Connecting Far North Queensland

The role of digital health in supporting people-centered disability and rehabilitation services

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NARDHC
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Synopsis

Australia's healthcare system is increasingly shifting towards a more people-centered approach, where patient needs and preferences are prioritised, with a growing emphasis on interprofessional collaboration – such as models of care. This is particularly evident in disability and rehabilitation services, where different healthcare professionals work together to deliver coordinated care tailored to each individual person.

These models depend on seamless collaboration between healthcare professionals, community organisations, and allied health providers. However, outdated electronic medical record (eMR) systems often act as barriers rather than enablers, reinforcing system-centric processes that hinder communication, collaboration, and continuity of care.

This issue is particularly pronounced in rural and remote areas, where fragmented service delivery and workforce shortages already present significant challenges. Without integrated digital systems, healthcare providers are forced to rely on manual workarounds, increasing administrative burden and the risk of communication breakdowns.

This document explores the challenges posed by ageing eMR systems in Australia, their impact on disability and rehabilitation services, and the steps required to align digital health infrastructure with the needs of both providers and patients in the context of Far North Queensland (FNQ).

Key Messages

People-centered disability and rehabilitation care relies on seamless collaboration
Digital health systems should support, rather than hinder, interprofessional teamwork between healthcare providers, community organisations, and allied health professionals.

Outdated eMR systems are a barrier to effective care
Many existing systems prioritise administrative processes over patient-centered workflows, leading to inefficiencies, increased workload, and data silos.

Rural and remote areas face unique digital health challenges
Workforce shortages, fragmented services, and connectivity limitations make digital integration even more critical for equitable access to disability and rehabilitation services.

Strategic investment in digital infrastructure is essential
Upgrading or replacing outdated eMR systems should be a priority, ensuring they align with contemporary disability and rehabilitation service needs and future innovations like AI-driven decision support.

Collaboration, training, and policy support are key to success
Clinicians, disability and rehabilitation professionals, and patients must be involved in co-designing digital solutions. Workforce upskilling and sustained policy commitment are crucial for long-term adoption.

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The Problem

When technology hinders, not helps

In Australia, healthcare services - particularly those in disability and rehabilitation - are moving towards more integrated, collaborative care models that bring together hospitals, community health services, and primary care providers. However, legacy eMR systems are often a major roadblock to these efforts and the lack of integration between systems makes it difficult to capture and reuse health data efficiently.

System-centric design

Many existing eMR systems are designed to serve the needs of the organisation that implements them, rather than the broader healthcare ecosystem. As a result, these systems often prioritise administrative workflows, billing, and data storage over people-centered workflows that facilitate interdisciplinary collaboration. This creates inefficiencies, as clinicians and allied health professionals must work around the system rather than within it.

Lack of interoperability

The inability of different eMR systems to communicate with one another is a widespread issue across Australia's healthcare landscape. Many hospitals and health services operate on different digital platforms that are not designed to exchange data. Information recorded in one system often cannot be seamlessly transferred to another, resulting in redundant data entry and potential inconsistencies in electronic health records. This increases the administrative burden on healthcare providers and introduces risks to clinical safety and care quality. Incomplete or inaccurate data can lead to misinformed clinical decisions, ultimately compromising patient outcomes.

This lack of interoperability means that:

- Discharge summaries and referrals must be manually printed, faxed, or mailed.
- Clinicians do not have real-time access to patient histories, leading to duplicated tests, missed follow-ups, and delays in care.
- Patients may need to repeat their medical history at each point of care, reducing efficiency and patient satisfaction.

While work on national initiatives such as My Health Record and Sparked - Australian Core Data for Interoperability (AUCDI) is changing the approach to health data to improve national interoperability, many local and regional health services still face significant barriers to integration.

Barriers to collaboration

For interprofessional rehabilitation teams to function effectively, communication must be seamless. However, outdated eMR systems often make collaboration difficult rather than facilitating it. These barriers can be broadly categorised into three main challenges:

Limited system connectivity

Many healthcare organisations operate on different eMR platforms that lack interoperability, meaning they are unable to exchange patient data in real time. This is particularly problematic in disability and rehabilitation services, which rely on a coordinated approach involving multiple providers:

- Hospitals and specialist clinics that manage acute and post-surgical rehabilitation.
- Primary care providers (GPs, community health centres) that offer long-term follow-up and preventive care.
- Allied health professionals (physiotherapists, occupational therapists, speech pathologists, etc.) who deliver critical disability and rehabilitation services.
- Aged care and disability support services that provide ongoing functional and social support.

Implication - Without system connectivity, patient information is siloed within individual organisations, making it difficult to track progress, adjust treatment plans, and ensure continuity of care. Clinicians are often forced to rely on manual data transfers, such as printing records, faxing documents, or making phone calls, which are time-consuming and prone to errors.

Inefficient communication pathways

When digital systems do not support direct communication between healthcare providers, critical information exchange becomes fragmented. Common challenges include:

- Delayed access to patient histories and treatment updates, leading to duplicated tests and inconsistent care plans.
- Reliance on outdated communication methods, such as fax or postal mail, which slow down decision-making and can result in lost or incomplete records.
- Breakdowns in referral processes, where specialists or allied health providers may not receive timely or sufficient information to guide treatment.

Implication - This lack of seamless communication forces healthcare professionals to act as intermediaries, manually relaying patient information between services. In a busy clinical environment, this increases the risk of miscommunication, errors, and oversight—ultimately impacting patient care.

Restrictive data access

Even within a single organisation, eMR systems often impose restrictions on data access that prevent key team members from viewing or updating relevant patient information. Some systems are designed with role-based access controls that inadvertently limit collaboration, such as:

- Allied health professionals being unable to enter or retrieve important clinical notes.
- Community support providers lacking visibility on disability and rehabilitation progress and care plans.
- Patients having restricted access to their own medical records, reducing their ability to participate in shared decision-making.

Implication - These barriers create inefficiencies and contribute to care fragmentation, where different providers work in isolation rather than as a cohesive team. Without a shared digital space for collaboration, care coordination becomes heavily dependent on individual effort rather than being systemically supported.

> *Instead of reinforcing teamwork, legacy systems contribute to siloed care, increasing the risk of fragmented or inconsistent treatment plans.*

Why this Matters

The impact on disability and rehabilitation services

An ineffective eMR system is not just an administrative inconvenience - it actively undermines people-centered care that relies on shared decision-making, real-time updates, and collective problem-solving. The consequences include:

- **Increased workload for healthcare providers:** Manual processes take time away from patient care and contribute to clinician burnout.
- **Reduced efficiency in healthcare delivery:** Delays in accessing critical patient information can lead to suboptimal decision-making and unnecessary duplication of services.
- **Higher risk of communication breakdowns:** When clinicians rely on individuals to manually ensure continuity of care (e.g., faxing referrals, mailing records), mistakes and delays are more likely to occur.
- **Worsened health outcomes:** When collaboration is difficult, patients - particularly those with complex care needs - may experience gaps in treatment, incorrect treatments, medication errors, or missed follow-ups - leading to poorer health outcomes.

> *Given these risks, it is crucial that digital health systems evolve to support, rather than obstruct, modern models of care.*

Case Study

Interoperability challenges in rural and remote disability and rehabilitation services

Covering one of Australia's most geographically isolated areas, the Torres and Cape Hospital and Health Service (TCHHS) provides care to around 26,000 people across 50+ communities, many of which are accessible only by air or sea. This dispersed population relies on a network of hospitals, community health centres, Aboriginal Medical Services (AMS), and fly-in-fly-out specialists to deliver healthcare - including disability and rehabilitation services for people recovering from stroke, injury, or chronic conditions.

Limited system integration between health services

In the Torres and Cape region, different healthcare providers, including Queensland Health facilities, Aboriginal Community-Controlled Health Organisations (ACCHOs), private GPs, and allied health professionals, often use different eMR systems that do not communicate with each other. For example:

- Queensland Health hospitals and clinics use the integrated electronic Medical Record (ieMR) for patient management.
- Some Aboriginal Medical Services (AMS) and remote GP clinics use Communicare[1] or Best Practice - which do not seamlessly integrate with the ieMR.
- Allied health disability and rehabilitation services rely on manual referral processes, including faxed or emailed documents, rather than digital data exchange.

This lack of system interoperability means that a patient receiving rehab in a remote community clinic may have their records stored in a different system than the one used by a hospital in Cairns or Townsville, making it difficult to track progress and adjust treatment plans efficiently.

Reliance on manual and paper-based communication

Because of these integration gaps, continuity of care depends heavily on manual processes such as faxing discharge summaries from hospitals to local clinics, printing and posting referrals for disability and rehabilitation services, or relying on individual clinicians to summarise medical histories when referring patients.

[1] Communicare is a comprehensive electronic health record that supports multi-disciplinary health services, primary health providers, and community services throughout Australia.

For example:

If a stroke survivor from Thursday Island is transferred to Cairns Hospital for acute care and later discharged back to a community clinic in the Cape, their disability and rehabilitation care plan may not be immediately visible to local allied health teams due to system fragmentation.

Instead, continuity of care relies on the hospital completing a paper-based discharge summary, the community clinic manually entering rehab notes into a separate system, and local providers needing to call or email the hospital for further details - delaying treatment.

Impact on disability and rehabilitation services

The lack of a fully interoperable digital health system in means that disability and rehabilitation services often experience delays in treatment adjustments (i.e. as rehab providers may not have real-time access to hospital discharge information), duplication of assessments and tests increasing workload and costs, and higher reliance on patients and families to relay medical histories - which is particularly challenging for older patients, those with cognitive impairments, or people for whom English is a second language.

What can be done?

To improve interprofessional collaboration in rural and remote Queensland, investment in digital health infrastructure must prioritise interoperability. Potential solutions include:

- Expanding My Health Record integration to ensure that all providers - including AMS, rural hospitals, and allied health services - can upload and access disability and rehabilitation records.
- Upgrading existing systems to allow real-time data exchange between Queensland Health facilities, private clinics, and community health organisations.
- Developing a state-wide disability and rehabilitation patient management platform that enables secure, role-based access for hospitals, GPs, allied health professionals, and telehealth teams.

Finding the Right Solution

A strategic approach

Addressing interoperability challenges in rural and remote disability and rehabilitation services requires a strategic, multi-stakeholder approach that ensures care and support services are designed to support collaboration, continuity of care, and people-centered service models.

A well-planned approach involves stakeholder engagement, system evaluation, strengthening local workforces, and long-term investments.

Engaging stakeholders: Co-designing the future system

To ensure that any digital health upgrade meets the needs of clinicians, patients, and healthcare organisations, the first step requires meaningful engagement with key stakeholders[2] in a co-design process. This involves:

- Consulting healthcare professionals across different disciplines including clinicians, allied health providers, AMS, and telehealth teams, to understand the challenges they face when using existing systems.
- Including patient and carer perspectives, particularly those in remote communities, to ensure digital solutions enhance, not hinder, their healthcare journey.
- Involving IT specialists, software vendors, and policy makers to determine what is technically feasible within Queensland Health's digital roadmap.

Evaluating existing systems: Upgrade vs. replacement

Once stakeholder needs are identified, the next step is assessing whether the current electronic eMR system can be upgraded to incorporate interoperability features or replaced with a more integrated user-friendly system that facilitates real-time data exchange.

Key considerations in this evaluation include:

- **Interoperability:** Can the system exchange data across hospitals, community clinics, and disability and rehabilitation services?
- **Usability:** Is it intuitive and efficient for clinicians, or does it create administrative burden?

[2] Healthcare professionals: Doctors, allied health providers, nurses, and rehabilitation specialists who use the system daily; Community organisations: Aged care services, disability support services, and other stakeholders who require access to shared records; Patients and consumers: Ensuring the system enhances person-centred care and improves their experience of the healthcare system.

- **Connectivity in remote areas:** Can the system function reliably in low-bandwidth regions, or does it require offline data-entry options?
- **Security and privacy:** Does it comply with Australian data protection regulations and allow secure information sharing?

For example:

A Queensland-specific challenge is that hospitals and community clinics often operate on outdated digital systems that may not support seamless integration with larger networks like Queensland Health's ieMR. This means the decision to upgrade vs. replace must factor in technical constraints, funding availability, and long-term sustainability.

Short-term workarounds while long-term solutions are implemented

While working towards a longer-term digital health solution, it is essential to explore interim strategies that improve collaboration. Some potential workarounds include:

- **Digital communication platforms:** Using secure messaging or clinical communication apps (such as HealthLink or MedicalDirector[3]) to facilitate real-time information sharing.
- **Standardised workflows:** Developing agreed-upon protocols to ensure that critical patient information is consistently documented and shared.
- **Middleware solutions:** Implementing software that bridges the gap between different eMR systems to enable better interoperability.

For example:

Cairns and Hinterland Health Service has piloted the use of secure electronic referrals between hospitals and community clinics, reducing paperwork and improving response times. Expanding such initiatives could provide an interim solution while waiting for broader digital health upgrades.

Investing in a long-term, integrated digital solution

Investing in a long-term, integrated digital health solution is critical to overcoming the challenges posed by fragmented systems. The goal is to create a unified digital infrastructure

[3] HealthLink is a secure messaging network that integrates with MedicalDirector Clinical to allow healthcare providers to share patient information. Both HealthLink and MedicalDirector are concerned with the security and privacy of patient data.

that can be adapted to the specific needs of rural and remote communities while aligning with state and national digital health priorities.

→ *Adopting a state-wide interoperable system*

To support a connected healthcare system in Queensland, the state must adopt a state-wide interoperable health information platform that allows different providers to share and access patient data seamlessly. The ideal solution would enable real-time data exchange across hospitals, community clinics, general practices, allied health services, and ACCHOs, and standardised medical records that allow all providers to access up-to-date patient information, ensuring timely and informed decision-making.

For example:

- Queensland Health's ieMR (Integrated Electronic Medical Record) could serve as the central system for public hospitals, with integration options for private providers, including allied health professionals and Aboriginal health services. This approach would enable remote health providers to access the same information used by urban hospitals and specialists, improving patient management and outcomes.

- Incorporating My Health Record (MHR) as a national platform that allows patients and clinicians to access and update health information remotely would support this vision. The platform could bridge the gap between the public and private healthcare sectors, creating a more integrated network for Queensland residents in regional and rural areas.

→ *Building tailored digital health solutions for remote communities*

Rural and remote communities in Queensland face unique challenges, including poor internet connectivity and geographical isolation. Digital health solutions must account for these barriers by incorporating specific features that enhance accessibility and usability such as:

- **Offline functionality:** Systems should allow clinicians to record patient data without requiring constant internet access. These records can be synchronised once the provider is back in a location with reliable connectivity.
- **Telehealth-enabled care:** To expand the reach of specialist services, telehealth platforms should be integrated directly into digital health records, allowing real-time consultations, digital assessments, and the remote monitoring of patients. This would be particularly valuable for patients in isolated communities where travel to urban centres is difficult and costly.

For example:

Telehealth-enabled solutions in the Queensland's Telehealth Program, has allowed rural and remote patients to access specialist consultations without leaving their communities. Building this capacity into the core digital health infrastructure would ensure a more streamlined experience for patients and providers alike.

→ *Integration with First Nations health systems*

One of the most important aspects of a long-term solution is ensuring that the healthcare needs of Aboriginal and Torres Strait Islander communities are addressed. This requires the integration of digital health systems with culturally appropriate care models used by AMS and other community-controlled health organisations.

A truly integrated solution would allow for:

- **Culturally competent data collection:** Incorporating local and culturally specific health indicators and using systems that respect community protocols and preferences in healthcare delivery.
- **Connection between AMS and public health systems:** Enabling smooth referral pathways between remote clinics, urban hospitals, and allied health services, so that Indigenous patients receive coordinated, culturally sensitive care.

For example:

The TCHHS has developed a strategic plan (2023 – 2027) that emphasises strengthening primary and public healthcare services, enhancing health and development services, and providing care closer to home. This plan aligns with the broader objectives of the Queensland Government and highlights the importance of culturally appropriate and integrated healthcare services. Digital systems should support these initiatives by allowing AMS providers to share patient data securely with mainstream services while maintaining control over their own clinical workflows and protocols.

→ *Ensuring scalability and flexibility for the future*

As healthcare models adapt, emerging technologies become more prevalent, and the population's needs shift, digital health infrastructure must be prepared to grow and evolve alongside these changes.

Key considerations include:

Integration with emerging technologies

Services must be able to incorporate emerging technologies to optimise patient care, particularly with the increasing focus on AI-driven decision support tools, rehabilitation robotics, and virtual disability and rehabilitation programs. These technologies can improve outcomes for patients with complex needs, such as those recovering from surgery, stroke, or spinal cord injuries, by offering tailored disability and rehabilitation programs and real-time data analysis.

- **AI integration:** AI-driven tools could support disability and rehabilitation clinicians by analysing patient progress, adjusting treatment plans in real time, or offering virtual physiotherapy sessions to complement face-to-face visits. This would be especially

beneficial in rural and remote Queensland, where access to disability and rehabilitation professionals can be limited.

- **Robotic rehabilitation:** Consider incorporating robotic assistance in physical rehabilitation, particularly for patients requiring intensive, repetitive movement therapy, such as those recovering from neurological conditions. Digital health solutions should be able to interface with these technologies to track and assess patient progress over time.
- **Virtual disability and rehabilitation platforms:** As remote access to healthcare becomes more important, virtual disability and rehabilitation platforms that deliver services remotely, particularly in regional or isolated communities, can support patients throughout their recovery journey.

Interoperability across multiple platforms

Services require the interoperability of digital health systems to effectively communicate across diverse platforms, such as physiotherapy software, telehealth services, eMRs, and patient monitoring systems. This ensures a seamless flow of data, avoiding duplication and ensuring continuity of care.

- **Data exchange and integration:** Ensure that disability and rehabilitation systems are able to interface with other healthcare platforms to enable the efficient sharing of patient data across clinicians, community services, and hospitals. This could include sharing progress reports, diagnostic images, or mobility assessments across systems.
- **Adaptable interfaces:** As disability and rehabilitation services scale, the digital health system must allow easy integration with new platforms, such as mental health services, social care services, and family members' portals, to provide holistic care for patients in their disability and rehabilitation journey.
- **Data analytics capabilities:** Implementing systems with strong data analytics and decision support tools can help healthcare providers make more informed decisions. Predictive analytics could be used to identify patients at risk of adverse events (e.g., complications post-surgery, hospital readmission), while population health management tools could guide public health interventions in remote communities.

Capacity for remote monitoring and telehealth

Disability and rehabilitation services, especially in rural and remote Queensland, can benefit greatly from remote monitoring and telehealth solutions. These technologies enable healthcare providers to monitor patients' progress, offer disability and rehabilitation sessions, and provide support at a distance.

- **Remote monitoring tools:** Digital systems should integrate with wearable devices that track physical activity, movement, or progress, allowing clinicians to monitor patients' disability and rehabilitation from afar. For example, wearable sensors could track joint movement, gait, or muscle activity, providing real-time data for disability and rehabilitation specialists.

- **Telehealth for disability and rehabilitation:** Support for telehealth platforms is vital to provide disability and rehabilitation services to patients who are geographically isolated. Virtual consultations, therapy sessions, and check-ins via video can help bridge the gap for patients who may not have regular access to in-person disability and rehabilitation due to location or mobility challenges.

Supporting population health management and public health initiatives

As Queensland's population ages and more people seek disability and rehabilitation services due to chronic conditions, injuries, or surgeries, population health management tools become increasingly essential. Digital health systems can help providers target interventions based on population needs, identifying at-risk individuals who may benefit from early disability and rehabilitation or preventative care programs.

- **Predictive analytics:** Implement predictive analytics tools that help clinicians identify patients at risk of long-term disabilities or complications from their injuries. Early intervention and tailored disability and rehabilitation plans could significantly reduce the need for more intensive treatments in the future.
- **Chronic disease management:** Many disability and rehabilitation patients have chronic conditions like arthritis, diabetes, or cardiovascular disease. Digital systems should support chronic disease management programs that monitor these conditions while offering integrated disability and rehabilitation services for patients.
- **Remote community health interventions:** Use population health management tools to target public health interventions in remote communities, where access to disability and rehabilitation services may be limited. This could include virtual group therapy sessions, educational resources on injury prevention, or self-management programs for patients.

User-friendly and accessible systems

For digital health systems in disability and rehabilitation services to be effective, they need to be user-friendly and easily accessible by healthcare professionals and patients alike. Many disability and rehabilitation patients may have limited digital literacy, especially older adults or individuals with disabilities. The system should be designed with their ease of use in mind.

- **Intuitive interfaces for clinicians and patients:** The user interface should be simple and intuitive for disability and rehabilitation professionals and patients to navigate. A clinician should be able to easily enter and retrieve data on patient progress, while patients should be able to access their disability and rehabilitation plans, goals, and progress reports without difficulty.
- **Mobile accessibility:** Given the rural and remote nature of Queensland, ensuring that systems are optimised for mobile access is crucial. Disability and rehabilitation clinicians in remote locations should be able to access patient data, provide remote consultations, and communicate with patients via mobile devices.

Data security and privacy

As digital disability and rehabilitation services scale and integrate with more devices and platforms, robust data security and privacy measures must be maintained. Protecting sensitive patient information is paramount to maintaining trust in digital health solutions.

- **End-to-end encryption:** All patient data exchanged through digital disability and rehabilitation systems must be encrypted to protect confidentiality and privacy, particularly for vulnerable patients who may be dealing with sensitive health issues.
- **Compliance with Australian Privacy Laws:** Disability and rehabilitation systems must comply with the Australian Privacy Principles (APPs) to ensure that patient data is managed securely and responsibly. Ensuring compliance with the Healthcare Identifiers Act 2010 and My Health Records Act 2012 will also be crucial for data sharing.

Continuous training and support for disability and rehabilitation professionals

To optimise the effectiveness of digital health solutions in disability and rehabilitation services, ongoing training and technical support are essential. As technology evolves and new tools are integrated, disability and rehabilitation professionals need to be equipped with the knowledge to use these tools effectively.

- **Professional development programs:** Regular training programs should be available to upskill disability and rehabilitation professionals on the latest digital tools and technologies, such as telehealth platforms, remote monitoring devices, and AI-driven decision support systems.
- **Technical support:** Provide continuous, readily accessible technical support for healthcare providers using digital systems. This ensures that any issues with the system, especially in remote areas with limited IT support, can be addressed quickly to minimise disruption in patient care

The Need for Systemic Change

Looking beyond individual organisations

In the context of disability and rehabilitation services, addressing challenges in digital health systems requires looking beyond the boundaries of individual organisations. While many healthcare providers have embraced digital health solutions, the lack of system-wide integration and collaboration remains a significant barrier to delivering effective, people-centered care.

The transformation needed, goes beyond upgrading isolated systems or making adjustments within specific healthcare organisations; it requires a holistic, systemic approach to connected care that promotes collaboration, interoperability, and shared goals across the entire healthcare ecosystem.

The importance of system-wide interoperability

For digital health solutions to truly improve patient care, they must be able to communicate seamlessly across different systems and organisations. In Queensland, healthcare services - especially disability and rehabilitation services - are often delivered by multiple organisations with varying levels of digital sophistication. Public hospitals, private disability and rehabilitation providers, general practitioners, allied health services, and community care providers all use different systems to manage patient data. The lack of interoperability between these systems creates barriers to effective collaboration and continuity of care.

A systemic approach must involve the standardisation of data formats, protocols, and interfaces across the healthcare sector, ensuring that patient data can be easily shared and accessed regardless of where care is being provided. This requires collaboration between different healthcare providers, government bodies, technology developers, and policymakers to develop common data standards and communication frameworks that facilitate the secure exchange of health information. Without interoperability, patients often experience fragmented care, particularly in rural and remote regions where they may need to navigate between multiple service providers.

Collaborative care models for rural and remote areas

The need for systemic change becomes particularly critical in rural and remote areas of Queensland, where access to healthcare services is often limited. In these regions, patients frequently rely on a mix of local healthcare providers, telehealth services, and outreach programs to receive care. A lack of coordination between these services can lead to delays in treatment, duplication of efforts, and fragmented patient experiences.

Disability and rehabilitation services in rural Queensland, for example, often require a combination of physical therapy, occupational therapy, and psychological support. These

services may be provided by different organisations, but without an integrated digital health platform, care can become disjointed. A collaborative care model, supported by shared digital health tools, can ensure that all relevant healthcare providers are aware of a patient's disability and rehabilitation plan, progress, and needs, regardless of where the patient receives care.

Systemic change requires breaking down organisational silos and promoting a more collaborative, coordinated approach. This could be facilitated by the introduction of integrated care pathways, where digital systems connect disability and rehabilitation specialists, general practitioners, allied health providers, and patients in a unified digital ecosystem. By sharing patient data across multiple organisations, healthcare professionals can deliver coordinated, timely, and patient-centered care.

Addressing health inequities and promoting equity in digital health access

A key driver of systemic change is the need to address health inequities and ensure that digital health solutions are accessible to all populations, particularly those in disadvantaged or remote areas. The digital divide remains a significant issue, with many rural and remote communities facing barriers to digital access, such as limited internet connectivity, lack of digital literacy, and insufficient access to the necessary devices.

A systemic approach to digital health transformation must take into account these inequities and ensure that people are not left behind. This may involve:

- **Investing in infrastructure**: Expanding internet access and improving the availability of digital devices in rural and remote areas is essential. Without reliable internet connections and appropriate devices, patients and healthcare providers cannot fully utilise digital health solutions, including telehealth and remote monitoring.
- **Training and support**: Digital literacy programs are crucial for both patients and healthcare providers, particularly in rural areas. Ensuring that all stakeholders are comfortable and capable of using digital health technologies is a critical component of creating a more equitable healthcare system.
- **Community involvement**: Engaging First Nations communities in the design and implementation of digital health solutions ensures that these systems are culturally appropriate, and that they reflect the specific needs and preferences of these communities. This is particularly important in disability and rehabilitation services where traditional healing methods may need to be incorporated alongside mainstream clinical approaches.

Policy and governance: leading systemic change

To achieve a truly systemic transformation in the FNQ digital health landscape, strong leadership is required, and clear policies, regulations, and governance structures must be put in place to guide the implementation of digital health solutions and ensure that they align with the broader goals of healthcare reform.

Key actions to drive systemic change would include:

- **Creating a digital health strategy for FNQ:** This strategy should set out clear objectives for interoperability, data standards, workforce development, and infrastructure.
- **Policy alignment:** Policies and funding models should align with the goals of integrated, people-centered care.
- **Regulatory oversight:** Implementing frameworks for the secure exchange of health data, ensuring that patient privacy and confidentiality are maintained, and monitoring the effectiveness of digital health solutions.

A focus on continuous improvement and adaptation

Lastly, achieving systemic change requires a commitment to continuous improvement and adaptation. The healthcare landscape is dynamic, and digital health solutions must be designed with the flexibility to evolve alongside changes in healthcare practices, emerging technologies, and shifting patient needs. Continuous evaluation of digital health systems, feedback from stakeholders, and adaptation to new evidence and technologies are essential for maintaining the relevance and effectiveness of these solutions.

For disability and rehabilitation services, this may mean regularly updating systems to incorporate new disability and rehabilitation technologies, such as virtual reality disability and rehabilitation tools, robotic disability and rehabilitation devices, or new AI-driven decision support systems. It also requires ongoing professional development to ensure that the workforce is equipped to use the latest digital health technologies effectively.

Conclusion and Next Steps

Aligning digital health systems with people-centered disability and rehabilitation care is critical to improving patient outcomes, enhancing interprofessional collaboration, and reducing administrative burdens on healthcare providers. However, outdated eMR systems continue to hinder effective communication and coordination, particularly in rural and remote areas where fragmented service delivery already presents significant challenges.

To truly support a collaborative, people-centered approach, digital infrastructure must evolve to facilitate seamless data sharing, interoperability, and user-friendly workflows that reinforce - rather than obstruct - disability and rehabilitation service models. Investing in long-term, integrated digital solutions is not just a matter of technological advancement; it is a fundamental requirement for ensuring quality, accessible, and equitable disability and rehabilitation services across Australia.

Recommendations

To address these challenges and align digital health systems with contemporary disability and rehabilitation care models, we recommend the following actions:

Implement interoperable digital health solutions

- Prioritise the development and adoption of eMR systems that integrate across healthcare providers, community organisations, and allied health services.
- Ensure these systems are capable of real-time data sharing while maintaining privacy and security standards.

Upgrade or replace ageing eMR systems

- Conduct a sector-wide review of current digital health infrastructure, particularly in rural and remote disability and rehabilitation services.
- Develop a transition strategy for upgrading or replacing legacy systems to improve efficiency and reduce administrative burden.

Embed people-centered design in digital health systems

- Ensure that new systems are designed with direct input from disability and rehabilitation clinicians, allied health professionals, and patients.
- Focus on usability, workflow integration, and reducing duplication of effort in patient record management.

Enhance digital literacy and workforce training

- Provide targeted training for healthcare professionals to maximise the benefits of digital tools in disability and rehabilitation settings.
- Support digital upskilling initiatives, particularly for rural and remote workforce teams.

Leverage emerging technologies to support disability and rehabilitation care

- Explore the use of AI-driven decision support, predictive analytics, and remote monitoring tools to improve patient outcomes.
- Invest in scalable digital platforms that can adapt to future advancements in disability and rehabilitation models of care.

Strengthen policy and funding support for digital health in disability and rehabilitation

- Advocate for sustained government investment in digital health infrastructure tailored to disability and rehabilitation services.
- Align state and national digital health strategies with the needs of disability and rehabilitation providers, particularly in underserved communities.

Call to Action

Healthcare organisations and providers

Advocate for digital health solutions that support people-centered disability and rehabilitation care. Engage in stakeholder discussions and push for systems that prioritise integration and usability.

Policymakers and health leaders

Invest in interoperable, scalable digital infrastructure that aligns with evolving models of care. Ensure that digital health policies and funding frameworks support long-term, sustainable change.

Technology developers and digital health vendors

Design eMR systems and digital tools that meet the needs of disability and rehabilitation providers and patients. Prioritise user-friendly, interoperable solutions that enhance - not hinder - collaborative care.

Clinicians and allied health professionals

Participate in digital health initiatives and upskilling opportunities to maximise the benefits of emerging technologies. Provide feedback on system usability and advocate for improvements.

Researchers and academics

Conduct further research into digital health adoption in disability and rehabilitation services, particularly in rural and remote settings. Contribute evidence-based insights to guide policy and practice improvements.