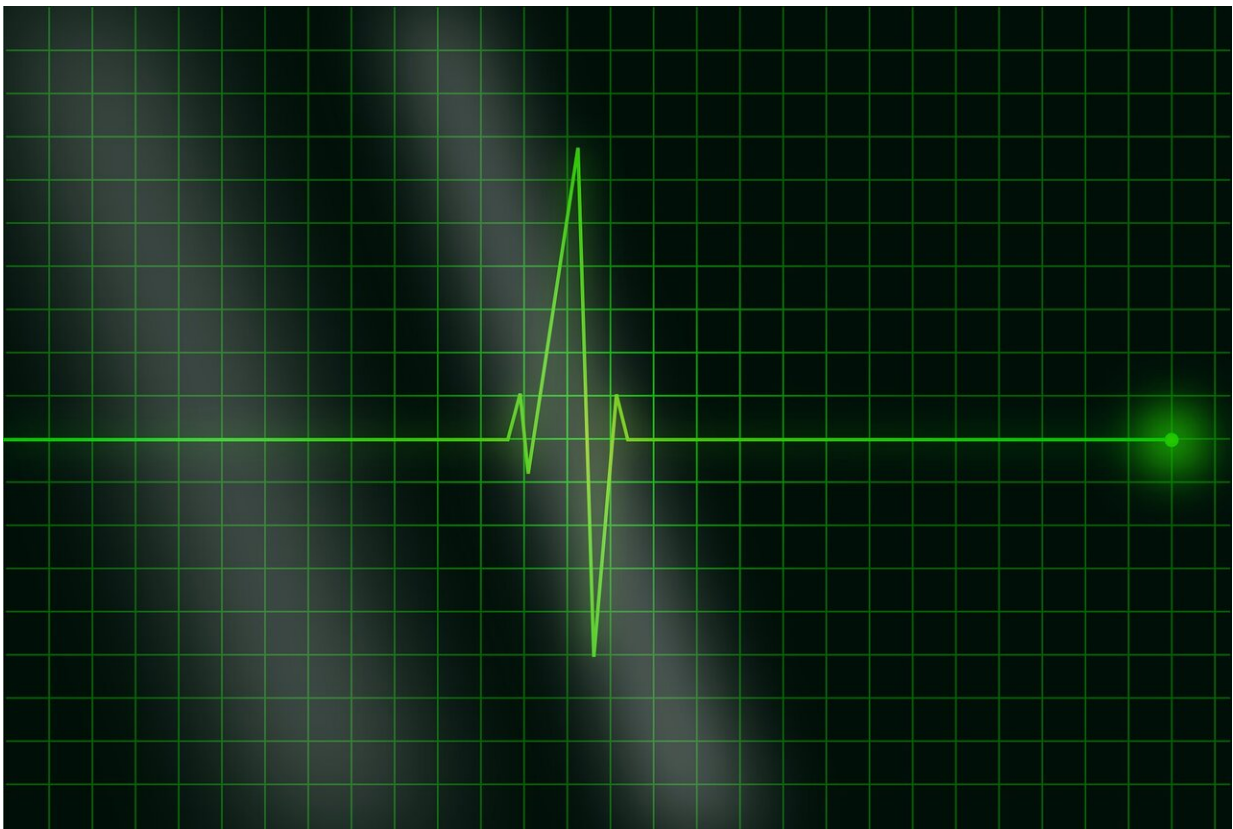


Decision support tool used in the emergency department reduces rates of death or hospitalization after heart failure

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A tool that emergency department clinicians can use to guide hospital admission or discharge decisions for heart failure patients reduces

30-day all-cause death or cardiovascular hospitalization by 12%, according to a new trial from the Peter Munk Cardiac Centre (PMCC) at University Health Network (UHN), ICES, and the Ted Rogers Centre for Heart Research.

The validated tool, which was developed using data analytics, helps [hospital staff](#) to ascertain whether [heart failure patients](#) fall into low-, intermediate-, or high-risk categories, which can then inform the decision to admit a patient to hospital or discharge with follow-up care.

The randomized trial, published in the *New England Journal of Medicine*, included 10 hospitals and 5,452 patients in Ontario, Canada, and assigned hospitals to usual care (when clinicians use their clinical judgment to guide decisions) followed by a cross-over to the use of the tool.

The study comes as hospitals grapple with overcrowding and staffing shortages and suggests that heart failure patients at lower risk of adverse events can be discharged from the emergency department or following a short hospital stay—with rapid follow-up care in place.

"Heart failure places a substantial health burden on patients and increases healthcare utilization and costs," says lead author Dr. Douglas Lee, staff cardiologist at the Peter Munk Cardiac Centre at UHN, Ted Rogers Chair in Heart Function Outcomes at the Ted Rogers Centre for Heart Research (TRCHR), and Senior Scientist at ICES. "We need new approaches to improve the care that we deliver to patients with [heart failure](#) who come to the emergency department, and the strategy that we tested may be a step toward achieving this goal."

The tool is used to support clinicians' decision-making about who should be hospitalized and who can be discharged home early, with provision of a rapid follow-up visit at a clinic staffed by a nurse and supervised by a

cardiologist.

Researchers found that the hospital-based strategy for decision support was associated with:

- A 12% reduction in the rate of all-cause death or cardiovascular hospitalization over 30 days.
- A decrease in the rate death or cardiovascular hospitalization over a 20-month follow-up.
- Fewer than six deaths or all-cause hospitalizations for low-risk and intermediate-risk patients who were discharged from hospital until they could be seen by a doctor in the outpatient clinic.

"It has always been our goal to ensure that we provide the right care, for the right patient, at the right time," says senior author Dr. Heather Ross, Scientific Lead, Ted Rogers Centre for Heart Research, and division head, Cardiology, at the Peter Munk Cardiac Centre at the University Health Network. "This diagnostic tool will have an immense impact, not just on patients and families, but on the whole of the healthcare system."

More information: Douglas S. Lee et al, Trial of an Intervention to Improve Acute Heart Failure Outcomes, *New England Journal of Medicine* (2022). [DOI: 10.1056/NEJMoa2211680](https://doi.org/10.1056/NEJMoa2211680)

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