Provincial Standards and Guidelines for Technology Assisted Remote Critical Care Services

Critical Care Services Ontario

Version 1.0, June 2017.

CCSO Critical Care Services Ontario

This Provincial Standards and Guidelines for Technology Assisted Remote Critical Care Services is a product of Critical Care Services Ontario (CCSO)

For more information, please contact:

Critical Care Services Ontario

Phone: 416-340-4800 x 5577

Email: Info@ccso.ca

Website: www.criticalcareontario.ca

CCSO is funded by the Government of Ontario

ACKNOWLEDGEMENTS

CCSO would like to thank the members of the Technology Assisted Critical Care Services Provincial Reference Group for their input and time in the development of this document.

Evaluation Team Members (Critical Care Services Ontario)

Dr. Bernard Lawless (Co-chair)	CCSO, Provincial Lead
Linda Kostrzewa (Co-chair)	CCSO, Senior Director–Strategy and System Transformation
Michael Barrett	South West LHIN, CEO
Dr. Edward Brown	Ontario Telehealth Network, CEO
Dr. Sonny Dhanani	CHEO, Medical Director of Pediatric Intensive Care
Greg Hein	MOHLTC e-Health Branch, Director
Laura Kokocinski	North West LHIN, CEO
Debbie Korzeniowski	MOHLTC Provincial Programs Branch, Director
Chantale LeClerc	Champlain LHIN, CEO
Elan Graves	Champlain LHIN, Senior Integration Specialist
Dr. Derek Manchuk	North East LHIN, Critical Care LHIN Lead
Dr. Michael Miletin	Central West LHIN, Critical Care LHIN Lead
Louise Paquette	North East LHIN, CEO
Dr. Michael Scott	North West LHIN, Critical Care LHIN Lead
Dr. Adarsh Tailor	North Simcoe Muskoka LHIN, Critical Care LHIN Lead
Donna Thompson	CritiCall Ontario, Executive Director

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PURPOSE

The purpose of this document is to establish standards and guidelines to inform the process of developing, implementing and sustaining effective and safe delivery of quality healthcare in utilizing technology to provide remote critical care services in Ontario. The Technology Assisted Remote Critical Care Services (TARCCS) standards and guidelines are:

- Intended to be used in conjunction with all applicable organizational standards, protocols, and policies and procedures for clinical care provision

- Designed to guide potential applicants in the proposal and delivery of technology assisted remote critical care services

The standards and guidelines have been developed through a collaborative Reference Group established by Critical Care Services Ontario (CCSO) and including representation from Local Health Integration Networks (LHINs), Critical Care LHIN Leaders, Children's Hospital of Eastern Ontario (CHEO), Ontario Telemedicine Network (OTN), CritiCall Ontario, various branches of the Ministry of Health and Long-Term Care (MOHLTC) and CCSO. CCSO conducted a comprehensive environmental scan of various technology assisted models of care to inform the discussions of the Reference Group. Based on the Reference Group's action items, follow-up discussions were conducted with key organizations to confirm alignment with provincial guidelines and initiatives e.g., MOHLTC e-Health Strategy. Accreditation Canada's Telehealth Standards and Health Standards Organization (Canada), were used as a measure for alignment.

1.2. BACKGROUND

TARCCS engages the challenges within the current healthcare system by utilizing a technological approach to address these concerns.
TARCCS addresses:

- The lack of intensivist in rural hospitals by allowing expert consultation and oversight to these hospitals;
- A level of standardized care available to patients regardless of geographic location;
- Care to be delivered in a timely manner with proper clinical oversight;
- Optimization of transfers and patient transfer cost;
- Patient-focused care by allowing patients to be cared for closer to home and family.

TARCCS supports Ontario's patient-focused approach to provide care closer to home to the right patient, in the right place, at the right time by providing support to critical care units in smaller hospitals, reducing the need for transfer to another facility and allowing patients to receive the best care while being close to home. This strategy allows the province to establish consistent, reliable processes that provide high quality, patient-focused care, which optimizes clinical resource utilization.

LHINs are accountable for the hospitals within their geographic region; as such, there may be variations in operational TARCCS models available in Ontario. The provincial Standards and Guidelines are meant to be used as a guide to healthcare providers in the development and implementation of a TARCCS system and guide the provincial application process.

2. DEFINITIONS

Terminology	Description
Client	The recipient of care. This may include a patient, individual, or resident. In some circumstances, this may include the client's family, representative, or advisor.
Consultant	A clinical expert or specialist providing support services to the Client and Local Physician.
Consulting Site	The facility, hospital, or site where the Consultant is located. This is the site offering support and may be referred to as the *Command Centre, Hub Site, Host Site, Provider Site, or Referral Site*.
Indicator	A measurable variable expressed in quantitative terms that indicates the level of performance for key dimensions of the system.
Inputs	The resources needed to perform each of the activities.
Local Physician	The physician or healthcare practitioner responsible for providing care for the Client at the specific time and has identified the need for support from a Consultant in order to enhance safe delivery of care.
Outcomes	The expected benefits that result from the project implementation.
Outputs	The things the project needs to do to achieve the objectives. List of activities that will lead to achieve the objectives. These statements are usually brief with an action word.
Partner	A person or organization from another team or organization collaborating to address a specific issue or provide service or resource.
Remote Monitoring	Appropriate follow-up after initial consultation as determined by both the Consultant and the Local Physician. This may involve other healthcare partners and conducted in the Client's absence.
Request Site	The facility, hospital, or site where the Client and Local Physician are located. This is the site receiving support from the Consultant and may be referred to as the *Spoke Site, Distant Site, Remote Site, Patient Site, Local Site, or Referring Site*.

3. STANDARDS AND GUIDELINES

Standards	Guidelines
1. Provide safe and timely access to care.	a. Consultants' responses to consultation request are to be provided within an acceptable timeframe (for example, as outlined in the Provincial Life or Limb Policy), in order to ensure safe and appropriate clinical care. b. The Consulting Site will ensure availability of suitable expertise/specialist staff to provide consultation services as required by Local Physician at the Request Site. c. The Local Physician will identify and notify the teleconferencing partner of the specialty consultation services required. In the event of specialty/disciplinary assessment change, the appropriate remote services shall be utilized. d. The Request Site and Consulting Site possess efficient information systems and data sharing agreements in order to ensure client's health information is accurate and accessible during the initial consultation and/or any ongoing remote monitoring.
2. Align with existing evidence-based best practice and programs.	a. The TARCCS system should align with and complement existing provincial programs (such as the Life or Limb Policy, Critical Care Response Team, Critical Care Outreach Team, Medical Emergency Team, etc.) testing (such as clinical assessments, diagnostic testing, etc.) and processes (such as CritiCall's access flow algorithm) designed to advance patient care in a safe and efficient manner. b. The TARCCS system should utilize existing healthcare connectivity and audio/video services (such as e-Health ConnectingOntario, CritiCall Ontario, OTN, etc.). Leveraging these accessible provincial systems facilitate safe and efficient care particularly in instances of inter-LHIN Client support. This approach also enables opportunities for growth and program expansion.
3. Focus on patient and family centered care.	a. The TARCCS system is designed to meet the needs of the community, healthcare providers and clients. Identified gaps in access and delivery of standardized critical care services are addressed.

	b. The consultation and applicable Remote Monitoring are designed to involve both the patient and family/Substitute Decision Maker (SDM). The Local Physician, Consultant, Client and any available family and/or SDM participates in the care consultation, and care planning. c. Care plans are developed in consultation with Client and family/SDM. The Client's appropriateness for and level of comfort with TARCCS are determined by the Client's condition, availability of specialized care and geographic location.
4. Efficiently utilize available resources.	a. The design of a TARCCS system identifies already existing resources that can be incorporated into the system development, such as existing healthcare teams and partnerships, which support remote critical care services. b. The TARCCS systems may be utilized for wide-ranging consultation and skills development. The TARCCs system should be adaptable to other critical care services such as e-Rounds, education and training, etc.
5. Follow principles of Duty of Care.	a. The personnel involved must possess required and updated credentials, training and education. This is applicable to both regulated and unregulated teams. b. The TARCCS consultation approach follows the same principles as a face-to-face client/physician relationship. The need for interpreters may be required and client family/SDM may be present. c. Clear reporting relationships to refine the structure and interactive relationships. Roles and responsibilities of the Local Physician and Consultant are clearly defined. The Local Physician at the Request Site, where the Client is located, is ultimately the Most Responsible Physician (MRP) for the client's care.
6. Ethics	a. Medical healthcare personnel involved in the TARCCS uphold the professional practice standards of their respective governing health and medical professions (College of Physicians & Surgeons, Telemedicine policy #3-14, College of Nurses of Ontario, Telepractice Guidelines, Pub, No. 41041, etc.).

	b. Whenever possible, Clients and family/SDM must be informed of the possibility for access to care via TARCCS. This approach requires Client's personal and health information to be released from the Request Site to the Consultant at the Consulting Site; as such, the principles of consent apply as outlined in the terms of professional regulatory colleges and scope of practice.
7. Protect client confidentiality and privacy	a. The practices outlined in applicable healthcare confidentiality and privacy regulations such as Personal Health Information and Privacy Act (PHIPA) apply to all TARCCS interfaces. b. The Client's privacy is protected during the consultation. This includes but is not limited to conversations, medical information accessed in the execution of care and the availability of a physical environment to ensure privacy. c. Information obtained through TARCCS consultation is stored and archived in a secure and controlled manner.
8. Performance management and tractability.	a. Evidence based best practices form the basis of standardized TARCCS process logic model (*Appendix A*). b. Identify the effectiveness of the roles of personnel/parties involved in the TARCCS system. Identify performance indicators to measure operational functions to be evaluated and identify opportunities for improvement. Minimum quality measurement indicators are outlined in the CCSO Review Process for TARCCS Proposals; additional indicators may be applicable to specific TARCCS systems. c. A collaborative approach with TARCCS Partners is used to select the indicators that are appropriately linked to improved Client experience and outcomes. d. A process exists for performance measurement to be shared and reviewed regularly and systematically by all Partners to ensure the TARCCS system reflects current best practices, meets expected outcomes and guides quality improvement activities.
9. Demonstrate program sustainability	a. Collaborating organizations and Partners establishing a TARCCS system model of healthcare will follow the Review Process for TARCCS Proposals (*Appendix B*).

	b. Organizational support is evident and there is a comprehensive agreement and defined scope of service with each Partner and hospital organization involved in the TARCCS system. Organizations and Partners commit sufficient resources to support the TARCCS system. c. TARCCS program information and performance measurement data should be publicly available to patients and the community serviced by the system. This increases awareness among potential Clients and their family/SDM regarding the service availability, effectiveness, and potential to be cared for at their local hospital. d. Identify barriers that may limit access to service and address or remove where possible. The TARCCS system should have accessibility and the ability to communicate under a variety of conditions. e. Supports leveraging innovation, new and emerging technologies that improves connectivity to promote patient care. f. Designed and developed in a manner consistent with Accreditation Canada, that allows the TARCCS system to evolve into an accredited practice.

4. SOURCES USED

Accreditation Canada, January 2016. Telehealth Standards, version 11.

Center for Disease Control (CDC), Logic Models.
https://www.cdc.gov/oralhealth/state_programs/pdf/logic_models.pdf.

National Initiative for Telehealth Guidelines (NIFTE), 2003. National Initiative for Telehealth Framework of Guidelines.
https://www.isfteh.org/files/work_groups/FrameworkofGuidelines2003eng.pdf

Province of BC Health Authorities, September 2014. Telehealth Clinical Guidelines, version 9.

University of Wisconsin-Extension, 2003. Enhancing Program Performance with Logic Models.

5. DOCUMENT CONTROL

Date	Author	Version	Change Reference
June 23, 2017	Skeeta Sobrian-Couroux	1.0	Original document.

6. APPENDICES

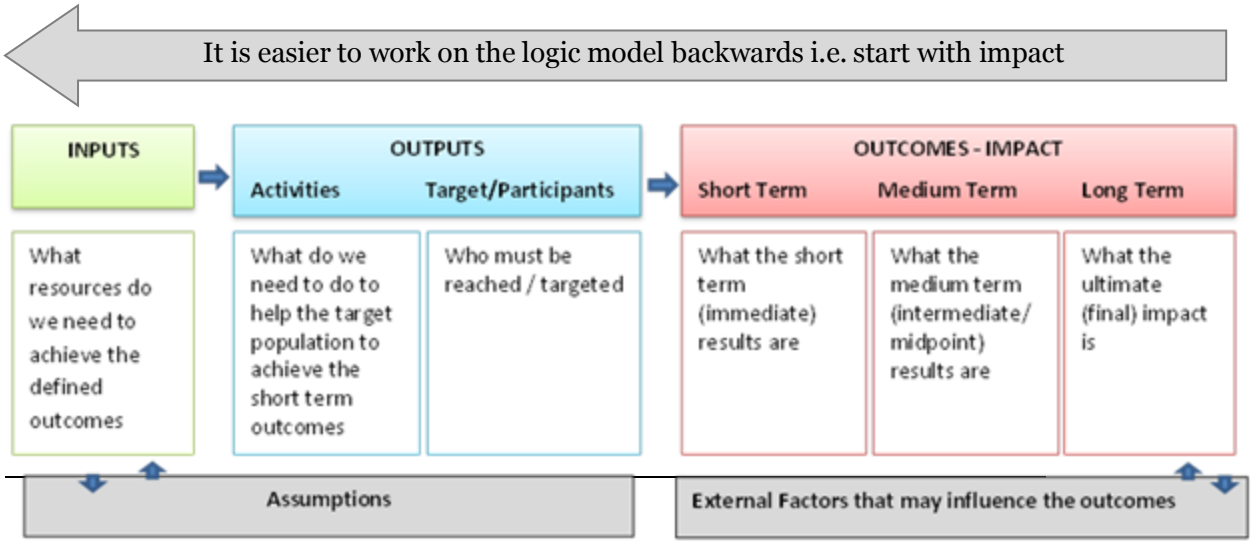
6.1. **Appendix A:** ***Template for Developing a Program Logic Model***

PROGRAM LOGIC MODEL

A program logic model is a management tool that displays the connections between objectives, resources, activities and outcomes, and forms the basis for developing a more detailed management plan. During the course of program implementation, a logic model is used to explain, track and monitor operations, processes and functions. Evaluators use the logic model to plan and develop evaluations.

Goals/Objectives: states the specific results the program will bring about within a specified timeframe with the available resources. Objectives are SMART **(**specific, measurable, achievable/agreed upon, realistic, and time bound). Some objectives may be framed to reflect short-term outcomes and some may be structured to achieve the longer-term outcomes.

Program Description: Briefly articulates the current situation.



6.2. **Appendix B:** ***Review Process for TARCCS Proposals***

A. Proposals to contain the following information:

I. Description overview with program logic model (*Appendix A*).
II. Needs assessment, identify parties involved, rationale, etc.
III. Goals & Objectives demonstrate how the proposed program aligns with the objectives of the Ontario Critical Care Plan and key healthcare policies of Ontario. This should also include anticipated benefits or outcomes.
IV. Demonstrate use of existing and new resources to be leveraged such as equipment and staff, etc.
V. Process flow algorithm (include resources and partnership involvement).
VI. Projected benefits (volume of patients maintained at local hospital, cost reductions, recurring benefits, etc.).
VII. Justification/Feasibility (current cost compared to projected benefits/cost reductions, additional reasons for proposal, etc.).
VIII. Sustainability (describe how the project effort will continue).
IX. Identify any performance quality management indicators to be collected in addition to the predetermined indicators outlined in the TARCCS Standards & Guidelines and their proposed use.
X. Identify all data required and the data source that will be collected for performance quality management. Performance quality management data may contain or have the potential to contain Client's personal health information, therefore this information needs to be secure, consistent with PHIPA. Identify method for secure transmission of data and where the data will be stored.
XI. Identify program cost including existing and new funding sources.

B. Performance quality management indicators for program evaluation and benchmarking are to be identified according to proposed use and may include:

I. Access: Number of Clients (monthly)
- Number of initial consultation requests
- Number of cancelled initial consultation requests
- Number of Clients requiring follow-up monitoring
- Number of Clients maintained at Request Site

II. Quality: Outcomes
- Mortality
- Length of stay in Intensive Care Unit (ICU)

- Client and family experience
- Number of Clients transferred from Request Site
- Capacity building at Local Sites

C. Proposals endorsed by LHIN

D. Proposals to be tendered to CCSO for review by the TARCCS Provincial Reference Group members, analysis and submission to MOHLTC.

Ensure proposal submission is complete by using the Checklist (*Appendix C*). All items must be checked prior to submitting your application to CCSO. Kindly include this checklist as the cover page of your proposal submission to CCSO.

6.3. **Appendix C:** ***TARCCS Proposal Submission Checklist***

Complete the checklist below to ensure that the proposal contains all required components outlined for review by CCSO and MOHLTC. Attach this completed and signed checklist as the cover page of the TARCCS proposal.

- □ The proposal meets the general purpose of the TARCCS Standards and Guidelines.
- □ Other applicable standards, protocols, policies and procedures are identified.
- □ Current system challenges are identified.

The proposal includes:

- □ A Program Logic Model
- □ Detailed Needs Assessment
- □ Program Goals and Objectives are identified and aligned with Ontario's Critical Care Plan and key healthcare policies of Ontario.
- □ Existing and new resources to be leveraged
- □ A Process Flow Algorithm
- □ Feasibility
- □ Program cost
- □ Projected benefits
- □ Performance management indicators are identified
- □ Sustainability plan

This application checklist has been reviewed and completed by:

PRINT NAME	SIGNATURE	DATE

INSTITUTION