Development of a community-based medical rehabilitation programme in the Kivalliq Region of Nunavut, Canada

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ABSTRACT

Objective. In 2000, the University of Manitoba and the Department of Health and Social Services of Nunavut, Canada, jointly embarked upon the development of a community-based medical rehabilitation programme in the Kivalliq Region of Canada’s central Arctic. Two main objectives were identified in moving forward with the implementation of a rehabilitation programme. Firstly, to conduct a region wide community needs assessment for rehabilitation services for all age groups of all residents of the Kivalliq Region of Nunavut. Secondly, to provide information from which a community-based rehabilitation therapy programme could be developed. Methods. A community needs assessment of the Kivalliq Region was carried out to guide the implementation of physiotherapy, occupational therapy and speech language pathology services. Results. There are now two physiotherapists, one occupational therapist, and one speech language pathologist providing rehabilitation services to the residents of the Kivalliq Region of Nunavut. The results of this needs assessment, the challenges and successes of this medical rehabilitation programme are discussed. Conclusion. The total population of the service area is approximately 8,000 people, the significant majority of whom self-report as Inuit, and are widely dispersed over eight communities. Despite the challenges in terms of culture, geography and recruitment of introducing a rehabilitation program in Canada’s north, the residents of the Kivalliq Region now have a viable model of receiving rehabilitative intervention in their home communities.

Keywords: Intervention, occupational therapy, physiotherapy, speech pathology

INTRODUCTION

The rate of disability among Canada’s Inuit people is almost double that of the national average, 29\% and 15\% respectively (1). Despite this disparity, there has been no formal community-based rehabilitation programme in the central Arctic until the recent development of the programme described herewith. Community-based rehabilitation has been described by the World Health Organization (2) as "a strategy within community development for the rehabilitation, equalization of opportunities, and social integration of all people with disabilities. CBR is implemented through the combined efforts of disabled people themselves, their families and communities, and the appropriate health, education, vocational and social services." The proposed model of a rehabilitation program for the Kivalliq Region of the central Arctic was not based on volunteerism as many of the international community-based rehabilitation programmes are, and may be viewed therefore as a modified approach to that utilized elsewhere.

The term disability used in this project was based on the former definition provided in the International Classification of Impairments, Disability and Handicaps (3). That is, disability is "any restriction or lack of ability to perform an activity in a manner or within the range considered normal for a human being." Since then, the concept of disability has been elaborated further as
"an umbrella term for impairments, activity limitations or participation restrictions" (4).

The Kivalliq Region of Nunavut, formerly known as the District of Keewatin, is located over 444,680 square kilometres in the central Canadian Arctic, neighboured by the Baffin, or the Qikiqtani Region to the east, and the Kitikmeot Region to the west. The Kivalliq Region is comprised of seven distinct hamlets. Additionally, the hamlet of Sanikiluaq in the Belcher Islands to the east receives its health services through the Kivalliq Region. The overall population of Nunavut is 26,745 (Canadian Census, 2001), with roughly 7,557 people in the Kivalliq Region. The vast majority of the residents (90.17%) of the Kivalliq Region report Aboriginal ancestry.

The Department of Health and Social Services (DHSS) of Nunavut governs the Region’s health care programmes. Physician services have been provided through a long-standing relationship with the J.A. Hildes Northern Medical Unit (NMU), which is part of the University of Manitoba’s Faculty of Medicine, Department of Community Health Sciences. Through negotiations between the University of Manitoba and the DHSS, there had been recognition that health programmes could be enhanced by the inclusion of community-based rehabilitation services. To this end, the NMU initially approached the School of Medical Rehabilitation in 1998 to consider such a joint venture. This report is a result of an investigation in 2000 into the need and feasibility of a comprehensive community-based rehabilitation programme for the Kivalliq Region of Nunavut. It represents the combined efforts of the J.A. Hildes Northern Medical Unit, the School of Medical Rehabilitation, the Department of Health and Social Services Nunavut, and the communities of the Kivalliq Region.

Throughout this process, the mandate of the World Programme of Action Concerning Disabled Persons acted as guiding principle. In helping disabled persons, every effort should be made to keep their families together, to enable them to live in their own communities and to support family and community groups who are working with this objective. In planning rehabilitation and supportive programmes, it is essential to take into account the customs and structures of the family and community and to promote their abilities to respond to the needs of the disabled individual (5).

Disability Rates
It was not the intention of this study to enumerate all those with disabilities in the communities of the Kivalliq Region. The existing literature was used to provide baseline data. The most recent and only comprehensive assessment of disability among Canada’s Aboriginal peoples was the Aboriginal Peoples Survey (APS) in 1991. The APS was a follow-up study of those who identified themselves as Aboriginal in the Canadian Census of the same year. The disability rates in the eight hamlets or communities receiving health services in the Kivalliq Region range from 13% in Arviat to 46% in Sanikiluaq.

The types of disabilities reported in the Aboriginal Peoples Survey are seen in Figure 1.

Health Services in Nunavut
Nurse practitioners employed by Department of Health and Social Services are the "front-line" workers responsible for primary patient care in each community. When appropriate, they refer patients to physicians on an elective or urgent basis. The NMU provides health services including family physicians resident in the Region; medical specialists on an itinerant basis; and audiologists.

There is no hospital in the Kivalliq Region, so individuals needing inpatient care must be transported out of the community, either on a regular scheduled flight or by an air medical evacuation, depending on the acuity of the illness. The Churchill Health Centre provides secondary care to the Kivalliq Region, while tertiary and specialty care is provided principally in Winnipeg, Manitoba. Prior to the implementation of a formal medical rehabilitation program based in Rankin Inlet in 2000, there were no rehabilitation services accessible within the Region. Individuals in need of physiotherapy, occupational therapy or speech language pathology would have to travel out of the Region to access services, most often to Win-
nipeg, Manitoba. People would often opt not to access services because their disability made travel very difficult, and they did not want to leave the support network of family and friends.

METHODS
A Community Needs Assessment was carried out from November 1999 to April 2000. In pursuit of a community-wide needs assessment of rehabilitation services, a variety of methods were employed which are outlined below. The "key stakeholders" in any new rehabilitation programming were felt to be, most importantly, the community members themselves, followed by those working in health care, social services and education.

1. Literature Review
A review of existing surveys and documents specific to the health status and documented needs of the region was carried out. A review of existing models of service delivery, including existing provincial population therapist ratios, was also completed.

Local health centre lists of individuals receiving care for chronic diseases also proved to be a very valuable tool in the determination of those rehabilitation services within the last five years due to a chronic or acute cardiac, respiratory, neurological, orthopaedic or behavioural condition. The surveys also tried to capture individuals with functional deficits who would benefit from the input of a rehabilitation specialist. Survey results were then utilized to assist in the determination of need for rehabilitation services.

2. Surveys
Three different surveys were developed and distributed to those working in the areas of health, social services and education in each of the eight hamlets. Retrospective surveys targeted individuals who were felt to benefit from hamlet residents who may benefit from rehabilitation services.

3. Community Input
Local radio call-in shows were carried out in seven of eight of the hamlets. With the help of an interpreter, time on the radio was spent introducing the topic of rehabilitation to the listening audience, the specific role of each of the rehabilitation disciplines, how they work with the rest of the health care team, and what sort of individuals the therapists would work with. The investigator, a physiotherapist by training, responded to questions from the listeners with the aid of an interpreter.

4. Key Informant Interviews
Key informant interviews were carried out with individuals from the Kivalliq Region who had been identified as having received rehabilitation services outside the Region. Volunteer informants were recruited in advance by the staff of the local health centre. Principal care providers
of paediatric patients were interviewed. Local residents were employed as interpreters where necessary.

Interviews were also held with health care administrators and local service providers working in the areas of health, social services and education. Rehabilitation service providers (occupational therapists, physiotherapists, and speech language pathologists), who had had experience with service provision in the other regions of Nunavut were also interviewed.

**RESULTS**

Survey results indicated that approximately 9% of the total population (or 670 individuals) would benefit from immediate intervention by one of three rehabilitation disciplines. Physiotherapy was felt to be of benefit most often, followed by occupational therapy, then speech language pathology. Occupational therapy and speech language pathology services experienced more paediatric referrals, while adults represented a greater proportion of the referrals to physiotherapy. (Figure 2) The types of cases that these individuals represented are depicted in Figure 3.

Individuals who were interviewed were supportive of local rehabilitation services. Themes that emerged in the key informant interviews included the discontinuity of care, the lack of familiar supports with travel to distant urban settings, and the desire to stay and be cared for closer to home.

A grandmother who was the principal care provider of her grandson with a developmental disability reported through an interpreter that:

> It is stressful enough not to get lost in the city, especially when people walk really fast. She was trying to keep up while holding on to her grandson at the same time... She is not used to escalators and it is very scary to use the escalator when you have a heavy child who is totally dependent on you for transferring.

A woman with small children who had seen a physiotherapist following plastic surgery for a finger tendon laceration, stated that:
It would have been a lot easier to be seen here. I didn’t have a babysitter at the time, so it bothered me. It only took 5 or 10 minutes to see the physiotherapist so it was a waste of time for me and the Health Board to pay my way down.

As a result of the findings of this study, a comprehensive rehabilitation services programme was implemented in the summer of 2000. Two physiotherapists, one occupational therapist, and one speech language pathologist are based in Rankin Inlet and make frequent outreach visits to the other seven hamlets in the Kivalliq Region.

**DISCUSSION**

**Challenges in Completing the Community Needs Assessment**

The short time frame in which the study was carried out was a challenge in terms of restraints on travel due to poor weather conditions. Cancelled trips were rescheduled where possible.

The short time frame also restricted the methodology to a retrospective survey of individuals benefiting from rehabilitation intervention. Acute injuries, mainly orthopaedic, would perhaps have been more accurately recorded in a prospective fashion. In the retrospective approach used here, there was the inherent risk that health care providers would not be able to recall encounters involving acute injuries. Where health care providers were new to the community, there was also the risk of under-numeration of individuals benefiting from rehabilitation services. High turnover in staff typical in many isolated northern communities has an impact on the validity of any survey, regardless of whether it is retrospective or prospective.

The determination of the number of therapists that would be needed to meet the need of those individuals identified as benefiting from rehabilitation services was challenged by the lack of national or international gold standards in the literature regarding recommended therapist to population ratios. National and international organizations representing rehabilitation disciplines feel that it is impossible to standardize population groups sufficiently in order to make universal recommendations of the number of therapists required for a population group. Evaluation of this programme is needed to determine the adequacy of the current staffing complement.

**Clinical Challenges**

Geography is one of the most difficult challenges faced by the therapists working in the Kivalliq Region and those administering the programme. Much time is spent by the therapists travelling back and forth between communities or being delayed due to poor weather conditions. Organizing and coordinating the travel for the therapists is done principally by administrative staff and proves to be an arduous and on-going task.

To date, there are no Inuit therapists working in Canada. Working and living in a cross-cultural setting also proves to be a daily challenge for therapists raised and trained in the south. Differences in lifestyle, language, and health care practices are concepts the individual therapists must overcome to provide meaningful encounters for themselves and their patients or clients.

Initiating a rehabilitation programme where one has not formerly existed has also required specific communication strategies. Community members and existing health care providers need to be familiarized with the scope of rehabilitation services and how rehabilitation may enhance current health and social services.

Therapists must face a wide range of clinical conditions and must be prepared for a broad scope of practice. They must be willing to work with limited resources, relying instead on their ingenuity to facilitate efficacious and successful treatment outcomes. Socio-economic factors cannot be overlooked either when designing individual treatment plans.

**Future Considerations**

Formal and informal means must be taken to complete an on-going evaluation of the rehabilitation services programme. Evaluation tools developed in the south, such as length of treatment
or functional outcome measures, have typically not been validated for this particular patient population group and may therefore not be appropriate in this setting when used in isolation. Such tools must be validated in this predominantly Inuit population group before they are of any meaningful value. Any quantitative measure would also be enhanced by a qualitative component, giving the outcome a much richer and more meaningful perspective.

A centrally based programme with outreach services as described in this programme is faced with the ongoing challenge of providing continuous input to the individual patients or clients. To this end, a community rehabilitation assistant programme is in the process of development. The programme will train individuals from each of the communities both in the classroom and "on the job". Therapists will be responsible for the assessment, treatment and progression of the individual clients. The assistant will be responsible for the supervision of individual treatment programmes in the absence of the therapists. Therapists will be available through telecommunications for consultation as the need arises. It is hoped that the first therapy assistants will start their training in 2004.

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