# Roundtable 1

22 June 2022

# What are the health care delivery challenges in rural, regional, and remote communities of Northern Australia, that could be assisted by digital technology?

The prevalence of chronic diseases and frailty in Northern Australia pose a significant healthcare challenge. These areas often lack access to specialised medical care and have limited healthcare infrastructure. Digital health technology holds significant promise in addressing healthcare delivery challenges related to chronic diseases and frailty in rural, regional, and remote communities in Northern Australia. By developing and implementing digital health strategies that embrace telehealth, remote monitoring, data sharing, education, and community engagement, it is possible to improve healthcare access and outcomes in these underserved regions.

To address these challenges, potential drivers of change need to be considered. These are factors or catalysts that push, guide, or lead to significant change:

These themes underscore the importance of leveraging digital technology to address healthcare disparities, improve patient outcomes, and enhance the overall healthcare experience in underserved regions of Northern Australia.



# What is required for the development and implementation of potential digital health strategies?

Developing and implementing digital health strategies in rural, regional, and remote areas of Northern Australia can be challenging due to geographical isolation, limited healthcare resources, and unique healthcare needs.

To successfully address these challenges, several key components and considerations are required:

- Infrastructure and Connectivity: Reliable internet connectivity and infrastructure are fundamental for digital health initiatives. Investment in expanding broadband access and mobile network coverage is essential and alternative connectivity solutions such as satellite or telecommunication partnerships may need to be considered.
- Telehealth and Telemedicine: Implement telehealth services that allow patients in remote areas to access healthcare professionals via video conferencing, phone calls, or secure messaging. This would require upskilling of healthcare providers in telehealth technology and protocols.
- Electronic Health Records: Develop and implement EHR systems that enable secure sharing of patient data across healthcare providers and locations user-friendly, compatible with local healthcare systems, and comply with privacy regulations.
- Health Information Exchange: Establish regional or state-wide health information exchanges to facilitate the exchange of patient information between healthcare providers, including hospitals, clinics, and primary care centres.
- Mobile Health (mHealth) and Apps: Create mobile applications and tools for patients and healthcare providers to monitor health conditions, schedule appointments, and access educational resources. Ensure these apps are user-friendly and compatible.
- Workforce Training and Education: Provide training and education for healthcare professionals on digital health technologies, data security, and telehealth best practices to address any resistance to change and promote the benefits of digital health.
- Remote Monitoring: Deploy remote monitoring devices and sensors to monitor patients' vital signs and chronic conditions, especially in remote and Indigenous communities. Ensure culturally sensitive approaches to remote monitoring and patient engagement.
- Privacy and Security: Implement robust data security and privacy measures to protect patient information, comply with relevant regulations, and develop protocols for secure data sharing and access control.

- Community Engagement: Involve local communities and Indigenous stakeholders in the development of digital health strategies to ensure they address cultural and social needs.
   Promote awareness and trust in digital health technologies through community outreach and education.
- Funding and Sustainability: Secure funding from government sources, grants, and private partnerships to support the ongoing development and maintenance of digital health infrastructure. It is important to develop sustainable business models that can support digital health initiatives in the long term.
- Evaluation and Research: Continuously assess the impact of digital health strategies on healthcare outcomes, cost-effectiveness, and patient satisfaction. The use of research findings to refine and improve digital health programs should be integrated.
- Regulatory and Policy Support: Work with regulatory bodies to adapt regulations and policies to accommodate digital health innovations and advocate for policies that support telehealth reimbursement and reciprocity.

By addressing these components and considerations, it is possible to develop and implement effective digital health strategies tailored to the unique challenges and needs of rural, regional, and remote areas in Northern Australia. Collaboration between government, healthcare providers, technology vendors, researchers and local communities is crucial for success.

The primary focus of digital health strategies should emphasise disease prevention. These strategies prioritise the following **success factors**:



**Interoperability:** in the context of technology-enabled integrated care, integration and coordination of healthcare services through technology, to ensure comprehensive and coordinated care.

**Local diagnosis and treatment:** utilise technology to provide healthcare services locally, connecting patients with the appropriate healthcare providers for diagnosis and treatment.



**Patient-centered care:** foster a partnership between healthcare providers and patients through technology, ensuring that care is tailored to individual needs and preferences.



**Continuity of care:** ensure continuity of care through technology-enabled approaches, that includes (1) informational: care based on a patient's historical data and circumstances; (2) management: consistently managing care in accordance with a patient's specific requirements.

Strategy	Description
Leveraging existing resources	Exploring existing resources and funding opportunities, such as government allocations for digital transformation, to avoid reinventing solutions and potentially supporting rural, regional, and remote (RRR) health projects.
Evidence-based insights	Utilising evidence-based insights from white papers and surveys, like the one produced by Optus, to understand the challenges and opportunities in digital health.
Starting with pilot programs	Beginning with small-scale pilot programs, like the one implemented at PA Hospital for chronic diabetes management, to assess and refine digital health solutions before broader implementation.
Place-based planning	Emphasising place-based planning approaches by learning from regions that have successfully implemented digital health initiatives and tailoring strategies to suit local contexts.
Interoperability challenges	Recognising the complexity of achieving interoperability in healthcare systems, especially when dealing with different code sets, data configurations, and the limitations of technology.
Consumer-held records	Considering consumer-held health records as a potential solution to interoperability challenges and to empower individuals to manage their own health information.
Prevention and integrated care	Shifting the focus from managing symptoms to prevention and integrated care, particularly in rural areas where resources and access to care can be limited.
Workforce shortages	Addressing workforce shortages in clinical and allied health professions in RRR areas, which can impact continuity of care and patient-provider relationships.
Telehealth for continuity	Exploring telehealth to provide continuity of care, with a focus on delivering it through local health centres to enhance accessibility.
Whole-person care and prevention	Moving towards an integrated approach to healthcare that considers the whole person, especially for patients with multiple health conditions, and placing a greater emphasis on preventive measures.

**Table 1.** Potential strategies related to the development and implementation of digital health.

# Key challenges

A summary of the key challenges related to healthcare delivery in rural, regional, and remote communities in Northern Australia (Table 2) that can be assisted by digital technology, have been thematically grouped into five overarching themes. These themes underscore the importance of leveraging digital technology to address healthcare disparities, improve patient outcomes, and enhance the overall healthcare experience in underserved regions of Northern Australia.



#### Equity and Accessibility

Healthcare programs and products that can be tailored to the unique characteristics and needs of different locations and communities.



#### Data Driven Delivery

Collection and sharing of patient data regardless of their location, to facilitate remote monitoring and informed decision-making for chronic disease management.



#### **Consumer-Centered Care**

Better integration of healthcare services that empower patients to actively participate in their care. This includes seamless information sharing, improved health literacy, and consumerfriendly digital tools.



#### Information Sharing and Technology Integration

Technological systems and capabilities to provide timely and effective care while addressing privacy concerns, especially in areas with limited access to healthcare facilities.



#### **Collaboration and Transformation**

Partnerships among healthcare providers, communities, and individuals to drive healthcare improvements, learn from successful examples, and work towards a more patient-centered and coordinated healthcare system.

**Table 2.** Key challenges, description, and thematic alignment to healthcare delivery in rural, regional, and remote Australia.

Challenge	Description	Themes
Programs in place	Ensuring that healthcare programs and products can be adapted to specific locations to address the unique needs and challenges of different communities. For example, tailoring chronic disease management programs to suit the demographics and resources of specific regions.	Û.
Remote patient monitoring	The need to collect and transmit patient data regardless of their location to enable remote monitoring. This data can be crucial for informed decision-making, especially for patients with chronic conditions.	
Integration of services	Opportunities for better integration of healthcare services, such as linking primary care, specialist care, and community health services, to provide comprehensive and coordinated care for patients.	

Information sharing	The importance of creating systems that allow patients' healthcare information to be shared seamlessly across different care providers and settings. This can improve continuity of care and reduce the need for patients to repeat their medical history.	
Consumer- centric care	Emphasising the importance of involving consumers (patients) actively in their care, allowing them to store and share their health information through apps or platforms, and empowering them to make informed decisions about their healthcare.	Cree Co
Telehealth enhancement	Leveraging telehealth to review patient data during virtual consultations, making it easier to provide timely and effective care while addressing privacy concerns.	
Health literacy and accessibility	Recognising that not all patients are digitally literate and may have limited access to technology. Addressing this by providing platforms and resources to improve health literacy and ensuring healthcare remains accessible to all.	
Workforce considerations	Understanding the workforce requirements for delivering telehealth- supported models of care, including the need for IT infrastructure and access to information, particularly in remote and rural areas.	
Data-driven services	Utilising data to design and deliver healthcare services efficiently, particularly in remote areas where services can be more expensive.	
Coordinated care	Moving towards a more integrated and patient-centric approach, where different care providers work together seamlessly to provide holistic care, reducing fragmentation in the healthcare system.	
Community- driven change	Recognising that successful healthcare improvements often stem from the collaboration and determination of individual communities and healthcare providers, and learning from exemplars like South West Queensland.	No.
Patient experience	Addressing the challenges patients face when traveling for care, including inadequate travel expectations and reimbursements, which can result in exhausted and less engaged patients.	
Telehealth models	Recognising that effective telemedicine may require a clinician at both ends of the call, particularly for patients with complex healthcare needs.	

Addressing challenges requires a multi-faceted approach that involves investment in infrastructure, data sharing systems, workforce development, and patient education. It also requires collaboration between government agencies, healthcare providers, and local communities to create healthcare solutions that are tailored to the unique needs of rural, regional, and remote Australia. Examples might include:

## Telehealth and Data Availability

- Telehealth has proven to be a valuable tool for providing healthcare services in remote areas. However, it relies heavily on reliable and seamless data connectivity, which can be lacking in many remote regions of Australia.
- Remote patient monitoring requires consistent access to patient data, which can be challenging due to limited internet connectivity and data infrastructure.

<u>Opportunity</u>: Investment in improving digital infrastructure and ensuring that healthcare providers in remote areas have access to the necessary data to provide effective care.

## Interoperability of Health Systems

- The lack of interoperability between different healthcare systems, such as Queensland Health, General Practice providers, and the Aboriginal and Torres Strait Islander Community Controlled Health Sector, leads to fragmented patient information.
- Patients often must repeat their medical history and information to different care providers, which can result in inefficiencies and potential errors in care.

<u>Opportunity:</u> Efforts to implement standardised health information exchange protocols and electronic health records that can be accessed by authorised providers to improve data sharing and continuity of care.

# Lack of Consolidated Patient Data

- To provide holistic and continuous patient-centric care, healthcare providers need access to consolidated patient data, especially for managing chronic diseases.
- The absence of centralised, comprehensive patient records makes it challenging to track and manage patients' health conditions effectively.

<u>Opportunity</u>: Initiatives aimed at creating a unified health data repository should be explored to enable data-driven service design and improve healthcare quality.

## Local Care Models

- Rural and remote areas often have unique healthcare needs and demographics that may not be adequately addressed by standardised care models.
- Local patients may have specific health concerns and diagnoses that require tailored treatment plans.

<u>Opportunity</u>: Developing care models that are responsive to the specific needs of local communities and that involve local input is crucial for providing effective healthcare in regional and remote areas.

# Health and Digital Literacy

• Patients in remote areas may lack the necessary health and digital literacy to effectively engage with specialists and other care providers, particularly in telehealth settings.

<u>Opportunity</u>: Education and training programs should be implemented to improve patient understanding of healthcare options, digital tools, and how to effectively communicate with healthcare professionals remotely.