TeleHealth and the ARTS of clinical decision making in rural and remote settings – an ACRRM approach

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ACRRM eHealth

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This Presentation

Examine the factors which impact on health service delivery in rural and remote Australia — role of the generalist

Look at the nexus between generalist medical practice and telehealth in improving sustainability of services and quality of care

— The context — rural and remote medical generalist practice
Discuss how access to telehealth can impact on clinical decision making and risk management strategies

- **Standards**— Clinical, Technical and Contextual — ACRRM Framework for TeleHealth Standards
- **The ACRRM ARTS* framework** — clinical decision decision process
  - Assessment, Resources, Transport, Support Framework
Telehealth can greatly improve both quality and access to care- if the model fits the context
Standards and Guidelines for telehealth practice must be contextually relevant for meaningful use
Australian College of Rural and Remote Medicine

New College
AMC accredited
3000 members
Online education

Telehealth
support role
Dr Jim Muir
Teledermatologist
ACRRM TeleDerm service
Issues for rural communities
Rural and remote communities have poorer health outcomes and access to health care than urban populations.

- 10 percent higher levels of mortality;
- 20 percent higher rates of injury and disability;
- 32 percent higher rates of risky alcohol consumption; and
- 10–70 percent higher rates of peri-natal death.

-AIHW Data
The prevalence of chronic disease data shows the incidence of cancer is about 4 per cent higher than those major cities with significantly higher incidence rates for preventable cancers.
Rural patients with complex illnesses may need to see multiple specialists, entailing multiple trips to distant urban facilities.

*NSW Health Isolated Patient's Travel and Accommodation Assistance Scheme (IPTAAS)*, for example, reports the need for an additional $28 million in supplementary funding, over four years. In 2011/12 forecast expenditure is $18 million, a $7 million increase on the previous year.

…..and getting more distant over time

Specialist FTE per 100,000 population in each ASGC remoteness area, 2001

Note: Full time equivalents (FTE) are based on a 35-hour week.
The number of clinical specialists decreased with increasing remoteness

142 FTE per 100,000 for Major cities

24 FTE per 100,000 for Remote/Very remote areas

AIHW Data
Inequitable distribution of MBS funding

Services & MBS benefits per capita, by RRMA grouping, 2001-2002

Health Workforce Australia (HWA) March 2012

Health Workforce 2025 report states..

“the current distribution of doctors, unlike that of midwives and nurses, remains inequitable between rural and city populations”
Rural

• Increasing burden of chronic disease
• Increase in complexity of diseases
• High incidence of trauma and injury
• Diminishing scope of practice of General Practice
• Reduction in regional and rural specialists
• Increasing subspecialisation and the decline of the ‘general specialist’
• Pressures on health system affordability

... resulting in.....
The problem

• doctors are concentrated in wealthy suburbs of major cities;

• sub-specialty medicine is out of balance with ‘generalist’ medicine; and

• doctors are performing tasks that could be done by other members of the team

• New models are required
The factors affecting the supply of health services and medical professionals in rural areas

"... if the purpose of a rural health workforce is to provide access to quality health care for communities in rural areas and that this goal is best advanced through a significant increase of Rural Generalist GPs." (Senate Inquiry Rural Health Services Committee View: Chapter 3 para 3.44)
In Australia, the more rural the doctor, the more likely they are to:

– manage myocardial infarctions to a high level
– administer cytotoxic drugs
– perform forensic examinations
– stabilise injured patients pending retrieval
– coordinate discharge planning


Similar findings in Canada

Features of generalism in the rural and remote setting

Environment/Context

• Non-metropolitan location
• Practice functionally distant from major tertiary centres of healthcare without ready access to the full range of specialist medical supports and high end diagnostic equipment.

Features of generalism (cont)

Clinical Practice

- Predominantly un-referred patient population including children, men and women
- Comprehensive range of clinical services in health assessment, illness prevention, health promotion, management of episodic illness or injury, primary mental healthcare, maternal and reproductive care and in the early diagnosis and ongoing management of chronic illnesses including education and support for self-care
Features of generalism (Con’t)

**Services Provided**

- Responsibility for providing continuing care
- Service coordination and referral to specialist and other services
- Participation in teams to afford community access to the range of needed care (ACCHS perfect example)
Ability to provide extended primary care (e.g. management and primary investigation of presenting conditions [fractures, ultrasound, X-Ray]) and hospital-based medical care without direct supervision by a specialist medical practitioner in the relevant discipline.

Sources: Compiled from: World Organization of Family Doctors (1991) [16]; Subcommittee on Primary Health Care of the Provincial Co-ordinating Committee on Community and Health Science Centre Relations [17]; College of Family Physicians (1996) [18]; Martin et al (2004) [19]; and Queensland Health (2006) [20].
After-hours and emergency care

Typically provides extended care in primary services as well as in one or more of the following: obstetrics, anaesthetics, surgery, emergency care or population health.

*Often straddle both in both state and commonwealth and state health systems-*)
Features of Generalism—Collaboration via Telehealth

Extensive practice of distance based professional collaboration between the rural and remote medical generalist practitioner and other specialists in the provision of shared care, skills transfer and education.
Innovative models for specialist/generalist cooperation are increasingly important. They are desirable in urban practice but they are essential to functional rural generalist practice.

Telehealth provides the mechanism.

Dr Michael Williams
Paediatrician
Mackay, Qld
Central to the Chronic Care Model is the notion that a generalist working in isolation cannot achieve optimal care.

- Collaborative teamwork,
- computer systems to inform clinical care,
- Telehealth to bring distant members to the team and an overall environment that supports quality improvement are required.
The vacating field of clinical generalism

Telehealth and generalism

Breadth of clinical practice

- Nurses, NPs, Allied health, Pharmacists, Physician Assistants, & others
- Medical Specialists

Medical complexity

The committee considers the expansion of eHealth and telemedicine to be an opportunity to supplement health care delivery across Australia, with particular relevance to rural and remote areas.

It should not be considered as a replacement for personally delivered primary health. It has the potential to improve training, access to specialist advice and professional development and will be key in future health care delivery.
Telehealth brings the specialist and the general practitioner together in the shared care of patients. Done well, the shared interaction between referring doctor, the ‘consultant’ specialist and the patient delivers better medical care, strengthened professional relationships and enhanced insights and knowledge for all. “

Prof Murray-President ACRRM
“The GP who may have been inclined to routinely refer away the patient with type two diabetes for initiation of insulin therapy builds skills and confidence.

The patient has the benefit of a triangulated and consistent communication for understanding and self-care. The consultant is able to apply their vertical expertise to the really challenging problems.”
Two technical and informatics revolutions are changing this landscape
science of identifying, appraising, distilling and disseminating evidence

Point of care testing, decision support, access to health records, clinical guidelines at point of care
The second revolution is the breakdown of the physical constraints on the specialist consultation through telehealth and ehealth.
Summary

• Workforce innovations
  – Increase in Generalist training pathways (which includes telehealth skills)

• Telehealth Integration
  – Modes of shared care
  – Roles for all disciplines
    • Nurses, Aboriginal Health Workers, Medical
  – Shared standards, but craft specific guidelines

• Ehealth implementation- invitation to engage with ACRRM
Telehealth is core skill for rural generalists (ACRRM) Primary Curriculum and an essential part of effective rural practice.

Training is required to optimise outcomes for patients.

ACRRM online Module (linked to Standards Framework).

Telehealth extends the scope of practice of rural generalists to provide comprehensive care for patients in their local community (in consultation with the appropriate specialist).

Enhance shared care arrangements and facilitate quality models of care involving the patient-end clinicians (rural generalists) and remote-end specialists/consultants.
Services provided via telehealth must adhere to the basic assurance of quality and professional health care in accordance with Standards.

ACRRM has developed a Framework for Telehealth Standards.
Challenges for rural and remote clinicians

- Time and opportunity cost for GPs in implementing a new service (Patient/Dr ratio MUCH higher in rural areas – workflow)
- Quality of internet services in many rural areas - low bandwidth solutions still required- store and forward
- Confusion regarding technical and operational requirements -
- Concerns
  - Indemnity/Security
  - Interoperability
  - Training for Practice managers/nurses/GP delegates in TeleHealth
Challenges continued ...

- Understanding of the logistical requirements, standards and set up issues
- Workflow and organisational aspects require time and planning
  - opportunity cost
- Finding specialists who are prepared to offer telehealth consultations
Use of Store and Forward telehealth applications
ACRRM Approach to Telehealth support

- Collaboration – ATHAC
  - Telehealth Virtual Community
  - [www.acrrm.ehealth.org.au](http://www.acrrm.ehealth.org.au)
- Telehealth Support Officers network
- Framework for Standards
- Education and support
- Communication
ATHAC Members

Australia and New Zealand College of Anaesthetists
Australian College of Nurse Practitioners
Australian Medicare Local Alliance
Australian Nursing Federation
Australian Practice Managers Association
Australian Practice Nurses Association
Australasian College of Dermatology
Australasian TeleHealth Society
Australian College of Midwives
Australian College of Rural and Remote Medicine
CRANA Plus
Department of Health & Ageing
Department of Human Services
Health Consumers for Rural and Remote Australia
National Aboriginal Community Controlled Health Organisation
National Rural Health Alliance
Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Royal Australian and New Zealand College of Ophthalmologists
Royal Australasian College of Psychiatrists
Royal Australasian College of Physicians
Royal Australasian College of Surgeons
Royal Flying Doctors Service
Rural Doctors Association of Australia
Rural Health Workforce Australia
Standards Australia
Australian Medicare Local Alliance
Rural Workforce Australia
Australian Nurses Federation
Provider Directory

Use the selection options on the left to refine the list to suit your needs.

List yourself in this directory

<table>
<thead>
<tr>
<th>Provider Name</th>
<th>TeleHealth role</th>
<th>Location</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexandra Park Medical Centre</td>
<td>Patient end practitioner</td>
<td>BUNDABERG</td>
<td>QLD</td>
</tr>
<tr>
<td>Ann Street Family Practice</td>
<td>Patient end practitioner</td>
<td>NAMBOUR</td>
<td>QLD</td>
</tr>
<tr>
<td>Anyinginj Health Aboriginal Corporation</td>
<td>Patient end practitioner</td>
<td>TENNANT CREEK</td>
<td>NT</td>
</tr>
<tr>
<td>Apollo Bay General Practice</td>
<td>Patient end practitioner</td>
<td>APOLOLO BAY</td>
<td>VIC</td>
</tr>
<tr>
<td>APSA</td>
<td>Specialist end practitioner</td>
<td>ADELAIDE</td>
<td>SA</td>
</tr>
<tr>
<td>Plastic and Reconstructive Surgery</td>
<td>Specialist end practitioner</td>
<td>CAIRNS</td>
<td>QLD</td>
</tr>
<tr>
<td>Apunipima Cape York Health Council</td>
<td>Specialist end practitioner</td>
<td>PERTH</td>
<td>WA</td>
</tr>
<tr>
<td>Paediatrics and child health</td>
<td>Specialist end practitioner</td>
<td>MALVERN</td>
<td>VIC</td>
</tr>
<tr>
<td>Assoc. Prof Angus Turner Ophthalmology</td>
<td>Specialist end practitioner</td>
<td>MELBOURNE</td>
<td>VIC</td>
</tr>
<tr>
<td>Assoc. Prof Mark Frydenberg Urologist</td>
<td>Specialist end practitioner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assoc. Prof Peter Shane Hamlin Endocrinology</td>
<td>Specialist end practitioner</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Assoc. Prof Angus Turner

TeleHealth consultant

Located in PERTH, WA

Ophthalmologist involved in outreach trips to Kimberley, Pilbara, Great Southern and Goldfields.

Based at Lions Eye Institute, Perth, WA

Academic interest in Telehealth

A/Prof at UWA, Head of Indigenous and Remote Eye Health Unit

RANZCO member on Telehealth Advisory Group, DoHA

Consulting disciplines: Ophthalmology

Using technologies:
- FaceTime
- Redback Desktop Video Conferencing
- Scopia Desktop Video Conferencing
- Scopia Mobile
- Skype
- Skype (mobile)

TeleHealth directories: Attend Anywhere
<table>
<thead>
<tr>
<th>Topic</th>
<th>Replies</th>
<th>Views</th>
<th>Last reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many teleconsulting Doctors in Australia?</td>
<td>3</td>
<td>34</td>
<td>by Docpob 20/08/2012 - 3:28pm</td>
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<td>ACRRM Directory</td>
<td>5</td>
<td>41</td>
<td>by vsheedy 20/08/2012 - 11:28am</td>
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<td>non VR’d doctors and access to MBS for Telehealth</td>
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<td>6</td>
<td>n/a</td>
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<tr>
<td>Skype Bug! Be aware!</td>
<td>3</td>
<td>42</td>
<td>by aj.jack 15/08/2012 - 9:38am</td>
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<td>Teleconsulting sites- how much do they charge? new</td>
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<td>7</td>
<td>n/a</td>
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<tr>
<td>How do I find a specialist willing to offer a Telehealth appointment?</td>
<td>14</td>
<td>415</td>
<td>by jonbanff 14/08/2012 - 6:09pm</td>
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<td>Respiratory and Sleep Medicine new</td>
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<td>12</td>
<td>n/a</td>
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<tr>
<td>Case Study- one rural doctor’s experience with telehealth</td>
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<td>26</td>
<td>n/a</td>
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<tr>
<td>ACRRM Advice on risk management when using Skype</td>
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<td>24</td>
<td>n/a</td>
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<tr>
<td>Telehealth links to EHRS for Diabetes related blindness .Pulst+IT article</td>
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<td>9</td>
<td>n/a</td>
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<td>An interesting article on Telehealth</td>
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<td>83</td>
<td>by tachyon 13/07/2012 - 6:02pm</td>
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<tr>
<td>Teleheath requires Specialist to get the patients signature !!</td>
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<td>162</td>
<td>by tachyon 13/07/2012 - 5:26pm</td>
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<td>Free teleconsult directory and site for GPs to contact Specialists. Set up by a GP</td>
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<td>Tele-Psychiatry Service</td>
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<td>by jonbanff 04/07/2012 - 2:24pm</td>
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<td>Remote Medical Education Conference</td>
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<td>Global TeleHealth Conference 2012</td>
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<td>n/a</td>
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<td>Reproductive and Sexual Health Clinic</td>
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<tr>
<td>Teaching and learning in Palliative Care</td>
<td>4</td>
<td>84</td>
<td>by janelle.jakowenko 22/06/2012 - 8:25am</td>
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<td>EMERGENCY PSYCHIATRY ASSESSMENTS</td>
<td>0</td>
<td>23</td>
<td>n/a</td>
</tr>
</tbody>
</table>
The purpose of the ATHAC Telehealth Standards Framework is to provide health and medical colleges, clinicians and health care organisations with a common approach to the development of craft specific guidelines to assist members in the establishment of quality telehealth services.

They cover the Clinical, Contextual and Technical aspects of telehealth.
Development of Standards

Quality Criteria and Indicators mapped to ISO, AHPRA Standards across 3 domains - Clinical, Technical and Contextual

1. Generic Version
2. ACRRM Version: Interpretation for rural and remote context

Quality Criteria aspects
- Effectiveness
- Safety and privacy
- Transparency
- Appropriate care
- Continuity of care
- Timeliness of care
- Accountable care
- Expertise, skills and motivation
Australian College of Rural and Remote Medicine

- Technical
- Contextual
- Clinical

Patient
<table>
<thead>
<tr>
<th></th>
<th>CLINICAL ASPECTS OF TELEHEALTH</th>
<th>ISO paragraph number</th>
<th>AHPRA guideline number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Informing the Patient about Telehealth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>The patient has easy access to plain language information about telehealth, plus the other relevant options for providing care.</td>
<td>6.3.1</td>
<td>5</td>
</tr>
<tr>
<td>1.1.2</td>
<td>The patient is informed about the role of each person who is involved in delivering their care by telehealth.</td>
<td>6.5.2</td>
<td>3</td>
</tr>
<tr>
<td>1.1.3</td>
<td>The patient is informed that standards-based systems are used to protect their privacy and data security, but total protection cannot be guaranteed. If non standards-based systems are used, then the patient is informed about any additional risks to quality, reliability or security.</td>
<td>6.5.2</td>
<td>5</td>
</tr>
<tr>
<td>1.1.4</td>
<td>The patient is informed if there will be out-of-pocket charges for telehealth consultations, compared to other available options.</td>
<td>6.3.2</td>
<td></td>
</tr>
<tr>
<td>1.1.5</td>
<td>The patient should know how and where to make a complaint about the telehealth service.</td>
<td>6.5.2</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Seeking Patient Consent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1</td>
<td>The patient gives informed consent to the use of telehealth. This may be verbally or in writing. If the telehealth consultation is going to be recorded, or if the type of care is substantively different to usual care, then consent should be taken in writing. The consultation not be recorded, except for education/assessment purposes, and ONLY when written permission is obtained.</td>
<td>6.4.2</td>
<td>1</td>
</tr>
<tr>
<td>1.3</td>
<td>Selecting Appropriate Patients for Telehealth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3.1</td>
<td>The health care organisation has a set of criteria about which patients are suitable for telehealth.</td>
<td>6.4.1</td>
<td>2</td>
</tr>
<tr>
<td>1.3.2</td>
<td>The patient and/or their informal care provider need to be able and willing to participate in care by telehealth.</td>
<td>6.5.7</td>
<td></td>
</tr>
<tr>
<td>1.3.3</td>
<td>The decision to use telehealth takes into account:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3.3.1 Clinical factors such as continuity of care, shared care, and the best model of care for the individual patient.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. CLINICAL ASPECTS OF TELEHEALTH

1. Informing the Patient about Telehealth
2. Seeking Patient Consent
3. Selecting Appropriate Patients for Telehealth
4. Using Telehealth in Delivering Care
5. Relationships with Other Providers
6. Skills of Practitioners
7. Evaluating the Use of Telehealth
2. TECHNICAL ASPECTS OF TELEHEALTH

1. Adequate Performance
2. Commissioning of Equipment
3. Risk Management
3. CONTEXTUAL ASPECTS OF TELEHEALTH

1. Management of Physical Environment
2. Management of Business Environment
3. Management of Logistical Environment
Introduction to Telehealth

ACRRM financial model for telehealth

ACRRM has developed a financial modeling tool to help you analyse the business case for telehealth at your practice.

Resources

- Financial Model for Telehealth Explanatory Guide
- Telehealth Financial Model Primary Care Practice

This business case is about the use of video consultations by general practices and Aboriginal health services. It does not cover specialist medical services or telehealth direct to the home.

The business case is in two parts:

A. Financial Model

The MBS telehealth item numbers mean that conducting eligible video consultations will bring income into the practice or service.

We have constructed a financial model in the Excel spreadsheet to help you determine the financial costs versus income of implementing telehealth.

First read this instruction guide (also supplied as a PDF above) then put your own figures into the spreadsheet and the income or loss will appear at the bottom of the sheet.

Local conditions will vary, so we cannot guarantee this is a perfect model of the real world. It is a simple but hopefully useful tool to help you with your decision.

B. Non-Financial Factors

Having done the sums, it is also important to consider the other, non-financial reasons why practices or services might choose to take up telehealth, such as:

- improving access to care and health outcomes for patients
- providing specialized advice and support to clinicians
- reducing professional isolation, hence assisting with staff retention
- telehealth fitting in with the future directions and potential opportunities seen by the practice or service

These cannot be expressed in dollars, but should be taken into account to decide, overall, if it is worth implementing telehealth in your general practice or health care service. If these are important, then a break-even or some loss might be acceptable for the additional benefits that are gained.

Longer Term Implications

Also consider the possible longer term effects of taking up telehealth: it could result in an absolute increase in patient attendances at your organisation, because patients who would otherwise see a specialist on their own will now be seeing them in conjunction with local staff. Do you have the capacity to do this within your existing space or resources? Consider that if this becomes a
Telehealth and decision making
ARTS Framework

ACRRM’s Assessment, Resources, Transport and Support (ARTS) framework (McConnel et al 2007) provides a framework for managing risk in rural and remote medicine, and developing context-specific evidence for rural and remote best practice. Clinical management differs according to the level of risk. The framework provides another means of assessing the appropriateness of telehealth consultations in rural and remote settings.
ACRRMs position is that the structured assessment of clinical need and understanding and analysis of contextual factors are critical to effective decision making regarding use of telehealth.
<table>
<thead>
<tr>
<th>RISK IDENTIFICATION</th>
<th>P</th>
<th>DR</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment (situational analysis)</strong></td>
<td></td>
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<tr>
<td>Complexity</td>
<td></td>
<td></td>
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<tr>
<td>Socio-economic factors</td>
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<tr>
<td>Cultural and psychological factors</td>
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<tr>
<td>Public health issues</td>
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<td></td>
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</tr>
<tr>
<td><strong>Resources</strong></td>
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<td></td>
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<tr>
<td>Human</td>
<td></td>
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<tr>
<td>Advice and information</td>
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<tr>
<td>Technical</td>
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<tr>
<td><strong>Transport (Telephone, telemedicine)</strong></td>
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<tr>
<td>Additional risks</td>
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<tr>
<td><strong>Support</strong></td>
<td></td>
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<tr>
<td>Management and organizational</td>
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</tbody>
</table>

**Extreme risk** requires extensive protocols that are adhered to, with regular checking of procedures and constant vigilance;

**High risk** requires specific protocols and education about them, and familiarity with procedures;

**Moderate risk** requires standard protocols that allow flexibility, and general preparedness;

**Low risk** is managed by improved routine procedures and good quality practice.
Assessment

- Complexity
- Socioeconomic factors
- Cultural and psychological factors
- Public health issues
Support

Psychological Management and organisational
Resources

- Human
- Advice and information
- Technical
Future

- TeleHealth skills knowledge and attitudes a core training requirements for rural the rural generalist team
- Provision of TeleHealth services a core component of rural practice
- Barriers to interoperability reduced /over come
- TeleHealth training available and accessible to all TeleHealth facilitators
- Rural generalists (doctors, nurses, AHP) recognised as TeleHealth consultants at the distant end
- Store and forward recognised for MBS
- Quality indicators developed and monitored
- Services to rural patients increased
- Outcomes improved
Join the ACRRM TeleHealth community