



**College of Intensive Care Medicine
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GUIDELINES ON THE USE OF TELEMEDICINE IN THE INTENSIVE CARE UNIT

1 INTRODUCTION

Telemedicine uses audio visual technologies to assist in patient care where the intensive care unit (ICU) does not have an intensive care specialist on site. Internationally, care models range from simple video consultation liaison services to complex and expensive remote 24-hour bedside surveillance. Telemedicine represents a real-time clinical consultation using video conferencing technology generally with access to electronic systems for clinical imaging and pathology.

2 CATEGORIES OF TELEMEDICINE IN INTENSIVE CARE MEDICINE

- 2.1 Provision of Intensive Care Specialist support to an intensive care unit staffed by non CICM Fellows.
- 2.2 Provision of Intensive Care Specialist support to remote centres for management of acutely critically ill patients awaiting retrieval to an intensive care unit.
- 2.3 Provision of Intensive Care Specialist support out of hours where 24/7 specialist cover cannot be provided on site.

3 DEFINITIONS

Telemedicine: The use of medical information exchanged from one site to another via electronic communications to improve patients' health status.

TeleICU: Networks of audio-visual communication and computer systems that link intensive care providers (specialists and nurses) to patients and healthcare providers in other, remote healthcare facilities.

TeleIntensivist: Intensive Care Specialist as defined by CICM professional document engaged in practice of telemedicine.

Telehealth: Delivery of health services in circumstances involving separation in location and/or time, using information and communication technologies.

4 PRINCIPLES OF TELEMEDICINE IN INTENSIVE CARE

(Based on ACRRM Telehealth Advisory Committee recommendations)

- 4.1 The basic standards of professional conduct governing each health care profession in Australia and New Zealand are not altered by the use of telehealth technologies to deliver health care, conduct research, or provide education. Confidentiality of patient teleICU consultations, patient health records, and the integrity of information in the health care information system are essential.
- 4.2 Health professionals (at both ends of the telehealth consultation) must make their identity known and confirm the identity of each patient at each encounter.
- 4.3 All patients directly involved in a teleICU encounter are informed about the process, its attendant risks and benefits and their own rights and responsibilities whenever this is

possible. In the case of critically ill patients, it may not be possible to inform the patient of the teleICU service.

- 4.4 Services provided via teleICU must adhere to the basic assurance of quality and professional health care in accordance with CICM guidelines and clinical standards.
- 4.5 Each intensive care unit participating in teleICU services is responsible for developing its own processes for assuring competence in the delivery of intensive care services via telehealth technologies.
- 4.6 Documentation requirements for teleICU services must be developed that assure documentation of each patient encounter with recommendations and treatment, communication with other health care providers as appropriate, and adequate protections for client confidentiality.
- 4.7 Clinical guidelines in the area of teleICU should be based on empirical evidence, when available, and professional consensus among involved health care disciplines.
- 4.8 The integrity and therapeutic value of the relationship between client and health care practitioner should be maintained and not diminished by the use of Telemedicine. The care provided by a local and physically present Intensive Care Specialist is always the preferred model of care. Telemedicine must enhance the existing clinician patient relationship (not fragment it). Telemedicine arrangements should complement existing services (where available), build on rural workforce and referral patterns to avoid further service fragmentation and address practicalities of coordination, scheduling and support from the patient's perspective to improve their continuity of care.
- 4.9 Health care professionals and practices do not need additional licensing or accreditation specific to the provision of teleICU services. At the same time, teleICU technologies cannot be used as a vehicle for providing services that otherwise are not legally or professionally authorised.
- 4.10 The safety of patients and practitioners must be ensured. Safe hardware and software, combined with demonstrated user competence, are essential components of safe teleICU practice.
- 4.11 The Telehealth technical standards of the relevant jurisdictional authority must be applied in a 'fit for purpose' manner. TeleICU services need to comply with registration, indemnity and quality control requirements of the jurisdiction where teleICU services are being physically delivered.

5 MINIMUM STANDARDS FOR TELEICU CONSULTATIONS

5.1 Site-to-site Agreement

A formal agreement between the site providing the ICU specialist support and the site receiving the support should include:

- The responsibilities of each partner;
- A pathway for referrals;
- The information provided as part of the referral;
- A dispute resolution process;
- A flow chart for dealing with technical difficulties;
- Details on how documentation will occur.

5.2 Governance

- Governance arrangements must be secured by agreement between the two parties prior to any discussions regarding patients.
- Discussion and agreement should be sought regarding both emergent and non-emergent cases.
- Governance arrangements should be considered for both patient management and transport.

5.3 Equipment

The following equipment is recommended for successful telemedicine:

- Good quality cameras in both sites;
- Adequate internet bandwidth;
- Mobile technologies with zoom functions for patient ward round consultations of a standard to externally examine the patient and interrogate settings and operations of equipment and monitor displays;
- Access to electronic pathology and radiology;
- Secure system complying with patient confidentiality requirements;
- Each episode of access to system is documented by time accessed and person accessing the system in order to provide a record for future auditing purposes.

5.4 Staffing

Staff at both sites should be trained to use the technology. Time should be set aside for the interaction to occur without interruption.

5.5 Training

Training should be provided to staff to ensure they are qualified to use the equipment for greatest efficiency. Communication training specific to the medium should also be provided.

5.6 Documentation

A system should be established to ensure that any consultation records written by an Intensive Care Specialist are included in the patient's medical record.

5.7 Quality Assurance

A quality assurance system should be in place to provide governance of the telemedicine process with regular audits and reviews of the outcomes of the telemedicine consultations.

References and sources

- i) ACCRM Telehealth Advisory Committee (ATHAC)
- ii) Australian Medical Council - Good Medicine Practice: A Code of Conduct for Doctors in Australia
- iii) Medical Council of New Zealand – Good Medical Practice
- iv) AHPRA Guidelines for technology based patient consultations
- v) Medical Council of New Zealand - Statement on use of the internet and electronic communication
- vi) Society of Critical Care Medicine website - Telemedicine in the Intensive Care Unit
- vii) Wade VA, Elliott JA and Hiller JE “A qualitative study of ethical, medico-legal and clinical governance matters in Australian telehealth services” Journal of Telemedicine and Telecare 2012:1-6
- viii) Boots, Singh, Lipman, “The tyranny of distance: telemedicine for the critically ill in rural Australia” AIC 2012
- ix) Boots, Singh, Terblanche, Widdicombe, Lipman “Remote care by telemedicine in the ICU: many models of care can be effective” Current Opinion Critical Care 2011

Acknowledgments

Further reading

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Publishing Statement

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