

Appendix 1: Environmental Scan Survey – Detection and Diagnosis of Sepsis in Remote and Rural Areas of Canada

A. Demographics and Clinical Setting

1. For which province/territory do you work?

- ☐ Alberta
- ☐ British Columbia
- ☐ Manitoba
- ☐ New Brunswick
- ☐ Newfoundland and Labrador
- ☐ Northwest Territories
- ☐ Nova Scotia
- ☐ Nunavut
- ☐ Ontario
- ☐ Prince Edward Island
- ☐ Quebec
- ☐ Saskatchewan
- ☐ Yukon
- ☐ Federal Health Program (such as, Indigenous Services Canada, Canadian Armed Forces, Correctional Service Canada)
- ☐ Other (please specify) (free text)

2. What is your profession? The options below correspond to both care provided on-site and remotely. (Multiple Choice and Other)

- ☐ Director or manager of remote care facility
- ☐ Government decision-maker overseeing remote care provision
- ☐ Health care administrator, manager, or director within health authority overseeing remote care provision
- ☐ Physician overseeing remote care provision
- ☐ Registered nurse overseeing remote care provision

- ☐ Nurse practitioner overseeing remote care provision
- ☐ Other, please specify (free text)

3. Are you currently involved in any capacity with the early detection of patients with possible sepsis in or from rural or remote settings?

- ☐ Yes; if yes, please describe the nature of your involvement (free text)
- ☐ No; if no, please end the survey here

4. Do you work in one or more of these geographical settings? (Please select all that apply.)

- ☐ Urban
- ☐ Rural
- ☐ Remote

(Please self-identify based on your local understanding of the criteria for remote. As an example, [Health Canada](#) defines various levels of remote, ranging from *remote isolated* = no scheduled flights or road access and minimal telephone or radio service, through to *non-isolated remote* = road access and less than 90 km away from physician services.)

- ☐ Other (please specify) (free text)

5. Do you work in one or more of these types of facilities or settings? (Please select all that apply.)

- ☐ Hospital
- ☐ Ambulatory (Outpatient) Care Clinic
- ☐ Community Care (e.g., public health clinic, family health centre, community outpost)
- ☐ Palliative (supportive) Care
- ☐ Home Care
- ☐ Public Health
- ☐ Physician's office
- ☐ Telehealth or Telepharmacy service
- ☐ Pre-hospital settings

- ☐ Health research or academic institute
- ☐ Government or Regional Health Authority
- ☐ Other (please specify) (free text)

B. Diagnostic Strategy

6. a. Does your organization have guidance for detecting or diagnosing sepsis (for example, clinical decision rules, protocols, guidelines, algorithms, or other clinical practice tools)?
 - ☐ Yes
 - ☐ No
- b. If yes, please specify the title, date, and name of the originating organization that publishes the document and if possible, please provide a link to the document or upload the document here please note if the document is confidential: free text and link to upload)
7. If your organization does not have specific internal guidance for detecting or diagnosing sepsis, are there other formal policies or guidelines that you use in your practice?
 - ☐ Yes (please specify the title, date, and agency that publishes the document, and, if possible, a link to the document or upload the document here): free text and link to upload)
 - ☐ No
8. What additional diagnostic tools does your facility have available on-site for detecting, diagnosing, or initially treating patients with suspected sepsis?
 - ☐ Protocols for referral of patients to other care settings
 - ☐ Access to laboratory services for blood, wound, or respiratory culture, or measurement of sepsis-related markers (e.g., procalcitonin)
 - ☐ Access to point-of-care tests for sepsis-related markers
 - ☐ Urinalysis
 - ☐ Imaging
 - ☐ Specialist consultation via telemedicine
 - ☐ Other (please specify) (free text)

9. In your jurisdiction or facility, are there challenges with the storage and ready access to critical first-line antimicrobial agents for prompt and early treatment of suspected sepsis?

☐ Yes (if yes, please describe) (free text)

☐ No

10. a. Do you feel there are barriers to the timely detection of sepsis in your organization or jurisdiction?

☐ Yes (if yes, please proceed to question 10b and check whichever categories apply, and add any additional barriers under the Other category)

☐ No (if no, please skip to question 11)

10. b. Which of the following barriers to the timely detection of sepsis are experienced in your organization or jurisdiction? (Please select all that apply.)

☐ Patients and family or home caregivers are unaware of signs and risks of sepsis

☐ Lack of local medical expertise or training in the initial detection and diagnosis of sepsis

☐ Lack of guidelines for identifying and managing patients with potential sepsis

☐ Appropriate rapid diagnostic tests are not available on-site

☐ Appropriate treatments are not available on-site (for example, broad spectrum antibiotics)

☐ Difficulty incorporating diagnostic or treatment options into care pathway (please specify reasons why) (free text)

- ☐ Lack of coordination of care by multiple providers
- ☐ Geographical barriers to accessing services
- ☐ Delays in transporting patients for specialist care (please specify reasons for these delays)
- ☐ Other (please specify) (free text)

11. Have recent improvements or changes been made to help quickly detect and treat patients with suspected sepsis in your facility?

- ☐ Yes (if yes, please describe) (free text)

- ☐ No

12. Do you have any additional comments you would like to make regarding the detection or diagnosis of sepsis in rural and remote areas of Canada? (free text)

C. Permission to Contact Regarding CADTH Environmental Scan Use

13. Please provide your contact information in case we need to clarify any responses or request permission to cite information you have provided:

Name:

Title:

Organization:

City:

Province:

Email:

Phone:

14. Would you be willing to be consulted further on this topic, either through an informal phone call or by email?

☐ Yes

☐ No

15. Can you suggest any other individuals or organizations we should contact for more information or to participate in this survey?

☐ Yes (please insert name, title, agency, and contact email)

End of Survey – Thank you for your time.

Appendix 2: Information on Survey Respondents

Table 6: Jurisdictions and Organizations of Survey Respondents

National/Federal/Province/ Territory	Organizations Represented by Survey Respondents ^a
National	<ul style="list-style-type: none"> Canadian Critical Care Society and the Canadian Sepsis Foundation (n = 1) Nurse Practitioner Association of Canada/Association des infirmières praticiens du Canada (n = 1)
Federal	Indigenous Services Canada (n = 1)
British Columbia	University of British Columbia (n = 1)
Alberta	Mount Royal University and CUPS–Calgary Urban Project Society (n = 1)
Saskatchewan	Saskatchewan Health Authority (n = 2)
Manitoba	<ul style="list-style-type: none"> Winnipeg Regional Health Authority (n = 1) Northern Health Region/Northern Regional Health Authority (n = 4) Ongomiizwin Indigenous Institute of Health and Healing and Ongomwiizin Health Services, University of Manitoba (n = 3) Interlake-Eastern Regional Health Authority (n = 1) Flin Flon General Hospital and Northern Health Region (n = 1) University of Manitoba (n = 1)
Ontario	No responses
Quebec	No responses
New Brunswick	No responses
Nova Scotia	Nova Scotia Health Authority (n = 3)
Prince Edward Island	Health PEI (n = 2)
Newfoundland and Labrador	<ul style="list-style-type: none"> Western Health (n = 1) Eastern Health (n = 1)
Nunavut	Government of Nunavut (n = 2)
Northwest Territories	Northwest Territories Health and Social Services (n = 1)
Yukon	Community Nursing, Yukon Health and Social Services (n = 1)

^aNote: Some respondents represented more than one organization or jurisdiction.

Table 7: Profession and Occupational Settings of Survey Respondents

Profession and Occupational Settings of Respondents	Number of Respondents (% of 28) ^a
Profession	
Director or manager of remote care facility	1 (4%)
Government decision-maker overseeing remote care provision	0 (0%)
Health care administrator, manager, or director within health authority overseeing remote care provision	4 (14%)
Physician overseeing remote care provision	14 (50%)
Registered nurse overseeing remote care provision	4 (14%)
Nurse practitioner overseeing remote care provision	0 (0%)
Other (included are physicians [in urban, rural, and remote areas, involved in primary care, emergency, and intensive care], nurses and nurse practitioners, and medical microbiology)	7 (25%)
Occupational Setting	
Hospital	20 (71%)
Ambulatory (outpatient) care clinic	6 (21%)
Community care (e.g., public health clinic, family health centre, community outpost)	6 (21%)
Palliative (supportive) care	1 (4%)
Home care	1 (4%)
Public health	0 (0%)
Physician's office	3 (11%)
Telehealth or telepharmacy service	8 (29%)
Pre-hospital settings	2 (7%)
Health research or academic institute	4 (14%)
Government or regional health authority	5 (18%)
Other (e.g., emergency department, nursing station, rural health centre with no physician)	3 (11%)
Geographical Setting	
Urban	15 (54%)
Rural	15 (54%)
Remote	12 (43%)
Other (e.g., support practice in remote locations, private clinic)	2 (7%)

^a Note: Some respondents identified as working in more than one geographical setting.

Appendix 3: Tools, Policies, Guidelines, and Other References for Sepsis Detection Suggested by Survey Respondents

Please note that some of these documents are either not publicly available, or we were unable to identify a publicly available source based on the information provided. Two respondents noted they use the online medical resource UpToDate online for sepsis tools. It is available to individuals or organizations with a subscription. UpToDate is not a comprehensive list of tools for detecting or diagnosing sepsis – many other agencies and associations have also developed such guidance.

Pediatric

- [Clinical Practice Guidelines for Nurses in Primary Care – pediatric and adolescent care](#) [update in progress]. Health Canada. First Nations and Inuit Health; 2012.
- Intended for use by community health nurses providing primary care in remote First Nations communities. Health Canada is also working on guidance for diagnosing sepsis, including laboratory work and protocols for patient referral and physician support. This is in draft form and expected to be released soon.
- [Patient Screening for Sepsis](#). Child Health BC; 2015.
- Could this Pediatric Patient be Septic? 0 days of age – 17 years of age less 1 day (adapted from [TREKK](#)^a PedsPac).⁶⁶ Child Health BC; 2017.
- Pediatrics-initial management of pediatric septic shock in emergent/urgent care settings: 0 days of age – 28 days of age. Child Health BC; (n.d.).^b (web link not available)
- Pediatrics-initial management of pediatric septic shock in emergent/urgent care settings: 29 days of age – 1 year of age less 1 day. Child Health BC; (n.d.).^b (web link not available)
- Physician orders for pediatric severe sepsis, Interlake-Eastern Regional Health Authority; 2017. (web link not available)
- Pediatric sepsis assessment screening tool (age less than 17 years). Interlake-Eastern Regional Health Authority; 2017. (web link not available)
- Pediatric sepsis assessment/screening tool. Northern Health Region, Manitoba; 2013. (web link not available)
- [American College of Critical Care Medicine Clinical practice parameters for hemodynamic support of pediatric and neonatal septic shock](#) (Pediatric Advanced Life Support sepsis guidelines)].¹²⁷

Adult

- [Adult care: Clinical Practice Guidelines for Nurses in Primary Care](#) (update in progress). Health Canada, First Nations and Inuit Health; 2015.
Intended for use by community health nurses providing primary care in remote First Nations communities. Health Canada is also working on guidance for diagnosing sepsis, including laboratory work and protocols for patient referral and physician support. This is in draft form and expected to be released soon.
- Adult sepsis/severe sepsis medical directive – trigger tool. Saskatoon Health Region, [n.d.].^b (web link not available)

^a TREKK = Translating Emergency Knowledge for Kids, based at the Children's Hospital Research Institute of Manitoba. Their updated (September 26, 2018) Pediatric Severe Sepsis Algorithm (for children > 28 days of age) is available at: <https://trekk.ca/events/Updated-sepsis-algorithm>

^b n.d. = no publication date available

- Physician's order sheet orders for adult severe sepsis and septic shock. Interlake-Eastern Regional Health Authority, Manitoba; 2014. (web link not available)
- Treatment of adult with suspected sepsis (age greater than 16 years). Interlake-Eastern Regional Health Authority, Manitoba; 2017. (web link not available)
- Adult diagnostics — bloodwork (age greater than 16 years). Interlake-Eastern Regional Health Authority, Manitoba; 2017. (web link not available)
- Sepsis protocol developed at the Queen Elizabeth Hospital (confidential documents), Charlottetown, PEI; [n.d.].^b (web link not available)
- Criteria for sepsis/septic shock. Health PEI; [n.d.].^b (web link not available)
- [Provincial Antibiotic Advisory Team Empiric Antibiotic Treatment Guidelines for Sepsis Syndromes in Adults](#). Health PEI; 2014.
- Emergency room triage sheet (in progress, nearing completion — builds on the British Columbia guidelines but geared to community emergency practice). (web link not available)
- Surviving Sepsis Campaign guidelines and updates.^{18,69}

^b n.d. = no publication date available