



ACRRM SUBMISSION

to the “Regional Telecommunications Independent Review 2015”

Public Consultation

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COLLEGE DETAILS

Demographic category:	Peak Body
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**The College would like its submission to be publicly available.*

Background

The Australian College of Rural and Remote Medicine (ACRRM) is devoted to the advancement of medical care in rural and remote communities. It progresses this through the provision of quality vocational training, professional development education programs, setting and upholding practice standards, and through the provision of support and advocacy services for rural medical students, rural registrars and vocationally registered rural doctors.

ACRRM members are characterised by their relative geographical isolation, broad scope of practice and reliance on teamwork. In order to service the needs of members the College had to be innovative in the development and delivery of distance education, including the creation of collaborative e-networks and use of technology to bridge distance.

ACRRM is one of two Colleges providing vocational training towards Fellowship in the Specialty of General Practice. The program is specifically designed to prepare Fellows for the special skills required to provide the highest quality care in rural and remote communities as a rural generalist.

The College welcomes the opportunity to provide this submission to the regional telecommunications independent review committee. Innovation and the use of technology to support rural and remote healthcare is a key part of the College's Primary Curriculum¹. However progress can be stifled by inadequate infrastructure to operate more efficiently.

ACRRM is emphatic in our assertion and understanding that network connectivity MUST be sufficient, reliable ubiquitous and dependable to be incorporated routinely in every day practice (clinical and educational).

Patients living in rural and remote Australia are greatly encumbered by their geographic distance from specialists and access to the full range of health services available to those in our major cities. The ratio of patient to medical practitioner is higher than in metropolitan settings. The rural patient often travels to access specialist services and are most likely to be transferred away from their local community in the event of a medical emergency or serious illness.

ACRRM supports the introduction of network reliant solutions such as telehealth and shared electronic health records as part of strategy to address the current fragmentation of medical information spread across different locations and providers. ACRRM considers that shared electronic health records and the use of secure electronic messaging should be the cornerstone of team based care – which in regional rural and remote areas can be facilitated and optimised via telehealth arrangements.

Specialist care in rural and remote communities is limited. Sometimes available as part of visiting services to the community, or by telehealth (in collaboration with the resident clinician), or not at all. The interaction between the distant medical services, and the rural primary care doctor and team is essential and the coordinating function of the local rural practice becomes paramount.

The role and potential benefits of eHealth tools such as the national eHealth Records system (PCEHR)², telehealth, point of care testing and advice, and self-monitoring devices has not yet been realised. However the opportunity and case for their implementation and use is most compelling in communities characterised by the dearth of face to face health services and incidence of chronic diseases.

On the positive side, rural health professionals, given access to the right education, infrastructure (networks and devices), tools, incentives and support are actually better positioned than their city counterparts to effectively coordinate the continuum of patient care. Given the relationship and visibility they have with their patients and connectedness with community, the continuity of care they tend to provide, their propensity to provide care across healthcare settings - including work in the local hospital and in a health promotion role for the community and their relative willingness to use technology to bridge distance.

¹ <http://www.acrrm.org.au/curriculum>

² <http://www.ehealth.gov.au/internet/ehealth/publishing.nsf/content/home>

Submission

In June 2014, the estimated resident Australian population was 23.5 million. 71% of the population resided in major cities, 26.6% in rural Australia and just 2.3% of the population lived in remote or very remote areas³. GPs are usually the first port of call for patients in the Australian healthcare system. GPs must be engaged as a critical player in any health reform. Rural and remote GPs must be specifically supported. It is this group who are faced with the most severe workforce shortages, have the highest patient to doctor ratio and are the most time poor. The role of the rural generalist (with a broader scope of practice than a city GP) supported by specialists (via telehealth), and effective point of care testing devices (not referring the patient to travel great distances for an x-ray or pathology test) is key to rural health reform and improving health outcomes.

Connecting rural and remote areas to telecommunication networks, both fixed and mobile, is important not only for enhancing access to health services, but also influencing the social determinants of health for rural people such as social inclusion and work opportunities.

Today rural healthcare suffers from workforce shortages and retention, and an increase in medical presentations attributed to the increase in chronic disease. With a lack of medical services available locally, innovation (and its associated infrastructure and support) is required to help build efficiencies in the healthcare system to improve health outcomes for rural communities. These efficiencies can come from;

- Easy access to appropriate healthcare information either patient specific information or educational support and mentoring for improved decision making. Communication using paper and fax is inefficient, creating double (if not greater) handling of the information and the chance of information being lost or transcribed in error. The use of a single electronic patient medical record accessed and updated by all healthcare providers responsible for the patient's care can reduce the maintenance and sharing effort of duplicate records.
- Improved access to specialist services for both the patient and the rural generalists using telehealth such as video conferencing and store and forward solutions, reducing the need to travel. There will continue to be a need for patients to have a face to face consultation with their specialists either by a visiting specialist or the patient travelling to a tertiary centre. However efficiencies can be introduced with pre and post-operative consultations using telehealth, thus freeing up specialists time in the community for more procedural type work.

Today's telecommunication challenges need to be acknowledged and addressed. For the College these are;

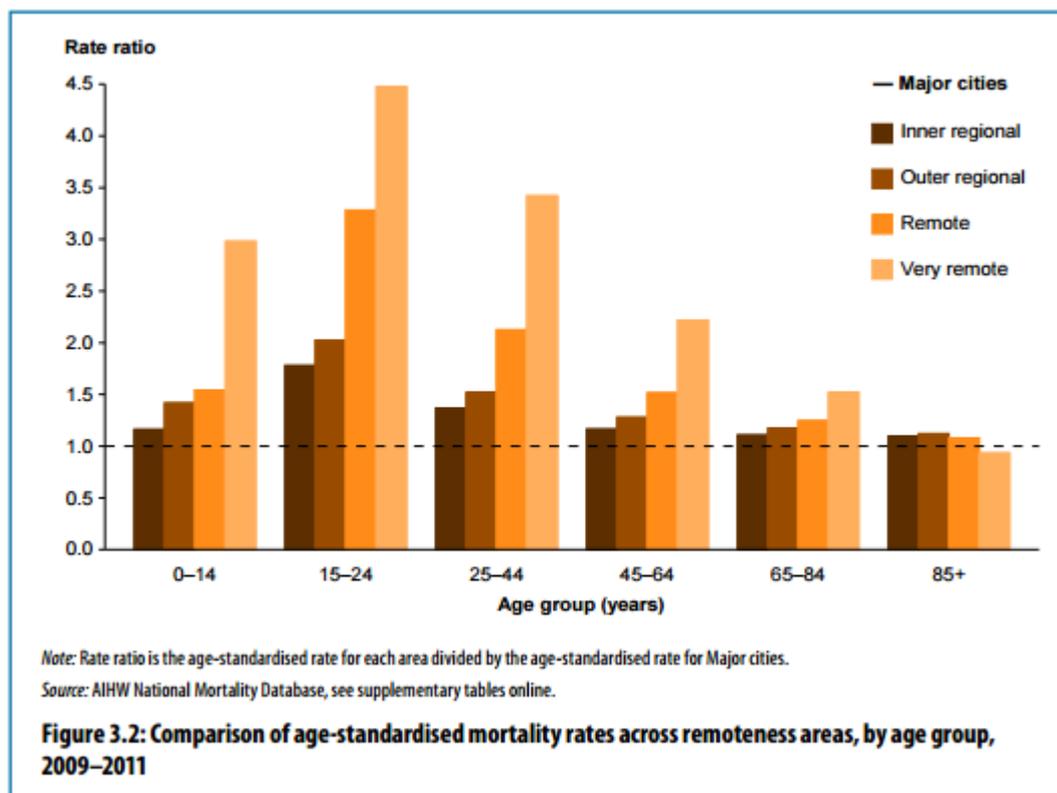
- The creation of a digital divide amongst Australians if equity to infrastructure does not meet the needs of the community and further disadvantages people in rural and remote Australia.
- Inadequate mobile and fixed connectivity. There is a strong unmet demand in regional Australia for an expansion of the mobile coverage footprint. Emerging technologies require mobile and wireless technologies to work.
- Existing arrangements in rural Australia do not allow for new network connections (even though the population is growing). With satellite solutions oversubscribed and exchanges being full. The alternatives to fixed line networks are not suitable for telehealth due to problems with latency.
- The time taken to introduce new infrastructure to support the increased need in connectivity. Businesses can close and families move away in the four years it takes to build a new satellite system.
- The lack of commercial viability for telecommunications companies to invest in services in rural Australia. Alternative funding needs to be considered.

³ Australian Bureau of Statistics (ABS) December 2014 report

Issues for Rural Health

- **Higher mortality and disability rates.**

People living in regional, remote and very remote areas generally have higher mortality (death) rates than people living in major cities. The difference is greatest for young people (aged 15–24), with death rates around 2 to 4 times those of the major cities. Disability is also more common in regional areas even after taking different age structures into account. Among people aged under 65, those living in inner regional areas had the highest rates of disability in 2009.⁴



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- **Increasing burden of chronic disease**

Chronic disease is the leading cause of death and disability in Australia (e.g. diabetes, asthma, heart disease). Half of all Australians aged 45–64 have one or more chronic diseases and this is likely to increase as the population ages and the risk factors increase (e.g. lifestyle, environment and genetics). Most chronic diseases do not resolve spontaneously, and are generally not cured completely. Some can be immediately life-threatening, such as heart attack and stroke. Others can persist over time and can be intensive in terms of management (e.g. diabetes).

In 2004–05, people with chronic disease were more likely to not participate in the labour force, were less likely to be employed full-time, and more likely to be unemployed, than those without chronic disease⁶.

On the positive side, rural health professionals, given access to the right education, tools, incentives and support are actually better positioned than their city counterparts to effectively **coordinate** the continuum of patient care and demonstrate the quality improvements required.

⁴ AIHW <http://www.aihw.gov.au/australias-welfare/2013/outside-major-cities/>

⁵ <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129548364>

⁶ <http://www.aihw.gov.au/chronic-diseases/>

- **High incidence of trauma and injury**

Accidental falls, suicide and transport-related injuries are common causes of death in the Australian community. The overall, rates of injury death in Australia during 2004-05 increased with the remoteness of the injured person's residence, with those who resided in very remote areas having a rate more than double that of the national rate. When considering only deaths resulting from motor vehicle transport accidents, the mortality rate for those who resided in very remote areas was 4 times the national rate⁷.

- **Reduction in regional and rural specialists**

Rural and remote communities generally have a relatively low ratio of specialist medical practitioners proportional to their population. Resulting in referrals to see a specialist outside of their community often requiring significant travel either for the patient or for the specialists funded under a visiting specialist scheme.

ASGC-RA Classification	FTE specialists per 100,000 population
Major cities	122.0
Inner regional	56
Outer regional	38
Remote/very remote	16

Table from the department of health; review of the national rural locum program – final report – April 2011

⁷ <http://www.aihw.gov.au/publication-detail/?id=6442468284>

The role of digital health in rural Australia

1. Access to online training and an educational support community.

The College membership is made up of rural generalists in locations that often don't have easy access to continuous face to face clinical education. ACRRM hosts a web based learning platform known as RRMEO (Rural and Remote Medical Education Online)⁸. RRMEO provides access to educational content consisting of, written, video, assessment and results linked to the College's standards framework for general practice.

Online training and interaction with other (remote) students helps keep doctors in their community and reduces the burden of travel and time away from the practice for learning, whilst providing a peer network for ongoing support.

Revitalisation of rural communities through improvements in communication networks and technology could profoundly impact rural and remote communities e.g 'telework' allows organisations like ACRRM to have staff working in rural areas, supported via remote desktop, teleconferencing and video conferencing

2. Access to eHealth and telehealth solutions

In an environment of chronic and complex disease a patient will have a number of care providers such as their GP, specialists, allied health (e.g. physio or dietician), nurse practitioners or aboriginal health workers. Access to patient information and sharing information such as results and outcomes and suggested changes to a treatment plan are key elements of chronic disease management. By using systems that support a single patient record that is accessible by all health professionals from any location enables appropriate care to be managed more efficiently by those responsible. Without access to these systems, information becomes fragmented and delayed in its receipt and action when relying on traditional methods such as letter, fax or phone and can result in transcription errors, which can have serious health consequences.

Telehealth is a broad term encompassing the use of communication and information technology to provide patient care – this includes (but is not limited to) real time video conferencing⁹. Video conferencing and 'store and forward' are two of the main ways in which telehealth is improving access to healthcare services for patients who live in regional, rural and remote areas¹⁰.

Telehealth can improve health outcomes by facilitating timely access to essential specialist services and advice. ACRRM has hosted a tele-dermatology solution (Tele-Derm) for over 10 years which is funded by the Commonwealth department of health. Tele-Derm is an asynchronous 'store and forward' telehealth solution designed to support rural general practice obtain dermatology advice from a dermatologist to help them diagnose and treat the patient's condition without the need to refer the patient to a dermatologist.

Skin conditions are amongst the top 5 reasons a patient would see their GP¹¹. The waiting time to see a dermatologist is on average 2 months rising to 3 months in Queensland. A dermatologist in a capital city sees 2,743 patients per provider and a dermatologist in rural Australia sees 6,877 patients per provider¹².

A recent Tele-Derm study found the average response rate from the dermatologist is 5.5 hours with 77% of cases managed locally without further referral. In addition to an advice service, Tele-Derm also hosts a library of clinical cases and guidelines. This provides educational support to rural generalists increasing their knowledge and capacity to deal with dermatology cases.

⁸ <https://www.acrrm.org.au/rrmeo-rural-remote-medical-education-online>

⁹ ACRRM position on telehealth <https://www.acrrm.org.au/policy>

¹⁰ <http://www.health.gov.au/internet/main/publishing.nsf/Content/e-health-telehealth>

¹¹ General practice activity in Australia 2013-14, Family Medicine Research Centre.

¹²

<https://www.hwa.gov.au/sites/uploads/The%20specialist%20dermatology%20workforce%20in%20Australia.pdf>

Real-time video consultations require reliable bandwidth for a natural conversation to take place, without stopping and starting. Connectivity MUST be sufficient, reliable, ubiquitous and dependable for telehealth and eHealth to be incorporated into everyday general practice. An NBN connection (and hence higher speed, synchronous up and down connection and reliable) would make telehealth services more cost effective and efficient. Satellite has not been found to be reliable for video consultations¹³ but can support an asynchronous telehealth service (such as Tele-Derm). Ubiquity is important with everyone having access to the same minimum guaranteed performance and reliability, enabling the clinician to concentrate on the clinical issues and not worry about the technical.

In addition to patient consultations, real-time video can be used between clinicians for peer support and networking and between educators and students as part of the curriculum training.

One of the key benefits for GPs being present with the patient and the specialist during an online consultation, is it supports the extended scope of practice for the GP, exposing them to more clinical detail than would of occurred had the patient been referred to a specialist through the tradition paper process.

Access to, and use of eHealth and telehealth enables rural generalists to assist in a range of conditions that can be managed safely in a rural environment. Providing comprehensive care for the patient in their community in consultation with appropriate specialists allows for the patient to have the opportunity to remain in their community during their illness.

3. Remote Monitoring

There has been an increase in the number and types of devices that enable the patient's health to be monitored in the home or other location, such as an aged care facility. These range from the commercial lifestyle monitoring devices such as a 'fitbit' connecting and providing data to mobile apps on devices such as a phone or tablet. To more sophisticated medical grade products for measuring blood glucose, respiratory function and cognitive reflexes.¹⁴ Sharing of the data from these devices is often reliant on an internet connection, with some services using video conferencing face to face to discuss with the patient how they are feeling and to observe key activities – such as getting weighed and taking their medication.

Remote monitoring can reduce the travel required by either the patient or the health professionals when checking on the patient's progress. It also allows for appropriate, early intervention to be applied when needed (alerts to deterioration in results) which should reduce treatment costs and improve patient outcomes. For example an increase in blood pressure can result in the patient being admitted to hospital early for face to face monitoring and intervention. Rather than medical services being required to deal with a heart attack (should the blood pressure be left to escalated over time) which would be more costly to manage and with possible poorer outcomes.

4. Emergency Response

Rural generalists are trained in emergency medicine providing services in the local hospital emergency department or out in the field¹⁵. ACRRM rural generalists are required to demonstrate that they have maintained the currency of these skills via specific requirements in College's Professional Development Program (PDP). However with the introduction of advanced video conferencing services and options for connectivity, there are emerging support programs in most states where a rural generalist can be supported in the provision of emergency care by specialists and Generalist Emergency doctors (GEMS) in both secondary and tertiary facilities using telehealth video conferencing in real-time (see Queensland Health TEMSU service <https://www.health.qld.gov.au/southwest/docs/media/2014/tems-su-launch.pdf>).

Through the support of highly specialised emergency physicians in larger facilities (ideally, with an awareness of the constraints of the rural environment) the GP is able to receive support on providing the best treatment for the patient with the intention of a better outcome¹⁶. These services can only operate in areas that have the infrastructure to support them. Without adequate download and upload speeds the quality of the clinical

¹³ <http://aths.org.au/wp-content/uploads/old-files/Sarah%20Dods.pdf>

¹⁴ <http://www.tunstallhealthcare.com.au/solutions/products>

¹⁵ <https://www.acrrm.org.au/rural-generalist-medicine>

¹⁶ <https://www.health.qld.gov.au/carunetworks/docs/srrcn-samoh-implementation.pdf>

consultation degrades preventing clinicians being able to use telehealth as a safe way to manage their patient's care.

5. National eHealth program

The federal government has invested heavily in improving the ability to use digital health solutions through a number of eHealth investments that support connectivity. In order for these investments to be realised in rural and remote Australia there needs to be the infrastructure in place that supports the implementation and use of these solutions by rural generalists. The minimum of which would be an internet connection with appropriate bandwidth. Recently the government announced that the national eHealth record system (PCEHR) would be trialled with approx. 1 million patients as an opt-out system (today patients register to get an eHealth record). The opt-out model will put pressure on practices in the trial areas to have the capability to connect to and operate the national eHealth record system, as patients will expected it to be available.

Opportunities

With the right telecommunications infrastructure in place, the following initiatives become possible

- Improved continuity of care for rural patients

Our patients are getting older have an increased likelihood of a chronic disease and can have multiple comorbidities. This increases the complexity of managing their health, involving multiple care providers. With the right infrastructure healthcare professionals can work towards improving integration, collaboration, communication, and information sharing. Supporting continuity of care, coordinated and led by the rural generalist.

- Access to relevant clinical data

Busy rural generalists need to source relevant clinical information quickly to support them in the care of their patients. The rural generalist may be the only local doctor and often provides coverage for both the general practice and the local hospital. With the right infrastructure the rural generalist and patient would have access to

- specialist advice at the time of the consultation.
- best practice guidelines, searchable in real time and
- the patient's health summary or discharge summary with current medications, allergies and problem list from the last treating doctor available for review.

- Ability to use mobile devices

Covering large, isolated areas the rural generalists sees their patients in a multiple of different locations, such as medical centre, home, hospital and with trauma patients it could be any location. The use of mobile devices allows the rural generalist to have access to key information and support available at the point of care.

- Increased rural workforce

Access to technology allows for teaching and education to be delivered in a variety of modalities and at various times to support busy rural doctors living and working in isolated communities. Doctors who feel supported and part of a social network, and are not compromised by their rural location are more likely to stay within their community. In addition the College supports GPs to have a broader scope of practice by being a 'rural generalist' giving job satisfaction from a broader skill set and broader experiences than would be possible in the city.

- Increased health services delivered locally

Telehealth delivered synchronously or asynchronously allows patients to access health services from their home or local health service, reducing the cost, risk and inconvenience of travelling large distances to visit a healthcare provider. The patient can also include their support network which could be the local GP or family members in the consultation if held locally. This could increase the likelihood of patients seeking medical assistance early (if they know they can be treated locally) leading to a reduction in the higher mortality rates experienced in rural communities for a number of health conditions (such as cancer). Or reduce the severity of the condition, by early intervention and reduced waiting times. Such delays in treatment can lead to disabilities such as loss of sight or hearing or a reduced change of survival from cancer.

- Reduction in health costs

By using technology and the required infrastructure to support patient education and self-management, early intervention, appropriate care and co-ordinated care. The health and wellbeing of the patient would improve, there would be confidence in accessing the health services and ultimately reduce the burden and cost on the healthcare services.