMAJ* July 30, 2012 First published July 30, 2012, [doi: 10.1503/cmaj.112153](https://doi.org/10.1503/cmaj.112153)

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