

Sepsis in Rural and Remote Areas of Canada

cadth.ca/sepsis

What Is Sepsis?

Sepsis is defined as a "life-threatening organ dysfunction caused by a dysregulated host response to infection." In 2011, one in 18 deaths in Canada involved sepsis. Importantly, the early recognition and treatment of sepsis reduces adverse events and the risk of death, in addition to reducing sepsis-related health care costs.

Sepsis disproportionately affects those in rural and remote areas of Canada. This is because:

- individuals living in rural and remote communities are at a higher risk of infections that may lead to sepsis
- access to the care needed to prevent, diagnose, and treat sepsis is currently inadequate.

Opportunities for Improvement

CADTH's Environmental Scan identified potential areas for improvement of sepsis-related care in rural and remote areas, including (but not limited to):

- more education for health care providers about sepsis
- more public education to raise awareness about sepsis
- improved access to preventive interventions, diagnostic tests, antimicrobials, and other treatment equipment
- implementation of specific clinical care guidance and associated policies/protocols for sepsis diagnosis and treatment.

NOTE:

In one of CADTH's prior Rapid Response reports, there was no evidence found on the clinical and cost-effectiveness of tests and processes used for the diagnosis and assessment of sepsis in rural or remote areas of Canada.

Barriers to Detection and Treatment

Barriers to the timely detection and treatment of sepsis in rural and remote areas include (but are not limited to):



Lack of Guidance

With the exception of the Health Canada guidelines for primary care nurses (currently being revised), the Canadian guidance tools identified were for in-hospital use, rather than for use in pre-hospital or remote settings.



Staff Training and Experience

Staff at health centres in remote areas may lack the training and experience needed to recognize sepsis. In addition, the limited health care staff available make it difficult for patients to access care, with delays meaning they may present at a more advanced stage of illness.



Patient Transportation

Geographic barriers to accessing services, as well as additional patient transport delays (e.g., due to bad weather preventing flights in or out of the community), were identified as barriers to the timely treatment of sepsis.



Access to Diagnostic Tests

Examples of diagnostic tests that were available for some survey respondents but not for others included: protocols for referral of patients to other health care settings; access to laboratory services for blood, wound, or respiratory culture, or measurement of sepsis-related markers; access to point-of-care tests for sepsis-related markers; urinalysis; imaging; and specialist consultation via telemedicine.



Limited Medications and Supplies

A recent study of injuries treated at nursing stations in northern Ontario found that, although most (74%) administered IV fluids, only a few (less than 10%) provided oxygen or antibiotics, and none administered vasopressors to stabilize blood pressure.

To note, vasopressors are administered under the direction of a physician, but support from physicians via telemedicine could provide this direction before a patient is transported.



Storage and Access Challenges

There are often limited choices of antibiotics available; some antibiotics are used frequently and supplies run out; there is limited storage in medicine rooms and local pharmacies; and restocking of medications can be slow. As a result, appropriate broad-spectrum antimicrobials may not be readily available.

Questions or comments about CADTH or our evidence?



Online:
cadth.ca



Email:
requests@cadth.ca



Twitter:
[@CADTH_ACMTS](https://twitter.com/CADTH_ACMTS)



New at CADTH Newsletter:
cadth.ca/subscribe

DISCLAIMER

This material is made available for informational purposes only and no representations or warranties are made with respect to its fitness for any particular purpose; this document should not be used as a substitute for professional medical advice or for the application of professional judgment in any decision-making process. Users may use this document at their own risk. The Canadian Agency for Drugs and Technologies in Health (CADTH) does not guarantee the accuracy, completeness, or currency of the contents of this document. CADTH is not responsible for any errors or omissions, or injury, loss, or damage arising from or relating to the use of this document and is not responsible for any third-party materials contained or referred to herein. Subject to the aforementioned limitations, the views expressed herein do not necessarily reflect the views of Health Canada, Canada's provincial or territorial governments, other CADTH funders, or any third-party supplier of information. This document is subject to copyright and other intellectual property rights and may only be used for non-commercial, personal use or private research and study.

ABOUT CADTH

CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs and medical devices in our health care system.

CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Ce document est également disponible en français.

March 2019