

# Interprofessional, student-assisted clinics: a solution for neurological rehab in remote Queensland?

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## Background

There are no dedicated rehabilitation services for people with neurological or ageing conditions in North West Queensland, with the closest specialised services approximately 1000km away on the East coast. This is in spite of there being an increasing burden of disease of neurological and ageing conditions both nationally and globally. There are current and future workforce challenges which provide barriers for the implementation of rehabilitation services. Firstly, few local staff have the capability or capacity to provide specialist, intensive rehabilitation services or to support student placements and secondly, students wishing to undertake training in neurology must do so in cities or major regional centres. North West Community Rehab, an interprofessional, teaching neurological rehab service, was developed to provide a solution to these service delivery and workforce issues.

## Context

North West Queensland encompasses predominantly mining, pastoral, fishing and natural resource communities as depicted in Figure 1. Health and education boundaries vary depending on organisation, however North West Community Rehab prescribes to no specific geographic borders. Mount Isa is the major referral hospital (80 beds) in the 300 000 km<sup>2</sup> region<sup>1</sup>. This secondary level hospital receives transfers from the primary care facilities, Multi Purpose Services and remote hospitals in the region, and has the capacity, through the Royal Flying Doctor Service, to transfer emergency patients to a tertiary facility in Townsville or Brisbane.

**Figure 1** Approximate catchment area of North West Community Rehab

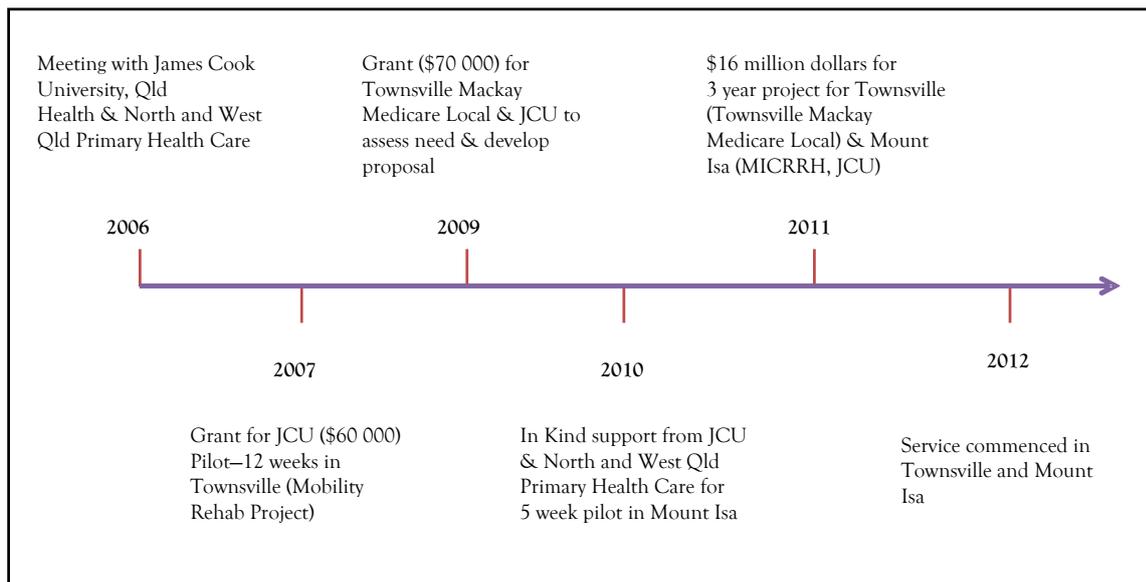


Allied health services in Mount Isa are provided predominantly by Mount Isa Hospital, private practices, and what was known as North and West Queensland Primary Health Care—now absorbed into the Central & North West Queensland Medicare Local. Access to physiotherapy, occupational therapy and speech pathology services for adults with no out-of-pocket expenses is limited. Outreach visiting services, utilising a hub and spoke model, are provided to the many remote communities and towns in the region on a monthly basis.

Regionally there is a high burden of disease. Census figures state 2.45% (896 people) of the population identified as having a profound or severe disability requiring assistance with self-care, mobility or communication<sup>2</sup>, 7.8% are aged 65 year or older and 21.1% identify as Aboriginal or Torres Strait Islander<sup>3</sup>. It is widely known that older people and Indigenous people have a higher burden of disease.

North West Community Rehab is based in Mount Isa. It is a collaborative project between the Mount Isa Centre for Rural and Remote Health (James Cook University), Central and North West Queensland Medicare Local and North West Hospital and Health Service. Funded under the National Partnerships Agreement, the service was established in Mount Isa, Queensland in 2011 as a result of two pilot projects in Townsville and Mount Isa. Refer to Figure 2 for a timeline. A similar year round service was also funded in Townsville for northern Queensland.

**Figure 2 Time line of North West Community Rehab implementation**



Community rehab in northern Queensland gained momentum in 2007. Educators and service providers identified a significant gap in available services, health professionals to provide them and consequently teaching opportunities, for people with neurological or ageing conditions. From this, a series of collaborative projects were undertaken in Townsville and Mount Isa by Mount Isa Centre for Rural and Remote Health, James Cook University, Queensland Health Mount Isa Health District, North & West Queensland Primary Health Care (now Central and North West Queensland Medicare Local) and Townsville General Practice Network (now Townsville Mackay Medicare Local). The ‘Mobility Rehabilitation Project’<sup>4</sup>, conducted in Townsville in 2007, trialed a range of innovative programs over a three month period. Participants from North West Queensland were involved in this service highlighting the overwhelming unmet need for rehabilitation in this region.

Commencing in 2009, a feasibility brief<sup>5</sup> for the development of a high quality, sustainable and responsive community rehabilitation service for people with neurological conditions or older people living in regional, rural, remote and Indigenous communities in northern Queensland, including Mount Isa and North West Queensland, was developed. A subsequent funding submission to government was made.

In 2010, concurrently to the feasibility assessment, the collaborating organisations, with Mount Isa Centre for Rural and Remote Health, conducted a successful five week pilot in Mount Isa<sup>6</sup>. The Mobility Rehabilitation Project design was tailoring to meet the needs of the unique context of the North West.

The Commonwealth Government Department of Health and Ageing, through Queensland Health (National Partnership Agreement) funded the Mount Isa Centre for Rural and Remote Health to deliver the North West Community Rehab project. Townsville Mackay Medicare Local was also funded to provide a year round service in Townsville for northern Queensland. Funding will continue to enable service provision up to June 2014. Project deliverables include providing at least ten weeks of neurological rehabilitation services each year and the construction of a purpose built facility, which can be used as an infrastructure resource in the region.

### Project model in 2012

The aim of the North West Community Rehab project is to deliver an innovative community based rehabilitation service in the North West Queensland region for people with neurological and ageing conditions, building upon the foundations laid in the pilot project. Core to achieving these outcomes, is having a three pronged approach to service delivery, education and research, as depicted in Figure 3, namely:

1. A student assisted interprofessional rehabilitation service that provides innovative, evidence based services for prevention, early intervention, post discharge (when possible) and long term follow up for people with neurological or ageing conditions
2. Interprofessional, vertically integrated education to build the capacity of the current generalist and future workforce in North West Queensland
3. Continuous improvement and further innovation through high quality research

Figure 3 Service Model



The project model is built around a series of key principle which underpin the clinical, education and research arms. These principles are:

- participants of the service are central to the process of goal setting. They are engaged in learning to self-manage using resources and networks from within and outside their community
- participants of the service are recognised for their contribution to the education of current and future North West workforce
- family members and carers are included according to each participant’s preference as long as the safety of other participants is not compromised
- services are designed to be:
  - accessible to all, irrespective of religion, culture or economic situation

- flexible to address the needs of people from outback North West Queensland, particularly Indigenous people
- tailored to the unique context of rural and remote North West Queensland
- provided at no cost to the participant
- services are evidence based and incorporate community rehabilitation core competencies
- services are linked with each participant’s local health services, health service providers and community networks and facilities; and
- services are person and carer focused, widening the range of services that may be integrated into the rehab program such as pharmacy, podiatry and social work.

North West Community Rehab commenced its first period of service delivery in Mount Isa and Cloncurry in March 2012. The scope of the project was capped at fifteen weeks (comprising one ten week block and one five week block) of physiotherapy and occupational therapy services for adults.

Over the fifteen weeks, the project provided full time clinical education placements for physiotherapy and occupational therapy students and upskilling for local and visiting physiotherapists and occupational therapist. Over this time it also extended to include podiatry, pharmacy and speech therapy. This broadened not only services but the students understanding of the contribution of each others’ professions to recovery, function and wellbeing.

### Clinical service delivery

Five programs, contextualised from the pilots, were delivered. Programs covered the spectrum of prevention, early intervention, acute, post-discharge (when possible) and long term follow up. A summary of programs is provided in Table 1 below.

**Table 1 North West Community Rehab programs**

	Program Name	Schedule	Type of Program
Early intervention	Physical Activity Programs—Mount Isa	3 sessions per week for 5 weeks 1 education session Circuit class format with group supervised practice & group activities Groups, one-to-one as required	Centre based
	Physical Activity Program—Cloncurry	2 sessions per week for 4 weeks Group, on-to-one as required	Outreach
	Cognitive Program	3 sessions per week for 5 weeks	Centre based
Acute	Acute Stroke	Responsive to need Daily	In-reach to hospital
Post-discharge Sub-acute	Drive your own recovery after stroke	2 week intensive 4 x 4hour sessions per week	Centre based
Lifespan	Comprehensive review for people living with a disability	Flexible 2-6 sessions (daily or over a number of weeks)	Centre based Outreach
	Intensive physical activity and education	Flexible to accommodate people coming from other communities or need for one-on-one 2+ sessions (daily or over a number of weeks)	Centre based

To date, North West Community Rehab has received 71 referrals with 40 people entering programs. Participants were recruited through referrals from Allied Health Professionals and GPs in North West Queensland and Townsville, through newspaper advertising, flyers (electronic & paper) and word of mouth. Participant characteristics are represented in Table 2.

**Table 2 Participant characteristics**

Age (mean [range]) years	64 years (range = 21-95 years)
Gender (male/female)	51% male / 49% female
Indigenous	35%
Place of residence	29 Mount Isa (73%) 11 outside Mount Isa (27%)
Presenting condition	Number
Stroke	17
Parkinson's disease	7
Cerebral palsy, polio	3
Balance and mobility incl. TIAs	5
TBI	6
Other	7

NB: Some clients had more than one presenting condition

Participants demonstrated improvements in outcomes across the domains of the International Classification of Functioning, Disability and Health. On average participants rated their goal achievement pre service as 2 out of 10 and 6 out of 10 post service. On the 6 minute walk test, on average participants improved from 165 metres in 6 minutes to 192 metres in 6 minutes (range = -7m to 210m) after the program. Participants rated their overall impressions of the programs as 9.1/10 with comments such as:

Very well organised and resourced. The level of knowledge and help is impressive and suits the program. Good to get participants to set goals.

Worked very well, was wonderful that we were all one person and NOT treated the same. It was wonderful to have a goal and work through it and the end result was great.

Great program, worked on my individual goals. Great learning opportunity to move forward in my recovery.

It was good the way the students worked with us as they were really physios. Good they made me work harder.

When asked what was not so good about programs the common response, if any, provided was:

Nothing, it was all good.

Some participants expressed difficulty with elements of the program because of pain or their dislike for specific exercises.

During program delivery, staff and students also recognised the need for additional and specialist services that were outside the scope and current expertise of the project. A Rehabilitation Specialist from the Townsville Hospital, along with podiatrists and speech pathology students were involved and onward referrals were made to counselling and other specialist services (e.g. orthotist, dementia advisor).

During the pilot project and planning phases, transport and accommodation was identified as a barrier to service access. To minimise the impact of this, North West Community Rehab provided an

equivalent of 110 return trips within Mount Isa (a public transport free town) and supported accommodation and travel for participants located remotely to Mount Isa.

### **Workforce development and education**

The program works within a service learning model—an interprofessional, vertically integrated education model—to build the capacity of the current and future workforce. It incorporates allied health students on clinical placement, local generalist allied health clinicians with expertise in contextual service provision and visiting clinicians with expertise in neurological rehabilitation. The model supports the development of local capacity to provide neurological rehabilitation and clinical education, and knowledge of the remote and Indigenous context for visiting clinicians. Support staff included the project officer and an Indigenous Rehabilitation Assistant.

The project provided the equivalent of 69 weeks of specialised student placements in a remote town and clinical teaching at the cutting edge of rehabilitation practice. Fulltime placements were provided for 12 physiotherapy students and 2 occupational therapy students, during which time each student was responsible for multiple participants across each program that was delivered in their block. Additionally, five pharmacy students participated in the project by developing and delivering an education session on the safe use of medication, development of individualised medication information sheets for each participant and assisting in the delivery of the physical activity group. Two speech pathology students also undertook assessments and provided education to participants and other students.

The model of inclusion for local clinicians varied between disciplines and included 1 physiotherapist and 2 occupational therapists. These positions were supported by 2 visiting physiotherapists and one visiting occupational therapist, both with expertise in neurological rehab. Additional disciplines were also brought in as required (1 pharmacist and 1 podiatrist).

The benefits of this model can be seen for the participants, carers, students and staff. For participants, this model allowed the person to undertake one comprehensive assessment with the team rather than repeating their story to multiple providers. This model is more time and personally efficient for the participants and carers. The neurological allied health specialists brought extensive clinical experience and were able to significantly up skill the local clinicians who were the specialists in the remote context. The reverse also occurred and the students benefited from learning from and engaging with the specialists in both these fields. The cross transference of skills will enable local clinicians to provide a high quality service to people with neurological conditions in North West Queensland between North West Community Rehab service delivery periods. Conversely, the specialist neurological staff now have a better understanding of the remote context when working with remote participants in Townsville.

The project's ability to bring in external clinicians from other disciplines was hugely beneficial for all involved. As with any remote region across Australia services are fragile and underpowered. Participants were able to access services from providers they may not otherwise be eligible to access in Mount Isa. Staff and students were able to more fully understand the role of these disciplines and what they had to offer, in addition to increasing their skills and knowledge in some areas.

Student evaluations of the placement were positive. The students provided feedback on their placement in the form of a questionnaire containing 13 questions rated on a 5 point scale of confidence and 5 short answer questions. Overall the students felt their placement had adequately prepared them for practice in neurological field as 4.1 out of 5. Comments about the placement included:

I can't express how much I enjoyed my placement; I now know where I need to work!! Thanks so much team!!

Working with other disciplines. Having the neuro experts come out to Mount Isa to assist was really valuable for learning.

Having the different opportunities to work with the physios, social workers and even gain an understanding of how pharmacy can play a role was really wonderful.

This is definitely one of the best placements I have been involved in. The supervisors were very approachable and had great knowledge. Working beside the OT students gave me a bigger picture of what interdisciplinary work involves and provided great entertainment at times. I would highly recommend this placement to future students.

Comments around what could be improved included having more structure, simplifying the data collection, visiting other communities, and having more feedback during the placement.

Importantly, these students and their specialist supervisors lived, as well as worked, in Mount Isa for 10 weeks getting to know the rhythm of life and seasons, as well as building friendships and networks. This is an experience which greatly enhances their confidence and focus as new graduates, allowing them to focus on their role and not on how to live in a remote town.

## Conclusion

It is possible to provide specialist services and undergraduate training in a remote area. It takes money, coordination, imagination and the agility and infrastructure of a University Department of Rural Health, such as the Mount Isa Centre for Rural and Remote Health. Most importantly though, it requires collaboration between existing service providers. This model of service learning—a student assisted, interprofessional model—has been successful in providing high quality neurological rehabilitation service in outback North West Queensland. The vertically integrated education model has allowed locally based clinicians to up skill in neurological rehab, specialist clinicians to gain understanding of rural/remote context and students to have high quality, unique specialist placements at the cutting edge of rehabilitation practice in a remote area.

## Recommendations

1. Increased use of interprofessional student placements to meet service gaps and demands and to expose students to innovative services in remote areas.
2. Increased provision of rehabilitation services outside major centres with service delivery models that are flexible to meet the unique demands of individual clients and settings.
3. Support of transport for people with a disability, particularly those who have limited financial means and/or limited or no access to suitable public transport.

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