

# New tool can predict risk of death, hospitalization for patients awaiting cardiac surgery

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A new tool can predict the risk of death or hospitalization for patients awaiting cardiac surgery, according to new research published in *CMAJ*

*(Canadian Medical Association Journal).*

Prolonged [cardiac surgery](#) wait times are associated with unplanned hospitalizations and death.

"Waitlist management is an ongoing challenge for publicly funded health care systems because available resources are finite," writes Dr. Louise Sun, University of Ottawa Heart Institute and the School of Epidemiology and Public Health, University of Ottawa, and adjunct scientist, ICES, Toronto, Ontario, with coauthors. "This challenge has become more pervasive since the onset of the COVID-19 pandemic, as many nonemergent procedures have been postponed to preserve system capacity for [patients](#) with COVID-19."

Researchers developed and tested a model to predict the risk of death and unplanned cardiac hospitalization among an ethnically diverse group of 62,375 patients aged 18 and older on the cardiac [surgery](#) waitlist. In total, 3033 patients (4.9%) died or were hospitalized while awaiting surgery. Patients who were male, lived in urban areas, had more severe cardiac symptoms, were treated at teaching hospitals and were awaiting surgery for specific procedures were at higher risk of death or hospitalization.

The authors suggest their tool can be used by a variety of health care providers and [policy-makers](#) to accurately predict these adverse events and to help prioritize patients for cardiac surgery.

"We developed this waitlist model to prioritize high-risk patients needing definitive surgery, improve patient outcomes and reduce use of health care resources," write the authors. "Our model can be used to provide [decision support](#) for referring physicians and the surgery–anesthesiology team, as well as health care administrators, through time-dependent, individualized risk prediction."

"Derivation and validation of a clinical model to predict [death](#) or cardiac hospitalizations while on the cardiac surgery waitlist" is published August 30, 2021.

**More information:** Jennifer D. Walker et al, Diabetes prevalence, incidence and mortality in First Nations and other people in Ontario, 1995–2014: a population-based study using linked administrative data, *Canadian Medical Association Journal* (2020). [DOI: 10.1503/cmaj.190836](#)

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