INTEGRATION OF
OCCUPATIONAL THERAPY AND
PHYSIOTHERAPY SERVICES
IN PRIMARY HEALTH CARE
IN WINNIPEG

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Integration of Occupational Therapy and Physiotherapy – Final Report ii
EXECUTIVE SUMMARY

The reorganization of services to achieve the principles of primary health care is one of the biggest challenges facing health care today. National, provincial and local jurisdictions are striving to develop community-based, interdisciplinary services that emphasize prevention, health promotion, continuity of care, chronic disease management and accessible services. Access by the public to care from a range of qualified health care professionals can provide a cost-effective approach that utilizes the knowledge, skills and expertise of many professionals.

Occupational therapists and physiotherapists have provided services to a variety of populations in community-based settings for many years. However, publicly funded services have been predominantly institution-based and focused on rehabilitation, support and maintenance, rather than “upstream” on prevention and health promotion. The ways that occupational therapy and physiotherapy can contribute to the delivery of primary health care in Winnipeg was the focus of this project.

Objectives

The objectives for this project were as follows:

1. identify, through review of relevant literature, effective occupational therapy and physiotherapy interventions for adults delivered in a primary health care context,
2. develop a conceptual framework and service delivery model for adult occupational therapy and physiotherapy in keeping with the philosophy, principles and vision for primary health care in Winnipeg and
3. propose a pilot project for occupational therapy and physiotherapy services in one community access model.

Methodology

This project consisted of two components. The first component consisted of an extensive review of the literature on occupational therapy and physiotherapy services in primary health care. Existing databases were searched to find relevant literature on
service delivery models and the effectiveness of existing practices specific to a primary health care context. The second component of the project utilized a qualitative research design. Focus groups were held with occupational therapists and physiotherapists to determine their expert opinion about current practice in primary health care and the potential for future practice. A total of 13 occupational therapists and 18 physiotherapists participated in one of four focus groups. Key informant interviews were held with 13 health and social service administrators (managers and directors of programs and services). These key informants provided information about the context of current primary health care services and the potential for the integration of occupational therapy and physiotherapy services within that context. Information from the literature review, focus groups and interviews, was used to develop a draft conceptual framework and pilot project for the integration of occupational therapy and physiotherapy in one community area. A final focus group was held with multi-disciplinary and multi-program staff in one community area to obtain feedback about the proposed model of service delivery. The conceptual framework and pilot project were revised subsequent to the feedback.

Literature Review

An extensive review of the literature was carried out to investigate current and past practices of occupational therapy and physiotherapy applicable to a primary health care setting and evidence for the effectiveness of these practices. The literature was examined to determine areas in which there was evidence to support practice with specific populations. Where evidence was found, the evidence was categorized as strongest, moderate or weakest. “Strongest” refers to the strength of the evidence for an area of practice as compared to other areas of practice for a discipline, not a “gold standard” of evidence. “Moderate” or “weakest” evidence was not equated with negative or no impact. This designation may have indicated that rigorous research was limited or absent in that clinical area of practice.
Summary of Occupational Therapy Evidence

Strongest Evidence

The evidence supporting the role of occupational therapy in primary health care is strongest in the management of rheumatoid arthritis, stroke, chronic low back pain return to work and the prevention of falls and functional decline in older adults.

Early and late rheumatoid arthritis: There is evidence for the provision of education on joint management and self-management strategies, training and advice on occupational performance (self-care, productivity and leisure).

Stroke: There is evidence for the provision of early supported discharge by a multidisciplinary community rehabilitation team with continued rehabilitation at home. Occupational therapy was found to be effective for both early discharge and individuals never admitted to hospital who had experienced a stroke. Findings indicated that occupational therapy interventions improved independence with basic and instrumental activities of daily living and community integration.

Chronic low back pain: More than 100 hours of multidisciplinary bio-psychosocial rehabilitation with a functional restoration approach has been found to be effective in reducing pain and increasing function for individuals with chronic low back pain. The occupational therapists on these types of teams have provided client education, functional training in activities of daily living, environmental adaptations and cognitive behavioural therapy.

Return to work: On-site interventions have been found to be effective in reducing the personal and societal costs of work-related injuries. Offering to accommodate work and adjusting job duties, contact between healthcare providers and the workplace and ergonomic worksite visits by an occupational therapist, along with the involvement of a case manager, reduce work disability duration and associated cost. Extensive multidisciplinary treatment has been found to be the most effective for individuals with a poor prognosis for return to work. The evidence for workplace interventions for work-related upper extremity disorders has not been established and the benefits of expensive ergonomic interventions in the workplace for this group have not been clearly demonstrated.
Prevention of functional decline with older adults: The prevention of functional decline among older adults has been demonstrated using occupational therapy intervention with a focus on wellness. It has also shown to be cost-effective. The rate of decline can be slowed for community dwelling frail elderly, keeping them in their homes longer through the provision of assistive technology devices and environmental interventions from an occupational therapist. Some evidence supports improved outcomes for older adults discharged from a medical unit with pulmonary conditions or fractures as opposed to a geriatric rehabilitation unit. There is evidence of a modest effect on instrumental activities of daily living and dependence of individuals with dementia as well as enhanced self-efficacy among their female caregivers.

Prevention of falls: An occupational therapy approach that considers intrinsic and extrinsic fall risk factors can play a significant role in reducing the number of falls and the rate of recurrent falls in older adults with a history of falls. Home visits including recommendations for environmental modifications by an occupational therapist can reduce the risk of falls regardless of fall history.

Moderate to Weakest Evidence

The management of long-term neurological conditions such as multiple sclerosis, Parkinson’s disease and traumatic brain injury has a moderate body of evidence demonstrating the effectiveness of occupational therapy primary health care intervention, but more research is needed in these areas. The evidence for the effectiveness of community occupational therapy with Chronic Obstructive Pulmonary Disease (COPD), chronic fatigue and vocational rehabilitation for persons with chronic mental illness is moderate to weak.

Traumatic brain injury: Multidisciplinary community rehabilitation can contribute to gains in activities of daily living, community integration, self-organization and psychological well-being. A need was identified for greater support of this population in the community to increase employment, community integration and opportunities for learning.

Multiple sclerosis: A wellness program developed by occupational therapists and implemented within a community organization has shown improvements in self-
management among this population. However, there is insufficient evidence at this time due to methodological issues of published studies.

**Parkinson’s disease**: Very few studies have been done, but those reported in the literature demonstrated that occupational therapy improved functional status and quality of life among this population.

**Homeless population**: There is an emerging body of evidence for the use of a skill building approach with individuals who are homeless. The evidence also supports extending this role to women in shelters.

**COPD**: Most of the evidence that strongly supports occupational therapy interventions has been found in outpatient programs. However, a few studies that specifically examined community-based services found that occupational therapy had an impact on occupational performance and self-management.

**Chronic fatigue syndrome**: This is a relatively new area of practice that is showing some promise for occupational therapy intervention using an empowerment model to assist individuals with self-management strategies.

**Vocational rehabilitation for persons with mental illness**: The occupational therapy specific evidence supporting this approach is small, but positive. Evidence for individual supported employment is strong and support for this approach is widely acknowledged in the literature, but is not associated specifically with occupational therapy.

**Myocardial infarction**: Evidence is weak. While occupational therapy is a recognized member of the multidisciplinary inpatient cardiac rehabilitation team, there is little evidence for occupational therapy with this population in the community.

**Mental health conditions**: Evidence pertaining to occupational therapy in community mental health is weak related to skill building. Several studies describing occupational therapy intervention lacked rigorous methodology. However, there is weak but promising evidence for the role of occupational therapy in a primary-care based service for people with psychotic conditions who were not in contact with a secondary-care community mental health team. In addition, the importance of engagement in meaningful occupations, a focus of occupational therapy interventions, to people with
mental health conditions has been demonstrated through qualitative studies. More rigorous research is required to evaluate the effectiveness of these interventions.

Additional Comments

The evidence supporting the role of occupational therapists in primary health care pertains to their role in facilitating occupational performance. Occupational therapists are trained to use client-centred practice to assist individuals to establish balance in occupational performance considering the individual, their environment and their occupations. Through environmental modifications, the provision of assistive devices, teaching and training related to basic and instrumental activities of daily living, the development of vocational programs, and assistance in developing self-management strategies, occupational therapists can play a role in health promotion and the primary, secondary and tertiary prevention of illness and disease among populations.

Summary of Physiotherapy Evidence

Strongest Evidence

The evidence supporting the role of physiotherapy in primary health care is strongest in the management of arthritis, coronary heart disease, chronic lung disease, incontinence of symptomatic women, diabetes, osteoporosis, falls prevention and chronic low back pain. Physiotherapists are already involved in the management of each of these clinical areas to a differing extent, but the scientific evidence supports an active role in each of them.

Arthritis: Exercise of moderate intensity has been shown to improve gait, function, pain and endurance for people with osteoarthritis. Exercise therapy has also been proven to safely improve endurance and strength in persons with rheumatoid arthritis.

Community-based physiotherapy intervention over a six-week period can significantly improve self-efficacy or confidence, disease management knowledge and morning stiffness in persons with rheumatoid arthritis.
Coronary heart disease: The existing literature supports physical activity as a means of reducing the risk factors associated with coronary heart disease as well as secondary prevention of complications following a cardiac event. It is not clear whether exercise alone or comprehensive cardiac rehabilitation intervention is more beneficial.

Chronic lung disease: Community-based pulmonary rehabilitation has been shown to improve exercise tolerance, shortness of breath and health-related quality of life. Leg training alone has improved exercise tolerance. Strength and endurance training improves arm function. Pulmonary rehabilitation improves shortness of breath, health-related quality of life and reduces the number of hospitalizations and days of hospitalization. It may also improve survival.

Incontinence of symptomatic women: Pelvic floor muscle training appears to be an effective treatment for adult women with stress or mixed incontinence. It has been shown to be more effective than other interventions such as electrical stimulation, vaginal cones or no treatment for genuine stress incontinence in women in terms of improved muscle strength, as well as reduction in leakage.

Diabetes: The literature supports a multi-modality approach in the effective management of diabetes, which uses both lifestyle as well as pharmacological interventions. Exercise has been shown to improve glycemic control to an extent that would significantly reduce the risk of diabetic complications. Exercise has also been shown to reduce cardiovascular risk factors and improve psychological well-being in persons with diabetes.

Osteoporosis: Physical activity has been proven to significantly modify the bone mass of pre- and post-menopausal women. The evidence shows that exercise can prevent or reverse bone loss by almost one percent per year. Aerobics, weight bearing and resistance exercises, as well as walking, are supported by scientific evidence as effective means of increasing bone mineral density.

Falls prevention: Interventions shown likely to be of benefit in reducing the number of falls in elderly people include multidisciplinary, multi-factorial, health and/or environmental risk factor screening programs in the community regardless of fall history. Individual programs of muscle strengthening and balance retraining, home
assessments, withdrawal of psychotropic medications and Tai Chi group exercise classes were all found to be of benefit. Furthermore, screening for risk of falls in a community setting has been found to be practical and feasible.

**Chronic low back pain:** There is strong evidence that more than 100 hours of multidisciplinary bio-psychosocial rehabilitation with a functional restoration approach produces greater improvements in pain and function for those with chronic low back pain than non-multidisciplinary rehabilitation or usual care. One-time consultation by a physiotherapist and a physiatrist have also been shown to result in less daily pain, less intensity of pain, less pain interfering with daily life and a quicker return to work.

**Moderate Evidence**

Existing evidence is moderate for chronic neck disorders, acute low back pain, stroke survivors with moderate severity of impairment and Parkinson’s disease.

**Chronic neck disorders:** There is sufficient scientific evidence to support and recommend the use of proprioceptive and therapeutic exercises for chronic neck pain of more than 12 weeks duration. Physiotherapy intervention has been reported to reduce the use of non-steroidal anti-inflammatory drugs for those persons with neck problems compared to those treated with bed rest, advice and analgesia. Furthermore, those persons receiving physiotherapy intervention were less likely to experience a recurrence of spinal problems.

**Acute low back pain:** Evidence shows that exercise may have a positive effect on acute low back pain while bed rest is ineffective and may even be harmful. Early intervention and continued normal activities have been recommended.

**Stroke with moderate severity of impairment:** The literature has shown that rehabilitation services targeted at persons living in the community following stroke improves their independence with activities of daily living and reduces their risk of deterioration in ability. It has been acknowledged that further research is required in this area. For those with severe impairments resulting from a stroke, people receiving sub-acute hospital-based rehabilitation services experienced improved outcomes in terms of fewer deaths and increased levels of independence compared to those receiving community-based
services. While early discharge to community rehabilitation for persons surviving a stroke has been shown to be feasible and cost-effective, there have not been any significant financial savings or differences observed in hospital readmission rates over the long term.

**Parkinson’s disease**: A limited body of evidence supports the role of physiotherapy in persons with Parkinson’s disease in terms of improved activities of daily living and mobility. Further research of high methodological quality is needed to explore the short and long-term impact of physiotherapy on Parkinson’s disease.

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**Weakest Evidence**

The evidence is weakest in terms of spinal cord injury and traumatic brain injury. As stated earlier, “weakest” evidence should not necessarily be equated with negative or no impact. This designation may indicate that rigorous research is lacking in that clinical area.

**Spinal cord injury**: Few studies could be located in which the role of physiotherapy and people who have had spinal cord injuries living in the community was examined. Nonetheless, exercise programs following spinal cord injury, regardless of when the exercise program was initiated in the community, has been shown to improve arm endurance and strength, pain, stress and depression, as well as quality of life and perceived level of health. However, it has also been shown that there is a need for specialty care to augment services available at the community level in highly specialized clinical areas such as the case with spinal cord injuries.

**Traumatic brain injury**: While limited in scope, there is minimal evidence supporting the role of multidisciplinary community outreach teams in the long-term management of persons with traumatic brain injuries. Such programs were effective in improving independence in functional activities of daily living, self-organization skills and psychological wellbeing.
Additional Comments

Much of the evidence pertaining to the practice of physiotherapy is in the role of exercise at the level of primary and secondary prevention. Physiotherapists are trained specifically in exercise prescription for those persons with medical considerations that may preclude rigorous and unsupervised activity. This training and entry-level practice knowledge of physiotherapists places them in a unique position to offer such remedial and preventive programs.

Focus groups with Occupational Therapists and Physiotherapists

Occupational Therapists

Participants felt that occupational therapists had considerable expertise as collaborators with the people for whom they provide services and as educators who are able to adapt health education approaches to a variety of cognitive styles. Their holistic view of people that includes both physical and mental health perspectives and their ability to understand and address people’s functioning provides them with a solid base for roles in primary health care. Participants believed that there were current gaps in service delivery in which they felt occupational therapy could play a role. These areas were: prevention and health promotion; continuum of rehabilitation services; and, social adaptation and integration. Reasons for gaps in occupational therapy services in primary health care included current funding mechanisms and gate-keeping, both of which were perceived by participants as limiting access of people to needed occupational therapy services. Participants saw the need for occupational therapists to shift their traditional practice to provide primary health care services but felt that a primary health care model was an excellent fit with the goals and philosophies of occupational therapy. Several indicators for measuring the success of occupational therapy programs in primary health care were identified by participants.

Physiotherapists

Physiotherapist participants saw themselves as “exercise and movement experts”. Their unique blend of movement and medical knowledge and expertise in
educating and motivating people were considered to be assets to support numerous roles within a primary health care framework. Participants spoke in depth about their ability to enact roles in primary health care that filled gaps in current service delivery. Discussion focused on three major areas of the continuum of health services: support, maintenance and continuation of rehabilitation in the community; health promotion and protection; and, diagnosis/acute treatment. Reasons for gaps in physiotherapy services in primary health care included current funding mechanisms and gate-keeping. The socioeconomic and environmental barriers to people accessing services were also seen as important issues. Participants spoke enthusiastically about the potential role of physiotherapy in the community access model and shared stories about how changes were occurring in the physiotherapy mindset.

Key Informant Interviews

Interviews with administrators of community and regional health and social service programs identified the context within which occupational therapy and physiotherapy services are being delivered. These informants spoke of a health care and social service system in a complex state of change. The vision they described was one of integrated service delivery responsive to the needs of people, families and communities. They envisioned a broader integration to include other sectors such as local government services and education. In the process of achieving this vision, several challenges were evident. The ability to meet needs and implement best practices within available resources was a frustration for many of the respondents. Others identified the challenge of keeping pace with changes in demographics and the health status of communities. Transition points in service delivery were also identified as particular challenges. These included transitions from inpatient to community care, as well as, transitions from child and youth programming to adult programming. Key informants were cognizant of the challenges of maintaining an upstream community development and health promotion focus to service delivery. The challenges of ensuring people who require services do not fall through the cracks of program criteria and mandates were also identified. Decentralization of front line service delivery into
community areas also presented difficulties for staffing because fewer staff were available to cover vacations and sick leave. Finally, the administrators faced the challenge of managing complex change on an ongoing basis.

Participants discussed how decisions were made about program and service priorities. They described a centralized process driven by government and regional priorities with some flexibility at a community level to respond to unique needs and priorities.

Key informants were very supportive of the inclusion of occupational therapy and physiotherapy services in community area teams. Several roles were suggested in the areas of health promotion, prevention, mental health, primary care and enhancing existing services in home care. Issues of integration into teams and the potential for interdisciplinary conflict were identified. This time of complex change within the health and social service system was seen as an opportune time for integrating new roles.

Community Area Focus Group

A model was developed from the results of the literature review, key informant interviews and focus groups discussions. Key roles for occupational therapy and physiotherapy were proposed for the pilot site. To obtain feedback about the proposed service delivery model and roles, a focus group was held with six front line staff from various health and social service programs within the proposed pilot site.

The results of the focus group indicated that participants valued the potential role that occupational therapists and physiotherapists could play as members of multidisciplinary primary health care teams. Participants saw a variety of ways that roles could be expanded in health promotion, primary care and secondary prevention. They also perceived roles for addressing the needs of populations, e.g., people with Fetal Alcohol Spectrum Disorders and intellectual disabilities, who did not consistently meet the criteria for existing services despite having needs for service. Participants were enthusiastic about having occupational therapists and physiotherapist as part of interdisciplinary teams within the community area teams. Current physician referral practices limited public funding of community based services were perceived as barriers.
to greater access of people to occupational therapy and physiotherapy. Participants suggested that co-location of occupational therapy and physiotherapy in community areas and the development of specific screening criteria for services were ways to integrate therapists into teams.

Conceptual Framework

A conceptual framework was developed to guide the integration of occupational therapy and physiotherapy services in primary health care. The framework consists of five components:

- integrating into interdisciplinary teams,
- promoting accessible services and a continuum of care,
- taking a population health perspective,
- identifying core service roles using a multi-faceted approach and
- systematically evaluating services.

The following are the proposed roles of occupational therapy and physiotherapy in the Community Access Model in the River East Community Area. We acknowledge the benefit of occupational therapists and physiotherapists assuming generic roles such as case managers, community facilitators, system navigators and educators for chronic disease management. Their skill sets have much to contribute to these roles. However, extensive discussion of these roles is not within the scope of this document. Instead, we will discuss roles relevant to each discipline’s specialized area of expertise.

We have based these proposed roles on evidence and service delivery models documented in the literature, the current and local context of primary health care delivery and the conceptual framework we proposed above. In describing roles, we refer to primary care teams. These teams are health care providers who are the first point of contact for people seeking primary care services and can include, but are not limited to, interdisciplinary staff at an Access Centre and primary care physicians in the community. These teams also refer to staff at emergency rooms in community hospitals.
One of the strongest areas of practice for which we found evidence for effectiveness was in the area of health promotion and wellness for the well elderly. An occupational therapist currently provides health promotion and prevention intervention to community dwelling seniors in the River East Community Area as part of a Seniors Health Resource Team. The needs of the well elderly are being serviced by this therapist. Since this service is already being provided in the community area it will not be duplicated in this proposal. However, other community areas that have a significant seniors population and which do not have an occupational therapist in this role should consider the strong evidence for the effectiveness of this role in future health planning.

We also acknowledge other roles that occupational therapists are currently assuming in providing community-based services in the River East Community Area. Community Therapy Services provides occupational therapy services to residents of River East who are referred primarily through the WRHA Home Care program and, to a lesser extent, through the WRHA Mental Health program. Occupational therapists are also part of two WRHA specialized teams that provide services to seniors in the community; a Geriatric Program Assessment Team and a Psycho-geriatric Team.

We are proposing two additional publicly funded roles for occupational therapy in the River East Community Access Model. These roles integrate services into a primary health care context, address areas of unmet need as identified through our interviews and focus groups with service providers and administrators and are supported by evidence available in the literature.

The two roles are: 1) the secondary prevention of injury and disability related to physical conditions; and 2) the secondary prevention of disability and promotion of activity and participation for people with mental health problems and those who are homeless. Both of these roles build on existing services but are unique in that they move intervention “upstream” from current service delivery models. These new models assume that referrals for services will come primarily, although not exclusively, from primary care practitioners as well as from service providers from other sectors within the WISI framework, e.g., housing, employment and income assistance. The intent is to
provide services to people with chronic health conditions prior to the onset of functional impairment, to prevent or delay long term disability and to promote greater social integration. This model is distinct from current models in which referrals are most often received for people who are already experiencing functional impairment.

Secondary Prevention of Injury and Disability Related to Physical Conditions

Within this role, occupational therapists will work closely with primary care teams to screen, assess and intervene with people who meet criteria for risk of disability. Screening criteria need to be developed. Evidence suggests that criteria for occupational therapy intervention should focus on identifying:

1. People with chronic diseases, especially rheumatoid arthritis. Other areas of chronic disease such as chronic obstructive pulmonary disease, coronary heart disease and chronic fatigue also show promise of effective occupational therapy intervention. While occupational therapists often see people in the late stages of these diseases, there is evidence that earlier intervention would include education on self-management, behaviour and lifestyle change, training and advice related to functional ability and occupational performance (self-care, productivity and leisure).

2. Older adults with risk factors for falls. Interventions will include education, home assessments, environmental modifications, training and advice related to functional ability, occupational performance (self-care, productivity and leisure) and engagement in meaningful activity. Consideration should also be given to including in the target population younger people who may be more vulnerable to falls due to other conditions such as intellectual impairment.

3. Frail elderly at risk for functional decline, including, but not exclusively, those recently discharged from inpatient hospital units who are not candidates for home care services. Interventions will include promotion of occupational performance, home environmental modifications and provision of assistive devices.
Secondary Prevention of Disability Related to Mental Health Problems and Homelessness

The most promising role for occupational therapy in this area is working with primary care teams. Target populations would include:

1. Persons with psychotic disorders who are not connected with specialized mental health services such as the Program for Assertive Community Treatment or the Intensive Case Management Program. Occupational therapy interventions will include supportive employment, activity analysis and adaptation, social and physical environment adaptation, skills development and rehabilitation. There is also some evidence that demonstrates effectiveness of intervention for persons with anxiety. Consideration should be given to include people with Fetal Alcohol Spectrum Disorders who have mild to moderate impairments but require support, environmental modification and skill development to participate in employment, social activities and community life.

2. Homeless individuals. Interventions will include independent living skill building such as money management, prevocational skills, stress management, interpersonal and self-advocacy skills. Consideration should also be given to extending this role to women in shelters.

Physiotherapy Services

We acknowledge roles that physiotherapists are currently assuming in providing publicly funded community-based services in the River East Community Area. Community Therapy Services provides physiotherapy services to residents of River East primarily referred through the WRHA Home Care program. Physiotherapists are also part of the WRHA specialized Geriatric Program Assessment Team. Privately funded physiotherapy services are also provided to residents of River East who have the financial means or insurance to cover services.

One of the areas of physiotherapy practice that was identified in the literature as having an important impact was the role of physiotherapists in triage, screening and consultation for acute musculoskeletal injuries. Evidence exists for a role for
physiotherapists to assess individuals presenting to primary care clinics with acute soft tissue injuries surrounding joints of the extremities or the spine. Therapists provide the instructions for self-management and where necessary, consult with the family physician for further interventions beyond the scope of the physiotherapist, such as X-rays, laboratory tests, pharmaceutical management or referral to the appropriate specialist. However, according to staff in the community area, current numbers of people attending the River East Access Centre for acute musculoskeletal injuries are not sufficient at the present time to warrant this type of role. Therefore, we propose that referral patterns in the River East Access Centre be monitored and this role be seriously considered at a later date when the number of people attending the primary care clinic increases.

To complement physiotherapy services that are currently provided in River East, we are proposing two additional roles for physiotherapy in the River East Access Model. The first is a primary care role for the secondary prevention of disability related to injury and chronic disease. The second is a health promotion and wellness role related to prevention of injury and early intervention for chronic disease. These roles integrate services into a primary health care context, address areas of unmet need as identified through our interviews and focus groups with service providers and administrators and are supported by evidence available in the literature.

Secondary Prevention of Disability Related to Injury and Chronic Disease

Within this role, physiotherapists will work closely with primary care teams to provide the following services.

1. Consultation to people in early and later stages of chronic diseases. Target populations will include people with rheumatoid arthritis, coronary heart disease, chronic obstructive pulmonary lung disease and diabetes. Interventions will include providing people with individualized exercise programs which have shown strong evidence for improved health status. While physiotherapists often see people in the late stages of these diseases, there is evidence that earlier intervention can be effective in assisting to prevent or reduce disability.
2. Consultation to elderly people at risk for falls. Interventions will include education regarding fall risk management, balance and strengthening exercises.

3. Consultation to people at risk for, or with a diagnosis of, osteoporosis and women with symptomatic incontinence. Interventions will include prescribing individualized exercise programs.

**Health Promotion and Wellness**

There is strong evidence for the role of exercise in the prevention and management of a number of injuries and chronic diseases. Physiotherapists are well suited to promote and provide exercise programs because they have the necessary knowledge and skills to manage a wide spectrum of physical abilities and health conditions. Exercise programs are available in many community venues such as Parks and Recreation programs and the YM/YWCA. People who have pre-existing medical conditions or who are elderly may require special attention to engage in community exercise programs. We are proposing that the physiotherapist adopt a community development approach to achieve the following:

1. Work with healthy living programs in community centres, fitness facilities and apartment blocks to develop appropriate exercise programs and modifications to accommodate all people, including those with special needs.

2. Work with disease-related consumer organizations such as the Parkinson Society of Manitoba and the Heart and Lung Association to promote active living in their members.

3. Work with local businesses and service organizations to promote active living and provide consultation related to injury prevention.

4. Work with community residents to promote active living in the community.

This role will complement the existing Seniors Health Resource Team. However, it will not be limited to addressing the activity needs of seniors but rather to move “upstream” in facilitating exercise to prevent and manage injuries and the long-term negative outcomes of a variety of chronic diseases.
Other Areas of Practice

Evidence is present in the literature for occupational therapy and physiotherapy community roles in secondary and tertiary prevention for people who have experienced stroke or traumatic brain injury, those who have chronic pain or need assistance to return to work. The literature in these areas suggests that the most successful practices are implemented within specialized interdisciplinary teams. Therefore, we recommend that interdisciplinary community-based rehabilitation teams be developed to provide intervention with these populations.

Project Limitations

This investigation of the role that occupational therapy and physical therapy services can play in a primary health care setting was extensive. However, it must be acknowledged that there are certain limitations to this study, including:

1. The review of the supporting evidence was limited to published studies only, pertaining specifically to physiotherapy or occupational therapy. The authors felt it was crucial to focus research efforts on proven outcomes which have been critically reviewed by appropriate peers.

2. The literature search strategy was limited to the two therapies. Other roles that may be considered to be more generic will not have been included. For example, evidence pertaining to generic case management roles was not explored.

3. In terms of the qualitative component of the study, efforts were made to elicit representative samples for both the physiotherapist and occupational therapist focus groups and key informant interviews. Key informant interviews were broad in scope. The data collected through these interviews, relevant to the purpose of this study provided sufficient depth for understanding the context of primary health care in the region. However, true saturation of information gleaned from focus groups of occupational therapists and physiotherapists may not have been reached.

4. There are other stakeholders in this project who were not consulted. Members of the public who are the current and potential users of occupational therapy and
physiotherapy services in primary health care have not been consulted. This is a major limitation of this project.

5. The study had an urban focus of service delivery. While the interventions supported by the literature could easily be transferred to a rural setting, the models of service delivery are mainly based on an urban setting. The initial search strategy did not exclude rural models of service delivery, but no special efforts were made to locate rural data.

6. Hospital-based services were not included in this project. All efforts were focused on community-based programming. Outreach services from a hospital but delivered in a community setting were included, but out-patient services delivered within the walls or confines of an institution were excluded. It is possible that many out-patient program service delivery models could be transferred from a hospital to a community health care setting, but this was not a focus of this study.

7. A review of interventions related specifically to children and youth was not included in this project. From a primary health care perspective in which the needs of communities are considered, the exclusion of a segment of the population limited the scope of the project.

Recommendations

1. That a pilot project be implemented in the River East Access Model that expands publicly funded community-based occupational therapy and physiotherapy services. The pilot project should operationalize the roles that were identified above as the most promising practices for primary health care in the River East Community Access Model. Based on the results of the qualitative research component of this project, these roles should be implemented in keeping with the conceptual model outlined in this document. To that end, the service delivery model should do the following.

   a. Integrate occupational therapists and physiotherapists into interdisciplinary teams. Therapists should be located within the community area, participate in interdisciplinary team planning and evaluation of services and have ongoing
contact with staff in the community area. Issues of turf and professional dominance need to be addressed. Resolution of these issues can promote the provision of the right service by the right provider in the most cost-effective manner.

b. Increase accessibility and promote a continuum of care. The new roles should be publicly funded and should complement existing services. Referrals should be accepted through WISI programs, inpatient and emergency hospital units, family physicians and self-referrals. Clear referral criteria should be established and “gate-keepers” should be held accountable for making referrals based on the criteria. Criteria need to be flexible and inclusive enough to ensure that vulnerable people are not excluded.

c. Take a population health perspective. New roles should focus on moving traditional occupational therapy and physiotherapy “upstream” to include health promotion and primary and secondary prevention. Occupational therapists and physiotherapists must have access to professional development opportunities and formalized collegial consultation to promote the development and maintenance of expertise in these roles. Attention should be paid to environmental barriers that limit participation of vulnerable people in health and wellness programs and community participation.

d. Identify core service roles using a multi-faceted approach. In keeping with evidence-based practice literature, roles for occupational therapy and physiotherapy should be based on evidence of effective practices, community specific need, knowledge of the range of existing services within the community and meaningful community consultation. This project addressed evidence in the literature, key informant interviews with service providers and current services. Consultation with current or potential recipients of service was not undertaken. Such consultation is recommended in the context of a pilot project.

e. Systematically evaluate services. The conceptual model and roles for occupational therapy and physiotherapy were based on the most promising
practices. However, it is recommended that services implemented through a pilot project be systematically evaluated for effectiveness and efficiency.

2. That the results of the project be disseminated to key stakeholders including consumer organizations, service providers, users of services and government.

3. That a comparable project addressing service delivery for children and youth be conducted.

Conclusions

This project makes an important contribution to the development of occupational therapy and physiotherapy services within the current health and social service delivery system. The vision for this system is an integrated service delivery model based on the best evidence for effectiveness in a primary health care environment. There is evidence to suggest that selected occupational therapy and physiotherapy interventions provided early in community-based settings can positively impact on people’s health and wellbeing. The integration of occupational therapy and physiotherapy services into primary health care teams provides considerable opportunity for enhancing the health of community residents.
INTRODUCTION

The Declaration of Alma-Ata (World Health Organization (WHO), 1978) outlines the key components of primary health care. At its core, primary health care is defined as a set of universally accessible interdisciplinary first-level services that promote health, prevent disease, and provide diagnostic, curative, rehabilitative, supportive and palliative services.

The organization of primary health care is viewed by many as one of the major challenges facing the healthcare system in the 21st century (Canadian Institute of Health Information (CIHI), 2003). Recent reports on health care affirm that primary health care renewal is central to the sustainability and revitalization of Canada’s health care system. Finding new and better ways to deliver health care services is a priority for decision makers across Canada. In particular, improving the organization and delivery of primary health care is an issue for managers, policy makers, clinicians, researchers, and Canadians in general (Romanow, 2002). The vision of primary health care in Canada is to improve the health of specific geographically-defined populations and to contribute to community development by providing a set of required medical, health, social, and community services (CIHI, 2003). While recommendations in each province differ, there is consensus on major primary health care reform objectives. These objectives include: more emphasis on prevention and health promotion; better continuity of care and chronic disease management; and expansion of access to services in non-hospital community settings (CIHI, 2003). The implementation of interdisciplinary teams that integrate health and social services is deemed essential in achieving these goals (CIHI, 2003; Kirby, 2002; Romanow, 2002). Access to care from a range of qualified health care professionals can provide a more cost-effective approach that utilizes the knowledge, skills and expertise of many professionals, such as nurses, social workers, dietitians, occupational therapists, and physiotherapists as well as physicians. Consideration of alternatives that support a healthy community and promote interdisciplinary care, health promotion, prevention and community development initiatives are part of the reform currently being implemented across the country, and in the Winnipeg Regional Health Authority (WRHA).
Objectives

The Winnipeg Integrated Services Initiative (WISI) envisions community-based health and social services which provide efficient, effective and holistic services that are person/family focused, seamless, and that recognize the principles of population health and primary health care. Using a population health paradigm, the WISI framework includes the development of Community Access Models (CAMs). CAMs are intended to integrate community-based services that reflect the needs of the neighbourhoods they serve and are to be implemented in each of the twelve community areas in Winnipeg (Manitoba Family Services and Housing, WRHA, & Manitoba Health, 2003).

For several decades, occupational therapists and physical therapists have provided limited services to populations in community settings. Through health promotion, disease prevention, chronic disease management, rehabilitation, supportive, and palliative care services, occupational therapists and physiotherapists have provided assessment and interventions aimed at improving the health of individuals and populations across the continuum (Canadian Association of Occupational Therapists, 2000; Canadian Physiotherapy Association, 2002; Crawford-White,1996; Klaiman, 2004; Saskatchewan Physiotherapy Association, Saskatchewan College of Physical Therapists, & School of Physical Therapy, University of Saskatchewan, 2003). Services have primarily been institution-based and outside an integrated, interdisciplinary primary health care context. This project sought to address this gap by exploring potential contributions of occupational therapy and physiotherapy in meeting the needs of populations within primary health care. The specific objectives were to:

1. identify, through review of relevant literature, effective occupational therapy and physiotherapy interventions for adults delivered in a primary health care context,
2. develop a conceptual framework and service delivery models for adult occupational therapy and physiotherapy in keeping with the philosophy, principles, and vision for primary health care, and
3. propose a pilot project for occupational therapy and physiotherapy services in one CAM.
Theoretical Framework

The Canadian Institute of Health Information (2003) proposed a model of health service delivery that gives a central focus to individuals and populations. The model identifies the important role of primary health care throughout a continuum of services.

“Primary health care providers are active throughout, promoting health, preventing disease, managing chronic diseases, and caring for those who have minor illnesses or injuries” (CIHI, 2003, p. 19).

The model identifies the following categories of interventions that can be implemented in any home, school, or health care setting.

- Promotion/Protection/Prevention
- Diagnosis
- Treatment/Care
- Rehabilitation, Support Maintenance
- Social Adaptation/Integration

Primary health care can include any of these categories of interventions. However, it has an important and fundamental role in emphasising approaches that address the broader determinants of health including population health, health promotion, and disease prevention (Health Canada, 2002).

A population health approach is a conceptual framework for thinking about health and well-being of entire populations. It recognizes that the health of communities is determined by many factors and, therefore, requires the integration of services, policies and actions among various sectors, such as health, education, social services, environment, and economic development. A population health approach also requires multiple strategies that include legislation in the area of public health policy and redesign of the traditional ways of delivering health services (Manitoba Family Services and Housing et al., 2003).

Health promotion is another approach that is fundamental to primary health care.
“Health promotion is the process of enabling people to increase control over, and to improve, their health” (WHO, 1986).

A health promotion approach views health as a resource for everyday life with fundamental requirements. These requirements include peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity. There are five key strategies in the promotion of optimal health, as outlined in the Ottawa Charter for Health (WHO, 1986). These are: building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and reorienting health services. Health promotion initiatives focus on assisting communities or populations to gain greater control over their environment and the conditions that affect their lives, and are designed to include these groups in the strategies for change. The goal of health promotion is to empower individuals and communities to achieve the highest possible levels of well-being available to them.

The third approach that is fundamental to primary health care is prevention. This approach encompasses three levels.

- Primary prevention is designed to prevent a disease or condition from occurring.
- Secondary prevention attempts to identify a disease in its earliest stage so that prompt and appropriate management can be initiated, successful secondary prevention reduces the impact of the disease.
- Tertiary prevention focuses on reducing or minimizing the consequences of a disease once it has developed. The goal of tertiary prevention is to eliminate, or at least delay, the onset of complications and disability due to the disease (Arthritis Foundation, Association of State and Territorial Health Officials and Centres for Disease Control and Prevention, 1999).

Primary, secondary and tertiary prevention protocols need to be developed, not only for the general population but also for people with disabilities (Patrick, Richardson, Starks, Rose, & Kinne, 1997). The primary prevention needs of people with disabilities, while different, bear the same importance as the general population. For example,
individuals with physical disabilities may also experience depression, substance abuse, or other problems which pose great risks to health. Secondary prevention for people with disabilities can involve screening and early detection measures to limit or reverse the impact of the impairment or to prevent the reoccurrence of illness, injury or complications from the original event. The standard view of tertiary prevention is rehabilitation, which is the attempt to restore function subsequent to an impairment or illness (Patrick et al., 1997). However, restoration of function may not always be possible. Hence, rehabilitation can prevent further deterioration of the individual’s functioning and seeks to promote better health. Tertiary prevention for people with disabilities can also prevent disadvantage by incorporating goals of equal opportunity, full participation, independent living, and economic self-sufficiency. Interventions with these goals often target the communities in which people live and work, and involve people with disabilities, their immediate environments, and groups to which they belong.

Special note must be made about the primary care framework. Primary care includes diagnosis, treatment and management of health problems. It is the first level of contact that people have with the health system related to a particular health-related event (National Forum on Health, 1997). Primary care plays an important, but not exclusive, role within the entire primary health care service delivery system.

This conceptual model of primary health care has framed this project. The emphasis on population health, health promotion, and disease prevention requires a reorganization and reorientation of health services from an emphasis on programs that are centrally located and address specific disease states to interdisciplinary teams that are located in community areas. Citizens and communities must be involved in the planning and implementation of primary health care services to ensure their success (Manitoba Family Services and Housing et al., 2003). Integrating occupational therapy and physiotherapy services into these community-based teams was the focus of this project. Particular emphasis was placed on the potential roles of occupational therapy and physiotherapy in population health, health promotion, and disease prevention.
Summary of Methodology

This project consisted of two components. The first component was an extensive literature review of occupational therapy and physiotherapy services in primary health care. Existing databases were searched to find relevant literature on service delivery models and effectiveness of existing practices. The second component of the project utilized a qualitative research design. Focus groups were held with occupational therapists and physiotherapists to determine their expert opinion about current practice in primary health care and the potential for future practice. Key informant interviews were held with health and social service administrators (managers and directors of programs and services). Key informants provided information about the context of current primary health care services and the potential for the integration of occupational therapy and physiotherapy services within that context. Information from the literature review, focus groups, and interviews was used to develop a conceptual framework and pilot project for the integration of occupational therapy and physiotherapy in one community area.
LITERATURE REVIEW

Introduction to the Literature Review

An extensive review of the literature was carried out to investigate current and past practices of occupational therapy and physiotherapy applicable to a primary health care setting and evidence for the effectiveness of these practices. The evidence presented in this document stems from both quantitative and qualitative research methods.

In terms of quantitative research, common designs include systematic reviews, meta-analyses, randomized control trials and observational studies. Systematic reviews are defined as comprehensive reviews of the literature, providing an overview of the validity of the research methods cited and results for a specific topic (Law & Philp, 2002). A meta-analysis is a systematic review which uses a statistical summary with which to present the pooled results. Systematic reviews are highly valued because they represent the amalgamated results of many studies. Limitations of these reviews are related to lack of comprehensiveness of the initial literature search, methodological flaws in the studies under consideration, or unclear selection criteria employed for inclusion of a study. Systematic reviews require a well-defined research question with which to initiate the literature review, an assessment of the validity of the studies which were included, homogeneity of the studies under review and a reproducible assessment of the studies included (Hunt & McKibbon, 1997).

Double-blinded randomized control trials (RCTs) are considered to be the “gold standard” of quantitative clinical research designs. The participants in these studies are randomly allocated to either an experimental or a control group, with relatively equal numbers resulting in each group. Both the participants and the investigators are blinded to the group assignment of participants (Law & Philp, 2002). Study findings which demonstrate confidence limits of 95% are also very important in being able to extrapolate the results to the general population.

Observational studies include cohort, case control, and cross-sectional studies, as well as case reports (Law & Philp, 2002). A cohort study is one in which one or more groups of people are followed for a fixed length of time. Case control studies, in
contrast, are carried out retrospectively. Individuals with the condition under study are matched with similar individuals without the condition. The intrinsic methodological flaws in both of these methods are the lack of randomization and the inability of either type to prove causality (Law & Philp, 2002). Cross-sectional studies are study designs or surveys asking about specific issues at one point in time, generally involving a large number of participants. Results are limited by potential response bias where response rates are low; determining causal relationships is not possible. Case reports have the least amount of methodological rigour, but can provide the basis for future investigation.

The merits of qualitative research in the investigation of rehabilitation outcomes have been widely recognized. It has been stated that qualitative methods enable an in-depth exploration of the long-term impact of rehabilitation and should be considered in the evaluation process of rehabilitation programs (Carpenter, 1997; Jette, 1995; Richardson, 1995; Spencer, 1993; Whiteneck, 1994). Whalley Hammell (2001) stated that “qualitative methods may enable occupational therapists to explore the complexities of clinical practice and of living with a disability, thereby informing a more client-centred, evidence-based practice” (p. 228). It has been argued that qualitative and quantitative research provide equally valuable information in the provision of evidence-based practice (Tickle-Degnen & Bedell, 2003). Commonly used types of qualitative research designs include phenomenology, ethnography and grounded theory (Creswell, 2003).

Mixed methods are another type of research methodology that incorporates both qualitative and quantitative strategies to gather and analyze data. The advantage of this approach is that any biases inherent in any single method are neutralized or cancelled by other methods. The results from one method can help develop or inform the other and can provide different insight of the phenomenon under study (Creswell, 2003).

The services and program areas described herein are not meant to be all-inclusive. We recognize that there are likely areas of practice which have been unintentionally omitted. We have attempted, however, to emphasize the areas in which the evidence is strongest and most applicable to a primary health care setting. As such, programs or services which are described as confined to a hospital setting are not included, but community-based outreach services are included. Furthermore, the
literature search was focused on evidence specific to physiotherapy and occupational therapy. Generic roles, such as navigators of the health care system, while not explored at this time, should not be precluded as potential clinical areas for future consideration. Literature related to services to children and youth were not included in this project as they generally exist within unique service systems in Canada. However, we acknowledge that, within a primary health care framework, the division between adult and children’s services is arbitrary.

Objectives of the Literature Review

The objectives of this review of the literature were to:

1. review existing models of occupational therapy and physiotherapy in which intervention takes place at the primary health care level, and
2. ascertain current best practices of occupational and physiotherapy that are applicable to the primary health care setting and are supported by existing evidence for effectiveness.

Literature Search Strategy

The initial literature search strategy was completed with the assistance of a professional librarian using key terms to extract references from electronic databases. The following databases were included: PubMed/MEDLINE from 1966 to November, 2004; AgeLINE from 1978 to 2003; Allied and Complimentary Medicine from 1985 to 2004; CINAHL from 1982 to November, 2004; EMBASE – Rehabilitation and Physical Medicine from 1994-2004/11; ERIC from 1966 to December, 2003; PsycINFO from 1972 to November, 2004. The terms “occupational therapy” and “physical therapy” or “physiotherapy” were searched by title, abstract, descriptors or mesh terms in the database in combination with the following terms: prevent*; community practice; community based rehabilitation; health promotion; community health, home care and primary care. These searches were cross-referenced with each of the following: mental health (occupational therapy only), brain injury, stroke, Parkinson’s disease, arthritis, chronic pain, vocational rehab*, spinal cord injury, chronic obstructive
pulmonary disease, diabetes, cardiovascular disease, multiple sclerosis and falls. These terms were chosen following an initial review of the literature and primary health care policy documents, as well as completion of focus groups and interviews with occupational therapists, physiotherapists and other health and social service professionals on primary health care.

The Cochrane Library database from its inception to 2004 was also searched using the search terms “occupational therapy” and “physiotherapy” for any evidence-based practice for either occupational therapy or physiotherapy that would lend itself to the primary health care setting. Additional searches of the Physiotherapy Evidence Database, PEDro, were carried out to augment specific findings in the areas of physiotherapy best practice. OTSeeker and OTDBASE, two occupational therapy databases, were also searched using the same terms as the initial database search. The reference lists of all retrieved items were hand searched for additional pertinent studies or information. We did not search for unpublished studies, nor were authors of published reports contacted for missing information. The qualitative component of the research project complemented the initial search by identifying other areas of practice not hitherto captured. Databases were then searched to identify literature in these practice areas. We restricted the languages of publication to English, French, Spanish and German.

All titles as well as abstracts, if available, were scanned for inclusion and exclusion utilizing the following criteria:

**Inclusion Criteria**

The paper described qualitative or quantitative research that measured the effectiveness of occupational therapy or physiotherapy interventions with particular population groups within a primary health care context; or the paper described existing or proposed models of occupational therapy or physiotherapy primary health care practice. Population groupings were included based on the results of the initial search strategy, the qualitative research component of this project, or the predominance of literature about a particular group.
Exclusion Criteria

Papers were excluded if they were related to service delivery that was provided in the confines of an institution, were primarily concerned with the validation or development of a measurement or assessment tool or a specific treatment intervention, or focused on an assessment procedure or intervention outside the scope of practice of occupational therapy or physiotherapy.

Literature Review Methodology

Research staff read all selected documents, journal articles, reports and book chapters and summarized the principal findings and relevance to the project using the form in Appendix A. Methodological quality was assessed using the following criteria: allocation procedure; matching procedure; blinding; sample size; drop-out rates; reliability and validity of measurement tools; confounding; description of program; comparability of groups at baseline; and adequate follow-up period.

Information regarding evidence-based practice deemed to be relevant to a primary health care model was summarized in tables for ease of retrieval and presentation. Literature retrieved but not relevant to the current project was not included. Non-research related articles including general recommendations, position statements and descriptions of occupational therapy and physiotherapy services in primary health care were included in the review but summarized separately.

Results of the Literature Review

Occupational therapy and physiotherapy have assumed a variety of roles in primary health care. The following sections discuss service delivery models applicable to occupational therapy and physiotherapy. We then summarize the evidence for occupational therapy and physiotherapy interventions in a primary health care context.
Service Delivery Models

Community Rehabilitation Models

Several factors have contributed to the increased need for community rehabilitation (Wade, 2003). There is an increasing awareness of disability and increasing evidence that active rehabilitation has a beneficial effect in terms of reducing dependence and improving the individual’s quality of life. The pressure to shorten the time people spend in hospital beds is also increasing recognition that community-based rehabilitation can decrease overall health care costs.

The World Health Organization (1995) developed guidelines to strengthen disability prevention and rehabilitation in primary health care services. The model suggested was community-based rehabilitation (CBR). CBR has been defined as “a strategy within community development for the rehabilitation, equalization of opportunities and social integration of all people with disabilities” (WHO, 1995, p. iii). CBR activities require the support of various sectors and professions, including occupational therapists and physiotherapists.

In a survey of 152 different agencies or organizations providing community rehabilitation in the United Kingdom, four different models of service provision by rehabilitation teams were identified (Enderby & Wade, 2001).

- Community rehabilitation teams: identifiable teams with a management structure to work together to service a broad range of clients generally aged 16 and over.
- Young people with disabilities community teams: teams to address rehabilitation needs of those aged 16 to 60 with a wide range of physical disabilities. The teams assist in the transition of young people with disabilities from pediatric to general medical care.
- Community rehabilitation teams for older adults: teams to address rehabilitation needs of those over the age of 65, particularly with physical disabilities associated with stroke, neurological disease, fractures or other musculoskeletal disorders.
• Population, group-specific, community rehabilitation teams: teams who provide services only to a particular population such as individuals with stroke, multiple sclerosis or head injury.

The authors also described three other models not incorporating a formal structured team approach. These are:

• informal community therapy teams developed on an ad hoc basis for individual clients, where health care providers come together from separate organizations,
• rehabilitation coordinators to coordinate professionals working in separate organizations on an ad hoc basis, and
• outreach teams, with a specific responsibility for care in the community as well as in the acute sector for client groups such as those with Parkinson’s disease, spinal injury or stroke (Enderby & Wade, 2001).

McPherson, Donovan, Taylor and McNaughton (2000) described three different services which can be part of community-based rehabilitation:

• specialist rehabilitation services which are those that identify their main activity as being the delivery of rehabilitation in terms of comprehensive interdisciplinary service that includes active rehabilitation and partnerships between health and social services,
• diagnostic related specialist services which are those rehabilitation services that provide interdisciplinary assessment and management to specific populations as opposed to generic populations, and
• age specific rehabilitation services; all of which can be part of community based rehabilitation.

Rimmer and Hedman (1998) discussed the need to develop health promotion interventions that address the needs of people who have experienced stroke and that aim to reduce secondary conditions in persons with disabilities. Barnes (2003) suggested that the ideal model for community stroke rehabilitation would be an expert, multidisciplinary team based in a geographic community. Such a team would need to
maintain links with the local stroke unit and possibly with a regional centre for adequate auditing, education and training. Barnes also proposed that these teams could also serve to support primary care providing services to individuals who have experienced a stroke.

Hospital outreach programs have been a potential viable option to the provision of community based care. Abereojie (1988) found that both itinerant hospital outreach programs and community-based programs were equally effective in addressing promotive, preventive, curative and rehabilitative needs of rural residents in Nigeria. However, he also found that the community program was more effective in meeting the health care needs of a rural populace and served a larger number of people. The author did not clearly explain how he came to this conclusion, but it is worthy of note.

The literature provides an overview of the potential roles that community rehabilitation teams may assume in the provision of secondary and tertiary disease prevention for people with existing disabilities. Wade (2003) stated that community rehabilitation teams should assess and manage common problems that affect people living in the community. Roles can include monitoring people’s disabilities to avoid or treat complications, enabling community integration and participation, referring individuals to other specialized services, and providing on-going support to individuals and their families.

There has also been a call for more community engagement by the professions in the development and implementation of community-based services (Baum & Law, 1998; Bowerbank, 1994; Brockett, 1991; Devereaux, 1991; Scaffa, 2002). An increased focus on community health education (Baum & Law, 1998; Echsner, Gahimer, & Morris, 1999), with an emphasis on self-management (Roessler, Barling, Dephoff, Johnson, & Sweeney, 2003; Neufeld & Kniepmann, 2003), community integration (Adams, 1997), wellness (Wittman & Velde, 2001; Scott et al., 2001; Johnson, 1986; Reitz, 1992) and health promotion (Scriven & Atwal, 2004; Thibeault & Hebert, 1997; Finlayson & Edwards, 1995; Jaffe, 1986). Wittman and Velde (2001) suggest that “community built practice”, as opposed to community-based practice, is the best alternative. This is in keeping with the principles of community-based rehabilitation as defined by the World

**Occupational Therapy Models**

The following is a summary of the literature that describes a range of service delivery models involving occupational therapists in primary health care. These models are consistent with a population health framework and use health promotion and prevention strategies to empower individuals and communities to achieve the highest possible levels of well-being available to them. They are not exhaustive, but are meant to provide the reader with a broad overview of the potential roles that occupational therapists can play in primary health care.

In many instances, occupational therapists work as part of interdisciplinary teams. In the late 1980s and early 1990s, occupational therapists, along with nurses, physiotherapists, and other health care professionals joined general practitioners in the United Kingdom to form primary care teams in the community. These teams were created to meet the health needs of individual community members and to avoid unnecessary admissions to hospital (Bumphrey, 1989; Gaynord, 1996; Tyrrell & Burn, 1996). The various team members helped individuals with chronic conditions needing complex services which were often beyond what was to be expected from their general practitioners (Gaynord, 1996; Tyrrell & Burn, 1996). Primary care occupational therapy (PCOT), as it was implemented in the United Kingdom, was described as a service that "aims to provide more equitable access to OT skills for a wide range of clients who have previously had difficulty in accessing it" but was "not intended to replace inpatient care" (Gaynord, 1996, p. 386).

Individuals seen by primary care occupational therapists ranged in age from 12 to 96 years of age, (87% were over 64 years old), and fell into 55 diagnostic categories. The occupational therapists’ particular expertise was in dealing with individuals with chronic disease and older adults. The most common conditions seen by the occupational therapists were: osteoarthritis (23%); cancer (9%); cerebrovascular accidents (9%); diabetes (8%); rheumatoid arthritis (7 %); chronic obstructive pulmonary
disease (6%); hip replacement (6%); and other (motor neurone diseases, multiple sclerosis, head injury, and Parkinson’s disease) (Tyrrell & Burn, 1996).

Clients seen by primary care occupational therapists over a three-month period were assessed pre- and post- treatment to determine any changes in functional status (Tyrrell & Burn, 1996). Clients reported improved occupational performance and satisfaction with performance. Qualitative interviews with other team members identified several advantages to having occupational therapists on the team. Occupational therapists enabled the team to cope with higher levels of disability in the community, were a source of specialist advice, and helped to keep people in their home, avoiding hospitalization. Access to occupational therapy was perceived as being quicker and easier and there was a faster response to problems of people requiring services. The most common reasons for referral to primary care occupational therapists were: preventative interventions; rehabilitation; environmental adaptations; joint home visits with the nurse; and joint management of conditions with the primary care physician.

Gaynord (1996) provided case examples of the roles a primary care occupational therapist would play in the community. The primary care occupational therapist served to complement the services provided by the inpatient occupational therapist for a client with fibromyalgia. Inpatient rehabilitation had focused on goal setting and relaxation skills. The primary care occupational therapist provided support in the community to further develop these skills and apply them to everyday life. The primary care occupational therapist also worked with people with disabilities to maximize their abilities. Gaynord also described a consultant’s role in recommending equipment for terminally ill individuals discharged home. It was because the occupational therapist was based in the health centre and easily accessible to the nurse that this style of working was thought to be effective (Gaynord, 1996).

Crawford-White (1996) suggested that primary care occupational therapists are specialists in their own right. They contribute with the other members of the primary care team to meeting the health needs of the local population. Devereaux and Walker (1995) supported this statement and went on to say that “every patient entering the primary health care system should be screened by an occupational therapist and
scheduled for assessment, periodic reassessments, and treatment as indicated” (p.392).

In South Africa, a service delivery model, similar to the United Kingdom’s, was developed and implemented for occupational therapy services. An occupational therapist was located in a local community health centre. Referrals were received from the hospital and other community health centre staff for clients requiring occupational therapy due to physical or mental health issues. This model allowed people to access occupational therapy services at all levels of health care: promotive, preventive, curative and supportive. The aim of the model was to implement a primary health care approach to service provision (Watson, 1997).

Accident and emergency departments are increasingly becoming a major source of primary care provision (Carlill, Gash, & Hawkins, 2002; WRHA, 2004a). Over the past decade, there has been an increase in the use of occupational therapy in the accident and emergency departments. Carlill and colleagues (2002) reported that the primary role of occupational therapists working in the emergency departments was to reduce unnecessary hospital admissions and facilitate a safe discharge. Reasons for referral included: mobility concerns, assessment of function in basic living tasks, concerns about coping at home and a request for home assessment. Following their attendance at one emergency department, only 18.7% were admitted to the acute hospital for further therapy (Carlill et al., 2002). The remaining 81.3% were discharged home following occupational therapy only or occupational therapy and social work. Only 10% of the patients discharged home re-attended for the same complaint. It was estimated that a potential 500 bed days were saved as a result of the service.

Hendriksen and Harrison (2001) evaluated the potential for an occupational therapist in an accident and emergency department to reduce unmet functional needs of medically discharged patients aged 75 years or more with a primary diagnosis of limb, rib or back trauma. A randomized control trial (RCT) was used, allocating people to the occupational therapy intervention or the control group of routine care. All people were reassessed at home seven days after discharge. At the follow-up assessment, the proportion of patients who did not have problems with the activities identified at baseline...
had increased by 54% over and above the change in the control group. The authors concluded that over 50% of older people with limb, rib or back trauma would have left the emergency department unable to perform basic activities of daily living that could be resolved with occupational therapy intervention.

Smith and Rees (2004) recently added to the previous evidence with a study that aimed to establish the effects of occupational therapy provision for older adults in an accident and emergency department. Over a three-year period the occupational therapist received 1,036 referrals. The most common referral profile was that of a female (76%), 66 years or over (88%), living alone (63%) and presenting with a fall (71.5%). Of the number of people referred, 85% were subsequently discharged home, with 8% being admitted to acute hospital care. Of the referrals made, only 35% had previous or were receiving continuing social services input. The readmission rate of people due to an inability to cope, a further fall or immobility within one month of being discharged from the emergency was less than 1%. A conservative estimate of the total bed days saved, as a result of saved admissions, was 2,224.7 bed days. This was estimated as equivalent to two beds saved over the course of a year. The lack of a control group limited the conclusions that could be drawn from these findings.

One major recommendation in all three of the studies previously discussed related to the role of occupational therapy in emergency units was the need for the service to operate seven days a week and beyond standard working hours. An increased service level could facilitate the initial screening of all the accident and emergency attenders over 65 years of age, reducing the number of older attenders who are subsequently admitted to hospital or discharged without follow-up. Although not the same setting as a primary care centre, the people that the occupational therapist may see in an emergency department are similar to those that could be seen and assisted by the occupational therapist in a primary care setting. The occupational therapist could respond to urgent care needs of individuals similar to those identified in the previous studies and provide interventions that could avoid hospital admission.

Scott et al. (2001) provided other examples of how and where occupational therapists have been involved in primary health care in the United States. They outlined
several programs incorporating comprehensive functional wellness and prevention programs by occupational therapists. For example, Oxford’s Health Plans, Health Promotion, and Wellness Department, under the direction of an occupational therapist, has offered cost-effective programs to improve people’s overall health and function to decrease unnecessary health care utilization. The Lifestyle Redesign Programs developed by occupational therapists were used to empower members with the information they needed to make lifestyle changes. Programs included health and nutrition screening, falls prevention, diabetes and COPD self-management, a sleep well/feel well educational series, and a member-led walking club. A self-management program was reported to have a utilization savings of approximately $100.00 per member/per month for those involved. An RCT of the falls prevention program was underway.

Occupational therapists are also hired as consultants to agencies or organizations for their expertise in a particular area (Loukas, 2000; Learnard & Devereaux, 1992) or are contracted to deliver or develop services (Harms & Law, 2001; Womack, 1999; Zimmerman, 1999). Neufeld and Kniepmann (2003) described wellness and self-management programs developed and administered by occupational therapists for persons with multiple sclerosis (Roessler et al., 2003) and Parkinson’s disease and their caregivers. In Canada, occupational therapists have played a variety of roles across the country, as part of geriatric outreach teams (Lamb, 2003a), community palliative care teams (Prochnau, Liu, & Boman, 2003), community mental health teams (Lamb, 2003b; Krupa, Radloff-Gabriel, Whippey, & Kirsh, 2002), case managers (Lamb, 2003b; Krupa & Clark, 1995; Lohman, 1998), barrier-free designers (Cooper, Cohen, & Hasselkus, 1991), work-place safety and health officers (Deen, Gibson, & Strong, 2002) and technology providers (Polgar, 2002). This list is not exhaustive, but is meant to illustrate the various ways that occupational therapists have contributed to primary health care reform. The roles are in keeping with the Canadian Association of Occupational Therapists’ position that:

Occupational therapists work with clients to support healthy lifestyles, prevent illness and disability, and promote health. Primary health care
and occupational therapy have a common philosophical base that supports a holistic approach to health, the personal responsibility for achieving health, and an intersectoral approach that spans, the educational, health and individual, family and community sectors (Canadian Association of Occupational Therapists, 2000, p. 9).

Mental Health Models

Zimmerman (1999) described the occupational therapy services provided for people with mental illness living in a community in the United States. The people described in the article lived in a supportive housing complex and were part of the assertive community treatment model. The occupational therapist provided 1.5 hours each week of group time to enhance independent living skills. Individualized interventions in the resident’s apartment were also available from the occupational therapist. Occupational therapists also provided informal case consultation and in-service training to direct care support staff. Inservice topics included grooming and hygiene, socialization, community mobility, sexual health, home management and medication routine.

Radonsky, Jackson, Barton, Fedak and Martin (1986) evaluated the effectiveness of an occupational therapy intervention with people who used mental health services in a community setting. Individuals participated in a seven-week intervention program aimed at improving members’ money management, safety, health and leisure. Consumers participating in the program were reported to demonstrate improvements in specific daily living skills.

Rosier, Williams and Ryrie (1998) described the role of the occupational therapist in a multidisciplinary community mental health team. An anxiety management group was offered as an integral part of a range of occupational therapy services. Results of client and staff evaluations indicated that the group approach had been effective, with participants reporting fewer somatic symptoms, greater control over anxiety, increased confidence in management of anxiety, and support from others with similar problems.
Cook (2003) studied a primary care based service in the United Kingdom investigating the type and frequency of occupational therapy and care management interventions delivered to people with severe mental health problems. The primary care team consisted of a general practitioner, practice nurse, and occupational therapist. The occupational therapist was employed to deliver both generic care management and occupational therapy. The sample for the case study examined one service and 25 people with enduring psychotic conditions who received occupational therapy services. Forty percent of the interventions provided by the occupational therapist were considered to be generic. Fifty-four percent of the interventions provided were deemed to be occupational therapy specific interventions. Six percent were deemed to be psychological interventions. The most frequent occupational therapy interventions were leisure skills development, assessment, life skills development, social skills development and goal setting. The author concluded that the results were not generalizable to other settings and several problems with the methods were found when attempting to analyze the interventions into separate and mutually exclusive categories.

The literature has described three roles of practice for occupational therapists working in mental health: generic casework, specialist occupational therapy, and a mixture of the two. The latter model appeared to be the most common method of working among British occupational therapists. However, generic responsibilities often supersede occupational therapy skilled intervention (Harries & Gilhooly, 2003b). The ability to balance responsibilities for skilled occupational therapy intervention with generic care co-ordination responsibilities has been a challenge for occupational therapists working in these dual roles. Generic care coordination responsibilities have been time-consuming, often leaving little time for skilled occupational therapy intervention with the individual (Cook, 2003; Harries & Gilhooly, 2003a, 2003b; Hughes, 2001).

Individuals with chronic mental illness are in need of health promotion programs to foster healthy behaviours and lifestyle choices (Edwards, 2001; Callaghan, 2004). Fitness and lifestyle programs have many benefits for clients of mental health services. Though evidence for exercise and mental health exists, it has not been widely accepted
in practice (Lloyd, Sullivan, Lucas, & King, 2003). Lloyd et al. describe a fitness and lifestyle program developed in New Zealand by occupational therapists for people with psychotic disorders. The program involved structured physical exercise and educational sessions addressing lifestyle change, health benefits, recommended exercise and activity levels, goal setting and monitoring outcomes. The preliminary evaluation of this program suggested that there are benefits to those persons taking atypical anti-psychotic medication by undertaking regular exercise and participating in a lifestyle program. While there was still only minimal evidence to support this particular intervention given the small sample size, the authors suggest that physical activity programs should be included as part of their overall treatment regimen for people with chronic psychotic disorders.

The preceding information found in the published literature illustrates many promising areas of practice that occupational therapists can integrate into primary health care. Other initiatives have been implemented across Canada but have not been published.

**Physiotherapy Models**

The role of physiotherapy managing musculoskeletal conditions has become increasingly recognized as an important component of primary health care practice. In a survey of fourth year medical students in the United States, Connolly, DeHaven and Mooney (1998) found that 65% of respondents reported that “rehabilitation” (as defined by non-operative musculoskeletal care) was the area in which they felt least prepared. It has also been reported that general practitioners in the United Kingdom feel confident managing the majority of musculoskeletal conditions, providing that they have adequate support for continuing education, consultant support and adequate access to physiotherapy and a multidisciplinary approach to pain control (Roberts, Adebajo & Long, 2002). Hale and Schuch (1992) have described a program whereby physiotherapists provide consultation and education to family practice residents in the United States. This role has been found to be of benefit, particularly in terms of musculoskeletal skills. Given this situation, it would seem appropriate to consider the
increased role that physiotherapists could play in the management of musculoskeletal injuries or disorders in a primary health care setting.

Physiotherapists have worked in an expanded role in the American military since the 1970s (James & Stuart, 1975). Since the inception of this model, physiotherapists have been provided with the necessary training to order X-rays, magnetic resonance imaging, refer to all specialties and prescribe some non-steroidal anti-inflammatory drugs as well as analgesics.

Physiotherapists have been found to provide care more quickly than through the conventional medical route and may reduce hospital costs (Dininny, 1995). Daker-White et al. (1999) evaluated the efficacy and cost of specially trained physiotherapists in a primary care role for musculoskeletal conditions in the United Kingdom. In a randomized control trial, 481 people with musculoskeletal complaints were randomly allocated to post-fellowship junior orthopaedic medical staff and clinical assistant orthopaedic surgeons or to orthopaedic physiotherapist specialists. Roughly half of the presenting problems were disorders of the back or neck; roughly one third were disorders of the lower limb and 14 to 17% represented disorders of the upper limb. The main outcome measures were self-reported measures of pain, functional disability and perceived handicap. The average time to follow up was 5.6 months after randomization. The authors concluded that orthopaedic physiotherapy specialists are as effective as post-fellowship junior orthopaedic staff and clinical assistant orthopaedic surgeons in the initial assessment and management of new referrals to out-patient orthopaedic departments. In addition, they generate lower initial direct hospital costs (Daker-White et al., 1999).

Other authors report similar results. Hattam and Smeatham (1999) found that a majority (72.4%) of 76 persons on an orthopaedic waiting list in Sheffield, England could be effectively managed by a physiotherapist. Physiotherapists with extensive experience in musculoskeletal disorders and additional training in the use of injections (corticosteroid and/or local anesthetic), were utilized in a consultative model in a primary care environment, on a twice-monthly basis. Physiotherapists assessed, gave any combination of advice, home exercises, or injections. The majority of referrals (60.5%)

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were for lower limb disorders. After physiotherapy consultation, 38.2% (n=29) required no further intervention; 25% (n=19) were referred to physiotherapy; 6.6% (n=5) were referred to podiatry; 15.8% (n=12) received injections requiring follow-up; 5.3% (n=4) were referred for further investigation (X-ray or blood work). Of the total number of persons seen in the study, 15.8% (n=12) were referred on to orthopaedics and one person (1.3%) to neurology. A further 10.5% (n=8) kept their pre-existing appointments with orthopaedics, while 5.3% (n=4) needed to re-consult their GP with the same problem within one year.

The skills of physiotherapists have also been utilized internationally in accident and emergency departments. While the program is based within the confines of an institution, the physiotherapy services described herein are similar to those used at a community level. Jibuike, Paul-Taylor, Maulvi, Richmond and Fairclough (2003) found a reduction in the number of referrals for admission or immediate orthopedic consultation following the introduction of a physiotherapist to assess soft tissue knee injuries in an English accident and emergency department. The majority of referrals were for possible injury to the menisci (38%), cruciate ligaments (18%), patellofemoral joint (10%), and fractures (2%) or other complaints (32%). Ninety-five per cent of those referred were assessed within one week. The majority of people (59%) were discharged after assessment by the physiotherapist. A significant decrease in the number of referrals for admission was observed (2% prior to the implementation of the physiotherapist compared to 0.5% after), as well as referral to the trauma clinic (11% as compared to 5%). Furthermore, fewer misdiagnoses and losses to follow-up were experienced compared to a Senior Health Officer. In another evaluation of physiotherapists working in general practitioners’ offices in the United Kingdom, on-site physiotherapy services resulted in fewer referrals to Orthopaedics by 8% and to Rheumatology by 17% over a one-year period (O’Cathain, Froggett, & Taylor, 1995). In contrast, the number of referrals to physiotherapy increased. Seven per cent of those physiotherapy referrals were sent to the local hospital out-patient department because of a need for more equipment than was available at the community level, an expert opinion was sought, or referral was due to client preference.
Hendriks, Kerssens, Nelson, Oostendorp, and van der Zee (2003) described the use of physiotherapy consultation services by a group of primary care physicians in the Netherlands. The mean referral rate was 4.7 per 1000 over a seven-month period. The majority (97.5%) of referrals were musculoskeletal in nature, 2.5% neurological, and none of a cardiorespiratory nature. Primary care physicians were satisfied with the physiotherapy consultation and changed their management in almost half of the cases that they referred (Hendriks et al., 2003). Of the 352 clients referred for a one-time physiotherapy consultation, 224 clients (63%) were referred for ongoing physiotherapy, compared to 179 prior to the implementation of a physiotherapy consultation model (Hendriks, Kerssens, Heerkens et al., 2003). Compared to those not referred for physiotherapy after consultation, the clients who were referred were generally older, less educated, had experienced a longer duration of symptoms and had lower physical function. Fewer referrals to medical specialists were also observed: 53 referrals compared to 101 prior to the one-time physiotherapy consultation model. In a previous feasibility study by the same author (Hendriks, Brandsma, Wagner, Oostendorp, and Dekker, 1996), 14 general practitioners (GPs) in the Netherlands were found to refer 93 persons for a one-time physiotherapy consultation, over the course of this 13-week study. This equated to a referral rate of 12 per 1000 clients. After the physiotherapy consultation, 89% of the physicians followed the physiotherapist’s advice and 58% changed their management. Prior to physiotherapy consultation, the GPs had intended to refer 28 people to medical specialists. After consultation, they referred only 14% of these same people to medical specialists.

Physiotherapists working in an expanded capacity may be considered “expert” in their area of clinical practice. Resnik and Jensen (2003) explored the meaning of “expert” in a grounded theory qualitative study. “Expert” therapists differed from “average” therapists in terms of their academic and work experience, utilization of colleagues, use of reflection, view of primary role, and pattern of delegation of care to support staff. Years of experience was not a differentiating factor. Expert therapists had a patient-centered approach to care, characterized by collaborative clinical reasoning and promotion of client empowerment.
Other examples of how and where physiotherapists have been involved in primary health care in the United States are provided by Monahan (1996). The examples include outreach geriatric teams, a mobility program in a local seniors health centre, workplace assessments, and injury prevention programs. No scientific evidence is available on their effectiveness but these reports provide suggestions for future clinical opportunities. Where physiotherapy services have been implemented in private industry in the United States, the number of workdays lost due to injury have been reduced by as much as 60%, as well as a reduction in the number of workers' compensation claims and overall medical costs (Monahan, 1994). Examples of American physiotherapists working in health and wellness centres in a disease prevention or health promotion capacity were provided by Ries (2003), Woodhead (1998) and Smith (1996). This role is in keeping with the American Physical Therapy Association’s position that “physical therapists are uniquely qualified to assume leadership positions in efforts to prevent injury and disability, and fully supports the positive roles that physical therapists and physical therapist assistants play in the promotion of healthy lifestyles, wellness, and injury prevention” (APTA House of Delegates’ position on Health Promotion and Wellness by Physical Therapists and Physical Therapist Assistants as cited in Ries, 2003, p. 46).

Existing evidence also supports other service provision models such as telephone advice and group treatment as alternatives to the conventional individual-based model. Physiotherapy telephone advice in addition to standard care for low back pain has been found to provide greater consumer satisfaction than standard care alone (Taylor, Ellis, & Gallagher, 2002). This model relies on the accessibility of a telephone in the home which can not be universally assumed. Many service models promote the use of group treatment and education as a means of managing lengthy waiting lists and limited resources. But such group interventions must be used carefully as they may not fulfill all the goals of the program. A systematic review in the Cochrane Library (Cohen et al., 1994) found insufficient evidence in the literature to either promote or refute the role of group education in the case of adults with low back pain. Features associated with adherence to a group exercise program have been identified as self-esteem,
satisfaction with previous health care, quality of the bond between the client, the physiotherapist and the referring physician, not wanting to feel foolish and not feeling that they can keep up with the group (Crook et al., 1998).

Health education and promotion activities have also been provided by rehabilitation students as part of their educational curriculum. At the University of South Australia, physiotherapy students have conducted a variety of health care seminars in rural communities where access to full-time resources have been limited (Boucaut, 1998). Physiotherapy and occupational therapy students of the School of Allied Health Science of the University of Texas Medical Branch ran a seven-week health promotion program on the health behaviours of 35 older, inactive, overweight, or physically limited adults (Haber, Looney, Babola, Hinman, & Utsey, 2000). While short-term gains were observed in exercise behaviour, follow-up at eight months revealed no long-term behaviour change. The implication is that maintenance programs may be necessary to ensure lasting impact of these types of services.

As resources are planned for the primary health care setting, current underutilization of existing services can not be overlooked. Certain population groups may not be accessing physiotherapy services despite apparent need. In a qualitative study conducted by Mielenz et al., 1997) in the United States, only 12.6% of 199 people with acute low back pain claimed that they had seen a physiotherapist. Education, workers compensation eligibility, and prior history of having seen a physiotherapist were linked to the likelihood of physiotherapy intervention (Mielenz et al., 1997). Lock et al. (1999) conducted a postal survey of adult patients living in the inner city in an urban centre in Newcastle, England. The response rate was 64% of 1546 questionnaires sent out. The authors found a high prevalence rate of back (30%), neck (21%), and shoulder (20%) problems, of which one third had consulted no one. A further one third had sought the advice of their family doctor, while 17% had seen a physiotherapist. To review the results of a national survey conducted in the United Kingdom, Chesson and Sutherland (1994) interviewed 212 persons with disabilities. Of these persons, only 12% had used community physiotherapy services over the previous three years; 2% were using community physiotherapy services at the time of the study. When questioned
regarding perceived future needs, home help and accessible transportation were the two most frequent responses, followed by occupational therapy (22%) and physiotherapy (21%) services.

Hannay, Sunners and Platts (1997) assessed clients’ perceptions of primary health care in an inner-city practice in Sheffield, England, in terms of medical care, social services and participation. A response rate of 79% was garnered from a total of 248 surveys. Respondents were more satisfied with “medical care” than with other aspects of primary health care such as housing. Physiotherapy, chiropody and pharmacy were the services at the health centre most requested by those clients surveyed (Hannay et al., 1997).

While the role of physiotherapy in the community at the primary health care level has been heralded, several negative dimensions have also been raised. The risk of professional isolation, professional fragmentation, the impact of restricted on-site resources on the quality of patient care and staffing issues have been identified as needing attention (Minns Lowe & Bithell, 2000). Travel time by the health care provider, safety and caregiver stress have also been cited as factors to consider (Enderby & Wade, 2001). Lack of space to provide intervention has been reported by consumers and lack of leadership and control has been reported by rehabilitation therapists (Stephenson & Wiles, 2000). Where therapists have worked in settings promoting a family-centered approach, therapists have found it difficult to balance the family’s needs and desires with evidence-based practice (Litchfield & MacDougall, 2002). To address some of these issues, Wade (2003) recommended a network of rehabilitation teams, some specialized in certain diseases or interventions, and others specialized in long-term community participation.

Viitanen (2000) has explored the occupational culture of physiotherapy units in Finnish health centres. Three main themes emerged in this qualitative study of physiotherapists: an ethnographic approach to practice with little interdisciplinary collaboration; an emphasis on special expertise; and an existing ideology of preventative physiotherapy and client-centredness. There was little evidence of a population health approach in either policy planning or action. “Hands as tools” emerged
as unique to the physiotherapy profession. The author used a combination of key informant interviews from the public and private domains, as well as focus groups totaling 46 in all. Differences in the role of physiotherapists within the Finnish health care system, as well as the Finnish health care system overall may possibly limit the generalizability of the study to the Canadian context. Nonetheless, consideration of a physiotherapy culture itself within the larger context of a universal health care system must be considered.

To ensure an effective continuum of care from the institution to the community, several factors must be considered. Clear criteria for referring to community physiotherapy, a clear understanding of what community services can offer, and a need for increased collaboration have been identified as important success factors (MacLeod, Thomson, Upton, Scott, & Chesson, 2002).

The Evidence

Introduction

Occupational therapy and physiotherapy can play a vital role in primary health care in terms of health promotion, prevention, acute care and rehabilitation (Bumphrey, 1989; CPA, 2001; Crawford-White, 1996; Devereaux & Walker, 1995; Higgs, Refshauge, & Ellis, 2001; Klaiman, 2004; Watson, 1997). Therapy programs in the community demonstrate effectiveness in improving short-term survival, increasing function and obtaining the most independent discharge location (Evans, Connis, Hendricks, & Haselkorn, 1995; McPherson et al., 2000). Rehabilitation clients are more likely to stay in their homes during the first year after hospitalization, suggesting that therapy should be extended to the home environment or sub-acute care settings for some individuals (Evans et al., 1995; McPherson et al., 2000).

The following sections summarize literature relevant to the effectiveness or efficiency of occupational therapy and physiotherapy services in a primary health care context. Both qualitative and quantitative research have been included. The strength of the evidence is variable. Acknowledging that primary health care is an emerging area of practice, we have compiled the best evidence currently available for the contribution of
occupational therapy and physiotherapy to improving the health of communities.

The advantages of community-based care can include increased access to services, increased effectiveness, increased inclusion of care providers, increased consumer satisfaction, and development of local partnerships (Enderby & Wade, 2001; Kendall, Buys, & Larner, 2000; Wade, 2003). Convenience and comfort have been reported by consumers, and relevant goal setting has been reported as a major advantage by therapists (Stephenson & Wiles, 2000).

**Occupational Therapy**

*Profile of Practice*

There has been considerable growth in community practice among occupational therapists over the past two decades in home care programs, private practice, community organizations, as well as government and industry. Roles in consultation and primary prevention/health promotion have also been developed (Baum & Law, 1998; Neufeld & Kniepmann, 2003; Roessler et al., 2003; Scott et al., 2001).

Lysack, Stadnyk, Paterson, McLeod and Krefting (1995) administered a survey to 130 Canadian occupational therapists practicing in community-based settings in Ontario to identify their job roles, job skills, and professional expertise. Results indicated that 36% of respondents were self-employed. The majority of those surveyed received their referrals from physicians (68%). Other sources of referral included: other health professionals (61%), occupational therapists (41%), physical therapists (39%), self-referral (36%) and insurance companies (30%). Among those surveyed, the most frequent demands of professional expertise were: community resources (90%), self-directed learning (89%), clinical reasoning (85%), client-centred approach to practice (84%); advocacy (75%), health promotion/disease prevention (75%) and program evaluation (68%).

Lemorie and Paul (2001) used the same survey with 84 community-based occupational therapists in the United States. Therapists worked across populations, from infants to older adults, and were most often clinicians, consultants, or educators working with children. A majority of respondents indicated that the skills and expertise
important for community-based practice were: networking, community resources, management of volunteers, program evaluation, health promotion, disease prevention, and multicultural practice. Knowledge in these areas, served to tailor programs to the needs of the community.

Recently, Flannery and Barry (2003) explored Irish occupational therapists’ current involvement in health promotion and the opportunities or barriers to occupational therapists as health promoters. Results from 168 therapists showed that occupational therapists have a broad perspective and view of health promotion. They reported being most involved in creating supportive environments, and developing personal skills. They felt they were least involved in building public policy and strengthening community action. Opportunities were seen in the skills and knowledge occupational therapists have related to preventative strategies and occupational therapy’s compatible philosophy with that of health promotion. The main barriers were lack of resources and a limited perception of occupational therapy by others. The findings identified occupational therapists as valuable resources in the promotion of health with potential to offer skills at the wider social and political level and to the wider community.

Craik, Chacksfield and Richards (1998) surveyed mental health occupational therapists practicing in the United Kingdom. Community mental health was the most frequently reported area of work, with leisure, counselling, anxiety management, and creative activities the most frequently used interventions. Respondents were committed to the core principles of occupational therapy and the need to develop outcome measures and evidence-based practice. They were concerned about moves to generic practice.

Meeson (1998a) examined intervention choices among occupational therapists working in community mental health multidisciplinary teams. Results of the study revealed an emphasis on anxiety management (16% of interventions), supportive counselling (18% of interventions), and problem-solving discussion with clients about aspects of their daily lives (13% of interventions). The influence of personal perspective and context, that is, policy, organization of services, division of labour within the team and resources at their disposal, set the boundaries for the therapists' intervention
repertoire. Individual interventions were chosen on the basis of utility and client-centred values (Meeson, 1998b).

**Analysis**

The search strategies employed in investigating the role of occupational therapy in primary health care garnered 939 titles or abstracts for review, including duplicates. Of these, 283 (30%) were chosen for detailed review, of which 136 (48%) met the selection criteria. Eleven of these articles were systematic reviews, six of which were found in the Cochrane Library database; two were meta-analyses; 24 were randomized controlled trials; five were controlled clinical trials; 43 were observational studies; six were qualitative studies; one was a cost analysis; three were narrative, non-systematic reviews of the literature. Several papers describing programs or service delivery models were also reviewed and described in the previous section on service delivery models.

Papers were categorized into one of the following five areas:

- chronic diseases (including rheumatoid arthritis, chronic lung disease, coronary heart disease, chronic fatigue syndrome),
- neurological conditions (including stroke, Parkinson’s disease, multiple sclerosis, traumatic brain injury),
- older adults (including prevention of functional decline, fall prevention),
- musculo-skeletal conditions (including chronic pain and other work-related conditions), and
- mental health (including skill building, lifestyle management, vocational rehabilitation, and homelessness).

**Results**

**Chronic Diseases**

Chronic diseases are among those conditions most frequently seen by occupational therapists working in the community (Chiu & Tickle-Degnen, 2002; Tyrrell & Burn, 1996). Studies of disease prevalence estimate that as many as 45% of the general population and 88% of the population aged 65 years and older have one or
more chronic conditions. Fifty-percent of all individuals with chronic disease have multiple chronic conditions (Hoffman, Rice, & Sung, 1996). Patrick (1997), along with other authors (Patrick, Richardson, Starks, Rose, & Kinne, 1997; Rimmer, 1999; Rimmer & Hedman, 1998), discussed the need to provide health promotion and disease prevention activities tailored to meet the needs of people with disabilities or chronic disease, or both.

**Rheumatoid Arthritis**

Functional ability is reduced in 60% of people with rheumatoid arthritis (RA) within the first five years of diagnosis (Hammond, Young, & Kidao, 2004). Helewa et al. (1991) found that a six-week comprehensive occupational therapy home program could have a positive short term effect on improving the functioning of adults with rheumatoid arthritis. A recent systematic review (Steultjens et al., 2004) examined the effectiveness of occupational therapy interventions in improving outcomes on functional ability, social participation and health-related quality of life for rheumatoid arthritis clients. The authors (2004) concluded that

There is “gold” level evidence that occupational therapy can help people with rheumatoid arthritis to do daily chores such as dressing, cooking and cleaning and with less pain. Benefits are seen with occupational therapy that includes training, advice and counseling and also with advice on joint protection (p. 38).

Hammond and Freeman (2004) later found that an occupational therapy program using educational-behavioural training was more effective than the standard arthritis education program for joint protection adherence and maintaining functional ability long term.

A study by Hammond et al. (2004), completed after the systematic review by Steultjens et al. (2004), evaluated the effects of an occupational therapy program on self-management and health status of people with early rheumatoid arthritis (< 2.5 years). Self-management significantly increased in the occupational therapy group. Otherwise, there were no significant differences in any outcome measures, or between
groups. The authors indicated that functional ability remains reasonably good for many individuals in their first two and half years with the disease, so preventive benefits of self-management may not yet be apparent and longer follow-up is needed.

Although occupational therapy intervention has been found to be effective for individuals with early and late rheumatoid arthritis (Hammond & Freeman, 2004; Hammond et al., 2004; Helewa et al., 1991; Steultjens et al., 2002) these individuals are not always referred for occupational therapy. A study done in Ontario in the 1990s examined how primary care physicians manage patients with rheumatoid arthritis (Glazier et al., 1996). They found that only 13.6 % of patients with early rheumatoid arthritis seen by a primary care physician, and only 44.8% with late rheumatoid arthritis were referred to occupational therapy for intervention. A study completed among Ontario rheumatologists found that only 26.5% of their patients were referred for occupational therapy (Li & Bombardier, 2003). These findings suggest that physicians require more exposure to the role and health benefits of occupational therapy to increase rates of appropriate referrals and improve the quality of care for patients with rheumatoid arthritis.

Chronic Obstructive Pulmonary Disease (COPD)

COPD affects more than 5% of the adult population. Estimates show death and disability due to COPD are increasing across most regions for males and females and the burden they place on governments, health care systems and families are enormous (World Health Organization, 2002). COPD causes impairment leading to activity limitations and participation restrictions. Although medication reduces exacerbations in individuals with COPD (Sin, McAlister, Man, & Anthonisen, 2003), many individuals remain symptomatic with impaired quality of life. The World Health Organization (WHO) (2002) states that while the use of self-management strategies for individuals with COPD is less clear, lifestyle advice is of importance.

The role of multidisciplinary rehabilitation programs for improving health among individuals with COPD has been recognized. However, most of the rigorous research studies occurred in outpatient settings (Griffiths et al., 2000; Green, Singh, Williams, &
Morgan, 2001; Bendstrup, Ingemann Jensen, Holm, & Bengtsson, 1997). The WHO (2002) states there is a need for greater integration of rehabilitation services for individuals with COPD living in the community. Strijbos, Postma, van Altena, Gimeno and Koeter (1996) found that home-based pulmonary rehabilitation provides more sustained benefit over 18 months and the strategies are more easily integrated into the daily routine when compared to hospital based programs. Studies have found that the addition of occupational therapy to the rehabilitation team contributed significantly to the performance of basic activities of daily living when compared to groups who did not receive occupational therapy as part of their pulmonary rehabilitation (Bendstrup et al., 1997; Lorenzi et al., 2004).

Louie (2004) conducted an RCT examining the effectiveness of an occupational therapy intervention using guided imagery to reduce anxiety-induced physiological symptoms in people with COPD. Results showed there was a statistically significant increase in partial percentage of oxygen saturation in the treatment group, but no significant effects on the other physiological parameters. Migliore (2004) found that controlled breathing strategies promoted in the context of physical activity exertion in a home environment resulted in a decrease in individuals' dyspnea with activity exertion and an increase in their functional status and quality of life following goal-directed, individualized occupational therapy intervention combined with exercise training. Although no causality can be determined in a case study design, results were promising. Branick (2003) illustrated how energy conservation and activity efficiency using pulse oximeter readings and adaptive techniques during activities of daily living can be beneficial to individuals with COPD living in the community.

Chan (2004) studied the disease experience of individuals with COPD and their perceptions of an occupational therapy intervention as it related to occupational behaviours. Following occupational therapy intervention, participants identified they had an increased knowledge of COPD, were better able to take control of the disease and reengage in activities, experienced alleviation of mental burden and greater social support from peers and therapists. The study suggested a temporal framework for better understanding participants' experiences of COPD as well as for developing
occupational therapy interventions. Toms and Harrison (2002) did a similar study exploring individuals' perspectives of the experience of living with chronic lung disease, and the impact that participating in a pulmonary rehabilitation program had on that experience. The authors stated that pulmonary rehabilitation programs need to be part of a framework of lifelong support for those with chronic lung disease in order to effect long term change.

**Coronary Heart Disease**

Primary and secondary prevention of cardiovascular disease are critically important (World Health Organization, 2003a). Cardiac rehabilitation programs have been developed in an effort to prevent recurrences of myocardial infarction and stroke (World Health Organization, 2003b) often involving an interdisciplinary team approach (Reitz, 1999). Individuals with previous myocardial infarction (MI) and stroke are the highest risk group for further coronary and cerebral events. Evidence based interventions for primary and secondary prevention of MI and stroke include the use of specific medications and modifying lifestyle-related risk behaviours (Reitz, 1999). If these interventions are appropriately implemented, nearly one third of the fatal and non-fatal MI and strokes could be prevented. However, cardiac rehabilitation programs are often only available in inpatient settings, not meeting the increasing need that exists for community-based programs (Reitz, 1999; World Health Organization, 2003b).

Dubuloz, Chevrier and Savoie-Zajc (2001) conducted a study with individuals who had an MI and were participating in occupational therapy intervention. Using qualitative methods, the authors explored the transformative process of change that occurs with occupational therapy clients who successfully changed their lifestyles, and developed “occupational balance”. The perception of work underwent the most significant transformation, having less importance for participants, which was perceived to be essential in establishing a lifestyle change. As well, the “definition of self” and the “concept of health” emerged as new elements essential to lifestyle modification. The authors stated that occupational therapists must work with their clients to assist them in critical reflection to deconstruct common values and beliefs that could slow down the
process of change. This is supported by Reitz (1999) who suggests that occupational therapists play a role in the evaluation and treatment of occupational and lifestyle habits using a wellness approach with individuals with coronary heart disease.

**Chronic Fatigue Syndrome**

Chronic fatigue syndrome (CFS) is a profoundly disabling condition characterized by severe, unrelenting fatigue and a number of other physical and cognitive symptoms. Currently, there is no cure or widely accepted treatment for chronic fatigue syndrome. Taylor (2004) examined the effects of an integrative, consumer-driven rehabilitation program on quality of life and symptom severity for individuals with chronic fatigue. Empowerment theory offered the underlying conceptual framework for the program developed and co-led by an occupational therapist (Taylor, 2004). Findings suggest that consumer-driven programs can have a positive impact on symptom severity and quality of life over time for individuals with chronic fatigue syndrome. The author suggests that participatory, community-based models of occupational therapy service may offer a viable alternative to more medicalized approaches to therapy, which generally focus on correcting isolated deficits or improved functioning in a single area. Further research is needed to establish the effectiveness of this community-based program and to ensure maximal opportunity for improved functioning, quality of life and access to resources for individuals with CFS.

**Neurological Conditions**

Many of the longer-term problems associated with disability come after discharge from the hospital (Barnes & Radermacher, 2001). This is particularly true for acute-onset disabilities, including strokes. The lack of continuity of care after discharge and often the diminished availability or complete absence of ongoing rehabilitation can lead to unnecessary complications.
**Stroke**

In a review of the literature, Barnes reported that the majority of studies support early-discharge with interdisciplinary teams providing rehabilitation programs in the community for individuals with stroke (Barnes, 2003). This approach can reduce the number of hospital bed days and the cost of care without any functional loss to individuals. An added benefit is that people can return to their homes and families as soon as possible. An RCT by von Koch, de Pedro-Cuesta, Kostulas, Almazan and Holmqvist (2001) supported these findings. Mayo et al. (2000) studied the use of rehabilitation teams that provide individualized home intervention programs to people who experienced stroke following discharge from the hospital over a usual-care group who received normal hospital services. Significantly beneficial effects in the home group were evident in activities of daily living and reintegration into normal living at one and three months. At three months, the home intervention group also showed significantly higher scores on a physical health component. A recent systematic review completed by the Cochrane Collaboration (Outpatient Service Trialists, 2002) supported these findings. However, the evidence was derived from a review of heterogeneous interventions and therefore further study of the individual interventions is needed.

Several research studies have focused exclusively on the effectiveness of occupational therapy intervention for individuals who have experienced a stroke. Recently, Walker, Gladman, Lincoln, Siemonsma and Whiteley (2004) completed a meta-analysis of occupational therapy intervention for individuals with stroke. Individuals were seen in hospital and discharged to the community or had never been admitted to hospital following a stroke. The authors reported that community occupational therapy significantly improved personal and extended activities of daily living and leisure activity for persons with a stroke. They also stated that better outcomes were found with targeted interventions.

**Parkinson’s Disease**

Parkinson’s disease, a progressive neurological condition, affects one in 100 people over the age of 60 years, rising to nearly three in 100 over the age or 85 years.
Benharoch and Wiseman (2004) using qualitative methods explored how people with Parkinson’s disease perceived their participation in occupations. Findings supported previous research indicating that Parkinson’s disease influenced the ability to participate in occupations and the need for more occupational therapy involvement with this population.

Deane, Ellis-Hill, Playford, Ben-Shlomo & Clarke (2001) completed a systematic review for the Cochrane Collaboration aimed at comparing the efficacy and effectiveness of occupational therapy for people with Parkinson’s disease with placebo or no interventions. The review included only two RCTs. One of the studies, a repeated measures RCT by Gauthier, Dalzier and Gauthier (1987), demonstrated that individuals with Parkinson’s disease who received occupational therapy and physiotherapy had improved psychological well-being, improved akathesis, maintained functional status, and decreased bradykinesia when compared to the control. There were no changes in dexterity. Fiorani, Mari, Bartolini, Ceravolo and Provinciali (1997) completed a similar study and found that both of the groups improved in the reduced timed walk, but only the occupational therapy group improved their activities of daily living and quality of life. The same studies were included in a systematic review completed by Gage and Storey (2004). Although both trials reported a small but significant effect from occupational therapy intervention, the trials did not have adequate placebo treatments, used small numbers of patients and the method of randomization and concealment of allocation was not specified in one trial. Further research was recommended to support or refute the efficacy of occupational therapy with this population.

Traumatic Brain Injuries

In the 1990s, occupational therapists along with other clinicians started to recognize the benefits of working with clients with traumatic brain injury (TBI) in their homes and communities (Giles, 1994; Nelson & Lenhart, 1996; Powell, Heslin, & Greenwood, 2002). The National Institutes of Health Consensus Statement: Rehabilitation of Persons with TBI (1998) indicated that community-based services optimize outcomes over the course of recovery and that recovery following a TBI is
prolonged, and in some cases, lifelong. However, studies have shown that few individuals, despite a high incidence of severe TBI, received additional rehabilitation after discharge (Giles, 1994; Huebner, Johnson, Bennett, & Schneck, 2003).

One RCT evaluated a multidisciplinary community-based rehabilitation team comprised of two occupational therapists, a physiotherapist, a speech language therapist, a clinical psychologist and a half-time social worker for persons with severe TBI in London. This study demonstrated that participants were significantly more likely to show gains in living skills, self-organization and psychological well-being (Powell et al., 2002). Two single subject designs examining the effectiveness of occupational therapy intervention with individuals with brain injury in the community showed positive outcomes (Gutman, 1999; Landa-Gonzalez, 2001). However, the methodology has significant limitations and the results cannot be generalized to larger populations. Another study by Boman, Lindstedt, Hemmingsson and Bartfai (2004) examined the efficacy of a cognitive rehabilitation intervention provided by an occupational therapist for individuals with brain injury in their home or vocational environment. The results indicated a positive effect on measures of impairment level, but no differences on activity or participation levels at three months follow-up. The study suggests that home-based cognitive training can improve some attention and memory functions and facilitate learning of strategies. Future controlled studies are needed to confirm the results.

Mann and Svorai (1994) described a job skills training program run by occupational therapists for young adults with cognitive impairments called COMPETE, an acronym for Computer Preparation: Evaluation, Training, and Employment. Participants in COMPETE were trained in the use of new information technologies such as computers and fax machines. The program used an intersectoral and interdisciplinary approach. The 3-year demonstration project resulted in successful placement of 17 of 27 persons who were unemployed before entering the program.

Occupational therapists have long worked with individuals with traumatic brain injuries (TBI) to restore functional skills that enable them to live independently in the community. While much of the research demonstrating the effectiveness of occupational
therapy services with this population is specific to inpatient and outpatient programs (Cicerone, Mott, Azulay, & Friel, 2004; Nelson et al., 1996; Trombly, Radomski, Trexel, & Burnett Smith, 2002; Trombly, Radomski, & Davis, 1998), there are some additional areas that have been studied focusing on the contributions an occupational therapist can make in community-based rehabilitation. The most promising results to date are those that include occupational therapy as part of a multidisciplinary team.

**Multiple Sclerosis**

Multiple sclerosis (MS) is a debilitating neurological disorder that has a variable and unpredictable course of progression, including patterns of remission and relapse with varying signs and symptoms that can negatively influence independence and quality of life (Mosley, Lee, Hughes, & Chatto, 2003). Freeman, Langdon, Hobart and Thompson (1999) reported that the carry-over of benefits from a multidisciplinary inpatient program declined after 6 to 10 months following discharge, reinforcing the need for continuity of care between the inpatient setting and the community for rehabilitation of persons with MS. Individuals with MS are often referred to occupational therapy with symptoms that cause limitations in performance of activities of daily living and social participation (Steultjens et al., 2003).

Neufeld and Kniepmann (2001) conducted an evaluation of a program for individuals with MS that was developed based on empowerment, health promotion and wellness models and a growing body of literature on self-management of chronic disease. The majority of participants achieved their personal goals at the completion of the program. Statistically significant changes included decreased fatigue, increased perceived knowledge of program topics, increased self-efficacy for self-management behaviours, and increased frequency of self-management behaviours.

Baker and Tickle-Degnen (2001) completed a meta-analysis examining the effectiveness of occupational therapy intervention on the physical, psychological and functional outcomes of individuals with MS. Findings suggested that occupational therapy related interventions were effective in treating the deficits associated with MS, particularly for outcomes in capacity, ability, task and activity levels. Despite these
positive outcomes, the authors concluded that more rigorous research designs are necessary to fully understand treatment effectiveness.

In a Cochrane review, Steultjens et al. (2003) examined three studies addressing occupational therapy for individuals with MS, none of which were included in the meta-analysis by Baker and Tickle-Degnen (2001). An energy conservation course developed and implemented by occupational therapists was found to decrease fatigue impact, increase self-efficacy, and quality of life for persons with moderate to severe MS (Mathiowetz, Matuska, & Murphy, 2001; Vanage, Gilbertson, & Mathiowetz, 2003). O’Hara et al. (2002) implemented an RCT to assess the efficacy of an individual-focused, professionally guided self-care program for the management of MS in the community. At follow-up, the intervention group had better general health scores, mental health, and vitality and considered help with daily activities to be less essential than the control group. Participants in the intervention group had maintained levels of independence at follow-up, while the control group showed a significant decrease in independence. After reviewing these studies, Steultjens et al. (2003) concluded that more research was needed to determine if occupational therapy improves outcomes on functional ability, social participation and health related quality of life in individuals with MS.

**Older Adults**

Wilkins, Jung, Wishart, Edwards and Norton (2003) conducted a critical literature review of the effectiveness of community-based occupational therapy education and functional training programs for older adults. They demonstrated that there is evidence for effectiveness in three areas: prevention of functional decline and falls, intervention for people who have had strokes, and rheumatoid arthritis. As stroke and rheumatoid arthritis interventions have already been discussed in previous sections of this report, only prevention of functional decline and falls will be discussed in the following section. Additional articles will be discussed that were not included in the original review by Wilkins et al. (2003).
Prevention of Functional Decline

The strongest evidence for prevention of functional decline among the well elderly is provided by the work of Clark et al. (1997, 2001). The Well Elderly Study was an RCT conducted from 1994 to 1996 to evaluate the efficacy of preventive occupational therapy intended to reduce health-related declines among urban, multiethnic, independent-living older adults (Clark et al., 1997; Jackson, Carlson, Mandel, Zemke, & Clark, 1998). The results suggest that preventive health programs based on occupational therapy may mitigate against the health risks of older adulthood. Approximately 90% of the therapeutic gains observed following occupational therapy intervention were retained after 6 months (Clark et al., 2001). The authors reported that the sustained effect for preventative occupational therapy is of great public health relevance given the looming health care costs that will be associated with the expansion of the aging population. Matuska, Giles-Heinz, Flinn, Neighbor and Bass-Haugen (2003) evaluated a pilot occupational therapy program modeled after the Well Elderly Study (Clark et al., 1997, Clark et al., 2001) with middle and upper class older adults living in senior apartments. Results provide additional evidence to suggest that health and quality of life can be promoted among well older adults through occupational therapy intervention. Preventive occupational therapy for independent-living older adults based on the Well Elderly Study (Clark et al., 1997, Clark et al., 2001) were found to be cost-effective in comparison with generalized social activity programs or no therapy (Hay et al., 2002). Occupational therapy led to gains in quality of life scores and showed a trend toward decreased medical expenditures (Hay et al., 2002).

Regular interdisciplinary comprehensive home visits after discharge from hospital have been found to have an effect on the functional ability of older adults and on readmissions (Avlund, Jepsen, Vass, & Lundemark, 2002). Avlund et al. (2002) reported home visits were most beneficial to those discharged from a medical unit and were less beneficial to those discharged from a subacute geriatric unit with a longer rehabilitation period. Also, individuals with pulmonary conditions and with fractures benefited more than those with cardiac failure. The results point to a need for follow-up visits in the community for certain groups of older adults. The authors reported that the findings are
limited by the sample size, especially when the analysis is restricted to individuals with specific conditions and from specific units. Another study examining the effect of interdisciplinary home visits on the functional ability of older adults found that those receiving occupational therapy services demonstrated improved activities of daily living scores in three areas (dressing, toileting, and walking) while those not receiving occupational therapy did not show improvement in these areas (Matteliano, Mann, & Tomita, 2002).

Gitlin, Corcoran, Winter, Boyce and Hauck (2001) determined the short-term effects of an occupational therapy home environmental intervention on self-efficacy and upset in caregivers and daily function of individuals with dementia. Results indicate that the intervention had a modest effect on the instrumental activities of daily living dependence of individuals with dementia. Also, spouses reported reduced upset, women reported enhanced self-efficacy in managing behaviours and women and minorities reported enhanced self-efficacy in managing functional dependency. Studies have found that the provision of equipment, modification of the home environment and referral to appropriate community services by an occupational therapist assist older adults in maintaining their quality of life and independence in the community as well as reduce institutional and certain in-home personnel costs (Liddle et al., 1996; Mann, Ottenbacher, Fraas, Tomita, & Granger, 1999; Matteliano et al., 2002).

**Prevention of Falls**

Falls are common in older adults and increase in frequency with advancing age (Mackenzie, Byles, & Mishra, 2004). Falling in older adults has been associated with increased mortality, decreased mobility, premature nursing home admissions, and reduced ability to perform activities of daily living (Tolley & Atwal, 2003). Mackenzie et al. (2004) suggested that occupational therapy falls prevention programs should address four factors significantly associated with reports of serious falls among community-dwelling women: poor physical health summary scores (SF-36); higher scores on a life events scale; higher scores on a ‘feeling defected’ subscale; and, taking medications for ‘nerves’.
Close et al. (1999) found that the risk of falling was significantly reduced for those receiving occupational therapy, as was the risk of recurrent falls. In addition, the odds of admission to hospital were lower in the occupational therapy intervention group whereas the decline in Barthel score over time was significantly greater in the control group. The study demonstrated that providing occupational therapy intervention to a high-risk population can significantly decrease the risk of further falls and limit functional impairment. An RCT by Cumming et al. (1999) concluded that home visits by occupational therapists, as well as home modifications, can prevent falls among older people who are at increased risk of falling. More recently, Tolley and Atwal (2003) conducted an evaluation of a multifaceted falls prevention program. The findings suggest that an occupational therapy falls prevention program can reduce the impact of falls on older people by enhancing confidence to perform activities, which in turn can increase quality of life.

Based on the evidence presented above, an occupational therapy prevention approach that considers intrinsic and extrinsic risk factors for falls can play a significant role in reducing the number of falls and the rate of recurrent falls in older adults with a history of falls. Furthermore, home visits and environmental modifications recommended by an occupational therapist can also reduce the risk of falls, both in and outside the home, in older adults with a history of falls.

**Musculoskeletal Conditions**

**Chronic Pain and Low Back Pain**

Chronic pain is an expensive and growing problem within industrialized countries (Brown, 2002; Mullersdorf & Soderback, 2002). An expanding body of chronic pain literature is now evident within occupational therapy (Brown, 2002; Engel, 1994; Gruwsved, Soderback, & Fernholm, 1996; Moran & Strong, 1995; Mullersdorf & Soderback, 2002; Strong, Crammond, & Maas, 1990). This literature has described the occupational therapist as an accepted and involved member of the pain management team (Brown, 2002; O'Hara, 1992), providing client education, functional training in activities of daily living, environmental adaptations, the prescription of adaptive
equipment and cognitive-behavioural therapy (Engel, 1994; Gruwsved et al., 1996; Mårtensson, Marklund, & Fridlund, 1999; Moran & Strong, 1995; Mullersdorf & Soderback, 2002; Tyson & Strong, 1990; Zimmerman, 2003) for individuals with chronic pain.

Strong et al. (1990) examined the effectiveness of two types of relaxation training methods delivered by occupational therapists for women with chronic low back pain. Participants in the applied relaxation with biofeedback treatment group maintained a significantly better improvement up to 18 months following the intervention when compared to those who only participated in applied relaxation training without biofeedback. However, study subjects were also receiving concurrent treatments from other disciplines while participating in the study, contaminating the results obtained. Gruwsved et al. (1996) completed a small case study of individuals presenting at a primary health care centre with musculoskeletal pain. Using an individual functional goal-oriented approach, the occupational therapist reported that participants were better able to perform activities they had previously avoided. The evidence from this study is weak given the methodology and small sample size. However, it presents an interesting model that would require further research for use in primary health care. Moran and Strong (1995) found that it was important to direct therapeutic intervention for individuals with chronic low back pain towards increasing physical function rather than concentrating on the reduction or elimination of pain. Tyson and Strong (1990) completed a cross-sectional survey of individuals with chronic low back pain to determine the frequency of use and perceived benefit of adaptive equipment prescribed by an occupational therapist. Individuals reported overwhelmingly that they were using the equipment (87.5%) and that it was considered to be of benefit (85%). The number of occupational therapy sessions was significantly associated with an increased frequency of use and perceived benefit of the adaptive equipment. However, no causality could be established using a cross-sectional design. All of the studies described above had methodological problems which limited the usefulness of the results obtained.

Mårtensson, Marklund and Fridlund (1999) studied people with chronic pain of over 10 years, using a biopsychosocial rehabilitation program provided by occupational
therapy and physiotherapy in a primary health care setting. They found that participants had decreased perception of complaints, increased well-being and pain management ability, and improvements in personality, physical and cognitive factors following intervention. Roberts, Sternback and Polich (1993) studied a six-week behavioural rehabilitation program of occupational therapy and physiotherapy for individuals with chronic pain over an eight-year period. The repeated measures design demonstrated that the program resulted in a marked and enduring reduction of pain, and a statistically and clinically significant improvement in the client’s ability to function at work and in the home. Despite the positive results, the lack of a control group made it difficult to determine if the program was more effective than another treatment for this group. However, there is strong evidence that more than 100 hours of multidisciplinary biopsychosocial rehabilitation with a functional restoration approach produces greater improvements in pain and function for those with chronic low back pain when compared to non-multidisciplinary rehabilitation or usual care (Guzmán et al., 2004). Fisher and Hardie (2002) also suggested that the inclusion of goal attainment scaling (GAS) in these programs enabled individuals to achieve personally valued goals and perhaps motivated them to succeed more.

Return to Work

Billions of dollars are spent each year for workers’ compensation benefits (Dembe, Savageau, Amick, & Banks, 2002). Work-related conditions represented approximately 2.5% of ambulatory medical care visits in the United States during 1997-98. Sixty-seven percent of visits were for care of musculoskeletal disorders or acute injuries (Dembe et al., 2002). Over the past two decades occupational therapy literature has confirmed the profession’s contribution to the management of occupational injuries (Ellexson, 1985; Holmes, 1985; Niemeyer, Jacobs, Reynolds, Bettencourt, & Lang, 1994). Occupational therapists play a major role in the provision of prevention, assessment, and rehabilitation services in managing occupational injuries (Jundt & King, 1999). Jundt and King (1999) reported a focus on centre-based occupational therapy interventions with a trend to increased service provision in the workplace.
On-site interventions have demonstrated effectiveness in reducing both the personal and societal costs of work-related injuries (Habeck & Hunt, 1999).

Haldorson et al. (2002) compared the effectiveness of three treatments (ordinary, light and extensive multidisciplinary treatment) on return to work for employees with musculoskeletal pain on long-term compensation leave. The authors found that light and extensive multidisciplinary treatment programs were equally as effective for participants with medium prognosis for return to work compared with ordinary treatment. They also reported that extensive multidisciplinary treatment resulted in higher return to work rates for participants with poor prognosis for return to work compared with ordinary treatment. These results suggested that it is important to consider an individual’s prognosis for return to work when determining the type of program that is most appropriate.

A recent systematic review completed at the Institute for Work & Health in Toronto (Franche et al., 2004) examined the effectiveness of clinical return to work interventions delivered by healthcare professionals linked specifically with the workplace. To focus the review, the authors limited the scope to studies of workers with pain-related conditions. The authors found that return to work interventions were effective in reducing the duration of work disability and reduced associated wage replacement and healthcare costs. The evidence that such interventions improved quality of life for workers was weaker. Early contact with the worker by the workplace, an offer of work accommodation, and contact between healthcare providers and the workplace significantly reduced work disability duration and associated costs. Deen, Gibson and Strong (2002) found on-site work accommodation programs were the most commonly provided return to work service among Australian occupational therapists surveyed. Franche et al. (2004) concluded that ergonomic worksite visits conducted by an occupational therapist, physiotherapist or ergonomist and the involvement of a case manager reduced work disability duration and associated costs. Educating supervisors and managers about participatory ergonomics and safety training was also considered important.
Injury Prevention in the Workplace

Gatty, Turner, Buitendorp and Batman (2003) completed a systematic review examining the effectiveness of back injury prevention programs in the workplace. Nine studies were included: four measured the effect of back belts, three measured the effect of education plus task modification and two measured the effects of education plus modification and workstation redesign. Findings in the RCTs showed no significant effect between interventions and controls. However, based on the limited number of RCTs included in this review, the use of education or back belts for the prevention of low back pain in the workplace remains inconclusive.

Another systematic review examined the effectiveness of workplace rehabilitation intervention in treatment of work-related upper extremity disorders. The review indicated that the evidence for workplace interventions for these disorders has not been established and that more research was needed in this area (Williams, Westmorland, Schmuck, & MacDermid, 2004). These findings were similar to those reported in a Cochrane review on ergonomic and physiotherapeutic interventions treating upper extremity work related disorders in adults (Verhagen et al., 2004). The review showed limited evidence for the effectiveness of keyboards with an alternative force-displacement of the keys or an alternative geometry, and limited evidence for the effectiveness of individual exercises. The benefit of expensive ergonomic interventions (such as new chairs, new desks, etc.) in the workplace has not been clearly demonstrated. Further research is required to prove the effectiveness of injury prevention programs and interventions in the workplace.

Mental Health

Occupational therapy has a long tradition in the assessment and treatment of clients with mental health conditions in inpatient and outpatient settings. Recently, occupational therapists, like many other mental health professionals, have begun to provide assessment and treatment for clients with mental health conditions in the community. Sparling, Clark and Laidlaw (1992) surveyed general practitioners in the United Kingdom and found that anxiety management was the service most requested
from community occupational therapists, followed by home management skills, self-care, social skills, social and leisure activities, work skills, bereavement counselling, and assertion training.

Occupational therapists believe that engagement in meaningful occupation is fundamental in helping to overcome the effects of disability. People with enduring mental health problems have supported this belief. Engagement in occupation has been seen to be of value and personally meaningful to them. Occupation was a means for generating intrinsic motivation and provided a sense of purpose and a structuring of time within an empowering environment (Mee & Sumsion, 2001; Legault & Rebeiro, 2001; Wu, 2001). Time use is also an important issue for people with mental health conditions and an area of intervention for occupational therapists (Krupa, McLean, Eastabrook, Bonham, & Baksh, 2003). Studies have shown that individuals with mental health conditions spend significantly more time in passive leisure compared to active leisure and socialization; activity patterns that are not consistent with those associated with community adjustment, health, and well-being (Krupa et al., 2003; Shimitras, Fossey, & Harvey, 2003). Holm, Santangelo, Fromuth, Brown and Walter (2000) found that the use of everyday occupations as interventions, in conjunction with positive reinforcement for active participation, was effective in decreasing dysfunctional behaviours and increasing functional behaviours. Occupational therapists must work with service users and agencies beyond the mental health system to enable service users’ participation in mainstream social, active and productive occupations.

Individuals with enduring mental health needs who participated in a 12-week pilot occupational therapy group to promote skills for home management, community living, personal care and safety, and social and interpersonal functioning perceived an increase in task performance and satisfaction which transferred into the home environment (Brown, Shielis, & Hall, 2001). There is a need for further study of this type of program for clients with enduring mental health needs.

Deficits in food skills among individuals with chronic mental illness may have serious implications for nutritional status if food intake becomes compromised (Porter, Capra, & Watson, 1999). Therefore, occupational therapists designed individualized
food skills intervention programs for a small group of people with chronic mental illness. Participation in the program resulted in improvements in food skills for all individuals (Porter et al., 1999). However, the small sample size limited the generalizability of the results to larger populations.

Bassett, Lloyd and King (2003) provided an overview of an occupational therapy intervention that addressed food skills among mothers with mental illness who had children under five years of age in their care. The program contributed to an improvement in dietary intake, food selection and preparation and grocery expenditure. The authors suggest that further research is required to evaluate the effectiveness of this program with other target groups likely to experience food insecurity.

In conjunction with a food skills program, parents with mental illness having children under five years of age also participated in a parenting skills program (Bassett, Lampe, & Lloyd, 2001). The program had a parent education stream and a stream with developmentally appropriate activities for the children. Observed outcomes included more responsiveness of parents to their children, increased treatment compliance, improved community access, and a decrease in the number of children in temporary foster care. Further research is needed to strengthen the results.

Occupational therapists can incorporate health promotion within their interventions in mental health settings through their use of a client-centred approach that considers the client’s needs and lifestyle in holistic terms (Reynolds, 2001). Lambert (1998), an occupational therapist, explored the use of a therapeutic intervention promoting lifestyle change with clients with mental health problems. Case studies demonstrated how a lifestyle approach can provide a beneficial early intervention strategy, and how the approach can be used in a number of different ways to positively influence the outcome of therapeutic intervention. The evidence from this particular study is weak, given the methodology. More rigorous studies need to be undertaken examining the effectiveness of this occupational therapy approach.

Cook and Howe (2003) elaborated on the outcomes of a primary-care based service for people with psychotic conditions who were not in contact with a secondary-care based community mental health team, and had lost contact with specialist
psychiatric care. The primary care based intervention consisted of expanded general practitioner care, with an individualized program of occupational therapy and care management. Following interventions, participants showed significant improvements in social functioning, clinical symptoms and general health. The costs were favourable when compared with similar services. The findings suggested that a primary-care based mental health service that includes occupational therapy may be a feasible alternative to secondary-care community mental health teams for local populations with a high prevalence of enduring psychotic disorders and a tendency to lose contact with conventional services.

Several occupational therapy programs have been implemented for individuals with mental health conditions living in the community. Many are pilot studies or offer only preliminary evidence of program efficacy. The studies are limited by small sample size, non-randomization, the lack of a control group, or all three. However, there is some evidence for a positive influence of occupational therapy intervention on the lives of people with mental health conditions.

Vocational Rehabilitation (Mental Health)

Persons with mental illness often rank competitive employment among the most desirable outcomes of treatment and rehabilitation programs (Clark, Xie, Becker, & Drake, 1998). Despite the obvious benefits and importance of work, individuals with mental illness continue to have very high rates of unemployment and underemployment, with some estimated as high as 70-90% (Tsang, Lam, Ng, & Leung, 2000). Historical accounts identify that Canadian occupational therapists were using vocational training and industrial therapy as therapeutic interventions as early as the 1920s and 1930s (Friedland, Robinson, & Cardwell, 2001). More recent literature documents occupational therapy involvement in vocational assessment, prevocational training, and transitional employment (Dulay & Steichen, 1982; Heard, Greaves, & Doe, 2001; Palmer, 1989; Lloyd & Bassett, 1997).

An ethnographic study by Strong (1998) explored what makes work meaningful for persons with persistent mental illness and how this meaningfulness relates to their
recovery. Changes in their self-efficacy and self-concept were driven by their participation in work activities to operate an affirmative business. Findings suggested that therapists can facilitate changes in people’s sense of self-efficacy and self-concept by helping them make connections with meaningful occupations that contribute to organizations in the community, and allow them to experience challenges and successes in the context of meaningful work.

A phenomenological study by Gahnstrom-Strandqvist, Liukko and Tham (2003) sought to understand the meaning of the lived experiences of persons with long-term mental illness at a social working cooperative in Sweden. The study revealed that individuals working at the cooperative characterized the experience as normalizing. Participants experienced a shift from an unsatisfying occupational context to an enriching one, and had the possibility to satisfy some of their occupational and social needs. Some participants felt the experience had prepared them to take further steps into the life outside the cooperative. The study emphasized that the cooperative was an important alternative to employment for participants with severe mental illness.

Occupational therapists in Australia developed a pre-vocational program for young people aged 18-25 years with psychosis (Parlato, Lloyd, & Bassett, 1999). The program provided opportunities to enhance and develop awareness of skills, abilities and participation in occupations that are intrinsic and valued by the individual and society. After nine months, 60% of participants completed the program and were discharged as a result of obtaining successful paid employment, volunteer work, or further education or training. Twenty percent decided to continue with the program, and 20% dropped out of the program. Of those who dropped out, 75% had further hospital admissions (Lloyd, Bassett, & Samra, 2000).

Krupa, LaGarde and Carmichael (2003) examined the outcomes associated with Voices, Opportunities and Choices Employment Club (VOCEC), which used the resources of a sheltered workshop to evolve affirmative business for people with mental illness. The results suggested that the VOCEC had been successful in creating paid employment opportunities at levels approximating minimum wage, and in establishing a
structure to develop new businesses. The evaluation also revealed that people experienced their participation as rewarding.

Research indicates that the Individual Placement and Support (IPS) model appears to be more effective than traditional prevocational training and day treatment in terms of achieving competitive employment (Moll, Huff, & Detwiler, 2003). Evidence showed that there were improved vocational outcomes even for individuals who had been long-term consumers of mental health services, who had high levels of disability, and who had a limited employment history (Drake, Becker, Clark, & Mueser, 1999). It is important to note, however, that there continued to be individuals who did not achieve competitive employment. When examining outcomes from all of the IPS studies, between one-quarter to one-half of the participants did not obtain competitive work, and in an average month 60-80% of clients were not employed. Drop out rates also need to be considered, with some as high as 40%. Occupational therapists have facilitated individual supported employment programs (ISEP) for people with psychiatric disabilities for several years. A study by Block (1992) evaluated the outcomes of such a program. The program demonstrated a 50% competitive employment rate after 12 months. People with schizophrenia in Japan who participated in an occupational therapy vocational rehabilitation program, combined with a multidisciplinary supported employment program, showed significant improvement in social adjustment and community tenure at follow-up (Oka et al., 2004). Time spent out of hospital also increased, and the risk of hospitalization diminished. Interventions that improved the emotional and housing supports provided to persons with schizophrenia by their families were likely to enhance the outcome of vocational services.

Krupa, Lagarde, Carmichael, Hougham and Stewart (1998) explored some of the struggles inherent in the job search process for individuals with psychiatric disabilities participating in supported employment. The authors suggested that factors such as stressors and coping styles of individuals need to be considered. The literature supports the notion that occupational therapists have a foundation of knowledge and skills that position them to be excellent providers of individual supported employment services (Auerbach, 2001; Krupa et al., 1998; Moll et al., 2003; Oka et al., 2004).
Homelessness

Over the past decade, there have been several publications in the occupational therapy literature describing occupational therapy services for individuals who are homeless and living in emergency shelters (Finlayson, Baker, Rodman, & Herzberg, 2002; Herzberg & Finlayson, 2001; Heubner & Tryssenaar, 1996; Kavanagh & Fares, 1995; Mitchell & Jones, 1997; Perkins, Tryssenaar, & Moland, 1998; Shordike & Howell, 2001; Tryssenaar, Jones, & Lee, 1999). Tryssenaar et al. (1999) reported the findings of a study examining the occupational performance needs of a homeless population. Instrumental activities of daily living, such as access to employment, financial management, housing, and recreation, were reported as more important than basic activities of daily living. Herzberg & Finlayson (2001) described the occupational therapy services consisting of pre-vocational skills, stress management, social and interpersonal skills, and community living skills implemented in an emergency shelter. This project reportedly had an impact on residents at the shelter, shelter staff, and occupational therapy practitioners. Through the demonstration project, a full-time occupational therapist was hired to implement programs and services at the shelter. Evaluation of the programs and services offered are ongoing.

An RCT by Kashner et al. (2002) examined the effect of the Department of Veterans Affairs compensated work therapy program (CWT) on non-vocational outcomes for homeless, substance-dependent veterans. Compared with control subjects, people in the CWT program were more likely to (1) initiate outpatient addictions treatment, (2) experience fewer drug and alcohol problems, (3) report fewer physical symptoms related to substance use, (4) avoid further loss of physical functioning, and (5) have fewer episodes of homelessness and incarceration. No effects on psychiatric outcomes were found. The authors concluded that work therapy can enhance non-vocational outcomes of addiction treatment for homeless persons, although long-term gains remain unknown.

A study recently completed by Gutman et al. (2004) in a community-based non-profit organization assessed the effectiveness and client acceptability of an occupational therapy intervention for women with cognitive impairments experiencing domestic
violence or homelessness or both. The intervention primarily addressed how the women’s cognitive deficits could be remediated or compensated for in order to help them rebuild lives free of abuse. Results showed that all participants achieved their expected outcome or greater. Ninety-nine percent expressed a high degree of satisfaction with the intervention. Davis and Kutter (1998) examined independent living skills in a sample of women and families who were homeless to determine the needs of this population. Results indicated that women who were homeless had deficits in independent living skills, especially money management. The author suggested that occupational therapists have a major role to play, evaluating and facilitating independent living skills, and as members of multidisciplinary treatment teams in supportive housing programs for persons who are homeless.

Summary of Occupational Therapy Evidence

Strongest Evidence

The evidence supporting the role of occupational therapy in primary health care is strongest in the management of rheumatoid arthritis, stroke, chronic low back pain return to work and the prevention of falls and functional decline in older adults.

Early and late rheumatoid arthritis: There is evidence for the provision of education on joint management, and self-management strategies, training and advice on occupational performance (self-care, productivity and leisure).

Stroke: There is evidence for the provision of early supported discharge by a multidisciplinary community rehabilitation team with continued rehabilitation at home. Occupational therapy was found to be effective for both early discharge and individuals never admitted to hospital who had experienced a stroke. Findings indicated that occupational therapy interventions improved independence with basic and instrumental activities of daily living and community integration.

Chronic low back pain: More than 100 hours of multidisciplinary bio-psychosocial rehabilitation with a functional restoration approach has been found to be effective in reducing pain and increasing function for individuals with chronic low back pain. The occupational therapists on these types of teams have provided client education,
functional training in activities of daily living, environmental adaptations, and cognitive
behavioural therapy.

Return to work: On-site interventions have been found to be effective in reducing the
personal and societal costs of work-related injuries. Offering to accommodate work and
adjusting job duties, contact between healthcare providers and the workplace, and
ergonomic worksite visits by an occupational therapist, along with the involvement of a
case manager, reduced work disability duration and associated cost. Extensive
multidisciplinary treatment has been found to be the most effective for individuals with a
poor prognosis for return to work. The evidence for workplace interventions for work-
related upper extremity disorders has not been established and the benefits of
expensive ergonomic interventions in the workplace for this group have not been clearly
demonstrated.

Prevention of functional decline with older adults: The prevention of functional decline
among older adults has been demonstrated using occupational therapy intervention with
a focus on wellness. It has also shown to be cost-effective. The rate of decline can be
slowed for community dwelling frail elderly, keeping them in their homes longer through
the provision of assistive technology devices and environmental interventions from an
occupational therapist. Some evidence supports improved outcomes for older adults
discharged from a medical unit with pulmonary conditions or fractures as opposed to a
geriatric rehabilitation unit. There is evidence of a modest effect on instrumental
activities of daily living, dependence of individuals with dementia, and enhanced self-
efficacy among their female caregivers.

Prevention of falls: An occupational therapy approach that considers intrinsic and
extrinsic fall risk factors can play a significant role in reducing the number of falls and
the rate of recurrent falls in older adults with a history of falls. Home visits including
recommendations for environmental modifications by an occupational therapist can
reduce the risk of falls regardless of fall history.
**Moderate to Weakest Evidence**

The management of long-term neurological conditions such as multiple sclerosis, Parkinson's disease and traumatic brain injury has a moderate body of evidence demonstrating the effectiveness of occupational therapy intervention primary health care, but more research is needed in these areas. The evidence for the effectiveness of community occupational therapy with Chronic Obstructive Pulmonary Disease (COPD), chronic fatigue, and vocational rehabilitation for persons with chronic mental illness is moderate to weak.

**Traumatic brain injury:** Multidisciplinary community rehabilitation can contribute to gains in activities of daily living, community integration, self-organization, and psychological well-being. A need was identified for greater support of this population in the community to increase employment, community integration, and opportunities for learning.

**Multiple sclerosis:** A wellness program developed by occupational therapists and implemented with a community organization has shown improvements in self-management among this population. However, there is insufficient evidence at this time due to methodological issues of published studies.

**Parkinson's disease:** Very few studies have been done, but those reported in the literature demonstrated that occupational therapy improved functional status and quality of life among this population.

**Homeless population:** There is an emerging body of evidence for the use of a skill building approach with individuals who are homeless. The evidence also supports extending this role to women in shelters.

**COPD:** Most of the evidence that strongly supports occupational therapy interventions has been found in outpatient programs. However, a few studies that specifically examined community-based services found that occupational therapy had an impact on occupational performance and self-management.

**Chronic fatigue syndrome:** This is a relatively new area of practice that is showing some promise for occupational therapy intervention using an empowerment model to assist individuals with self-management strategies.
Vocational rehabilitation for persons with mental illness: The occupational therapy specific evidence supporting this approach is small, but positive. Evidence for individual supported employment is strong and support for this approach is widely acknowledged in the literature, but is not associated specifically with occupational therapy.

Myocardial infarction: Evidence is weak. While occupational therapy is a recognized member of the multidisciplinary inpatient cardiac rehabilitation team, there is little evidence for occupational therapy with this population in the community.

Mental health conditions: Evidence pertaining to occupational therapy in community mental health is weak related to skill building. Several studies describing occupational therapy intervention lacked rigorous methodology. However, there is weak but promising evidence for the role of occupational therapy in a primary-care based service for people with psychotic conditions who were not in contact with a secondary-care community mental health team. In addition, the importance of engagement in meaningful occupations, a focus of occupational therapy interventions, to people with mental health conditions has been demonstrated through qualitative studies. More rigorous research is required to evaluate the effectiveness of these interventions.

Additional Comments

The evidence supporting the role of occupational therapists in primary health care pertains to their role in facilitating occupational performance. Occupational therapists are trained to use client-centred practice to assist individuals to establish balance in occupational performance considering the individual, their environment and their occupations. Through environmental modifications, the provision of assistive devices, teaching and training related to basic and instrumental activities of daily living, the development of vocational programs, and assistance in developing self-management strategies, occupational therapists can play a role in health promotion and the primary, secondary and tertiary prevention of illness and disease among populations.
Physiotherapy

Profile of Practice

Physiotherapy has historically played a significant and varied role at the community level. Physiotherapists have been employed in homecare programs, private practice, community organizations, as well as the workplace for many years. Roles in consultation, primary prevention and health promotion have been an active part of that involvement at differing levels. In fact, community-based physiotherapy education has been shown to be more effective than hospital-based physiotherapy education and treatment combined (Worsfold, Langridge, Spalding, & Mullee, 1996).

In an RCT in the United States, Fruth, Ryan and Gahimer (1998) attempted to quantify exactly how much and what type of health promotion and disease prevention education was provided during physiotherapy sessions. Over an evaluation of 96 sessions, the authors found that physical therapists typically provided such education during sessions but at a relatively low rate: 2.44 statements per session. Information outside the "physical" realm was rarely addressed. The number of statements given did not depend on the therapist’s credentials, years of experience, duration of treatment session, type of physiotherapy setting, or where clients were in the course of their rehabilitation (Fruth et al., 1998).

In a survey of 37 physiotherapists working in the community in Ireland, Finn and MacAirt (1994) found several differences in clinical practice between that of private practitioners and that of community-based therapists: 93% of clients seen by private practitioners were seen in the clinic setting compared to 50% home visits of those seen by community therapists; clients seen in private practice were mainly young or middle-aged, mobile and more likely to have sustained an acute injury, for example sports injury, low back pain or whiplash. The community therapists, in contrast, were more likely to see the very young or elderly and persons who had long-term conditions, such as stroke or Cerebral Palsy (Finn & MacAirt, 1994).

Lang (1996) sampled seven community-based physiotherapists in a particular region of England to determine their work allocation. While this sample size was extremely small, several findings were noteworthy. The therapists spent the majority of
their time in activities directed to client care: direct care (42%) and administrative client support (24.6%). Travel time accounted for 19.5%, while agency administration accounted for 11%. Less than one per cent was spent on teaching, and only 1.9% was spent on continuing education (Lang, 1996). Seymour and Kerr (1996) also investigated the work of community-based physiotherapists in the United Kingdom. A response rate of 65% of the 150 surveys was achieved. The most common venue for treatment was the client’s home, resulting in an average of 16% of the working day in transit. The majority of respondents (68.4%) claimed that they were not involved in any formal health education or health promotion activities (Seymour & Kerr, 1996). McCloy (2001) identified the potential reasons for this lack of involvement in health promotion as: reimbursement issues; limited direct access to date; scope of practice; lack of training; and, little exposure to the health promotion industry. Alternatively, it has also been argued that physiotherapy has become so specialized in particular program areas, that, as a consequence, comprehensive care at the primary health care level may have suffered (Bowerbank, 1994).

Analysis

The search strategies employed in investigating the role of physiotherapy in primary health care garnered 1,368 titles or abstracts for review, including duplicates. Of these, 218 (16%) were chosen for detailed review, of which 135 (62%) met the selection criteria. Twenty-eight of these articles were systematic reviews, of which 25 were found in the Cochrane Library database; 17 were meta-analyses, eight of which were found in the Cochrane Library database; 24 were randomized control trials; 38 were observational studies; seven were qualitative studies; three were mixed methods combining quantitative and qualitative research methods; two were cost analyses; 15 pertained to narrative, non-systematic reviews of the literature; and one pertained to a description only of a service delivery model. Other papers referred to service delivery models and incorporated a formal evaluation of the program, and as such have been tabulated along with the observational studies.
Papers were categorized into one of the following four areas:

- Chronic Diseases - including arthritis, coronary heart disease, chronic lung disease, incontinence, and diabetes
- Neurological Conditions - including stroke, Parkinson’s disease, spinal cord injury, and traumatic brain injury
- Older Adults - including osteoporosis and fall prevention
- Musculo-Skeletal Conditions - including chronic pain, low back pain, neck pain, soft tissue injury of the ankle, and repetitive strain injuries

**Results**

**Chronic Diseases**

Physiotherapists have historically been very active in the management of chronically ill persons in the community. Rijken & Dekker (1998) have demonstrated that the largest groups of such chronically ill individuals seen in primary care by rehabilitation therapists have been persons with low back pain (8.2%), osteoarthritis (4%), rheumatoid arthritis (1%), chronic lung disease including asthma and stroke (0.9%). These numbers refer specifically to the Netherlands and it is unclear how these proportions compare to Canadian physiotherapy clinics, but it is likely that similar trends exist. Existing evidence supports the role of exercise therapy or rehabilitation or both in the secondary prevention of complications and wellness promotion of chronic diseases such as arthritis, coronary heart disease, chronic lung disease, incontinence and diabetes.

**Arthritis**

Exercise has been shown to improve a person’s gait, function, pain, and endurance for people with osteoarthritis of the knee (Brosseau, MacLeay, Robinson, Wells, & Tugwell, 2004; Felson et al., 2000; Fransen, McConnell, & Bell, 2002; McCarthy & Oldham, 1999; Petrella, 2000), and to a lesser extent, the hip (van Baar, Assendelft, Dekker, Oostendorp, & Bijlsma, 1999). The American Geriatrics Society Panel on
Exercise and Osteoarthritis (2001) has stated that the promotion of physical activity should be an integral component of the management of osteoarthritis. They support regular physical activity of moderate intensity as a means of reducing pain and morbidity. Dynamic exercise therapy has also been shown to safely improve endurance and strength in persons with rheumatoid arthritis (van den Ende, Vliet Vlieland, Munneke, & Hazes, 2004). Bell, Lineker, Wilkins, Goldsmith and Bradley (1998) were able to demonstrate specifically that four hours of community-based physiotherapy intervention over a six-week period can significantly improve self-efficacy or confidence, disease management knowledge, and morning stiffness in persons with rheumatoid arthritis. In terms of service delivery location, ambulatory care located in health centres has been shown to be less costly than home-based services for people in Ontario with rheumatoid arthritis (Li, Coyte, Lineker, Wood, & Renehan, 2000). This does not, however, take into account the inconvenience of persons with severe disabling arthritis in accessing services outside their home, particularly in inclement weather.

The number of referrals to physiotherapy by physicians for the management of arthritis may preclude early intervention strategies. In a study of German primary care physicians, only 37% of patients with rheumatoid arthritis were referred to physiotherapy. Internists referred twice as often (23%) compared to family physicians (11%) (Busse, Hoopmann, Schwartz, & Klein-Lange, 1995). Canadian physicians differ only slightly in this referral pattern. Glazier et al. (1996) discovered that Ontario family physicians refer 39% of their patients with early rheumatoid arthritis to physiotherapy. 

**Coronary Heart Disease**

Physical activity has been shown to reduce the risk factors associated with coronary heart disease (Francis, 1996; Joliffe et al., 2001), and that secondary prevention of coronary heart disease is a necessary component of primary care following a cardiac event (Fullard, 1998). Joliffe et al. (2001) found in their systematic review for the Cochrane Library that while exercise-based cardiac rehabilitation is effective in reducing cardiac deaths, it is not clear whether or not exercise alone or comprehensive cardiac rehabilitation intervention is more beneficial. The studies
reviewed, however, mainly consisted of middle-aged, low risk males. The authors did not provide the names of the databases used in this review nor were any studies after 1998 included. In a randomized control trial, King, Haskell, Taylor, Kraemer, and DeBusk (1991) found that community-based exercise training improved fitness levels in adults aged 50 to 65 years of age, but had no impact on the coronary risk factors. Home-based programs seemed to be as effective as group exercise. Intensity of training in the home setting had no impact on outcome (King et al., 1991). Witham, Struthers and McMurdo (2003) cite extensive evidence for the role of exercise in symptom alleviation and pathophysiology of persons with congestive heart failure. However, they also point out that these studies have been primarily conducted on younger carefully selected populations and may not be generalizable to older adults.

**Asthma and COPD**

Community-based rehabilitation of persons with asthma or COPD has been shown to improve exercise tolerance, shortness of breath, and health-related quality of life (Cambach, Chadwick-Straver, Wagenaar, van Keimpema, & Kemper, 1997; Cambach, Wagenaar, Koelman, van Keimpema, & Kemper, 1999; Lacasse et al., 1996). Ries et al. (1997), in their review of pulmonary rehabilitation, state that leg training improves exercise tolerance; strength and endurance training improves arm function; pulmonary rehabilitation improves shortness of breath, health-related quality of life, and reduced the number of hospitalizations and days of hospitalization. Pulmonary rehabilitation may also improve survival. In contrast, a systematic review completed by Chavannes, Vollenberg, van Schayck and Wouters (2002) concluded that while the fitness level of those with mild to moderate COPD improved, their quality of life, shortness of breath or long-term disease progression did not improve. But this study was limited to Dutch and English literature only; the process by which the studies were selected was unclear; and the validity of the review was not assessed. Furthermore, the selection criteria left the author with only five studies to review, a number which is relatively small on which to base clinical recommendations.
Urinary Incontinence

Urinary incontinence in women also seems to benefit from exercise training, easily applicable in a primary health care setting. Bø, Talseth and Holme (1999) compared the effect of pelvic floor exercises, electrical stimulation, vaginal cones and no treatment for genuine stress incontinence in 107 women aged 24 to 70 years with 1 to 45 years of symptoms. Improvements in muscle strength were significantly greater in the exercise group, as well as reduction in leakage. The authors found that pelvic floor muscle training is superior to the other interventions studied. Behavioral therapy, including pelvic floor exercises and bladder retraining with biofeedback, has been found to reduce urinary accidents in community dwelling elderly with stress, urge, and mixed urinary incontinence (Teunissen, de Jonge, van Weel, & Lagro-Janssen, 2004). In a Cochrane Library review of existing evidence (Hay-Smith et al., 2001), pelvic floor muscle training appears to be an effective treatment for adult women with stress or mixed incontinence. However, when this review was repeated to assess the effectiveness of physical therapies in the prevention of urinary and faecal incontinence in adult men post prostate surgery and post-partum women, insufficient evidence was available to determine its efficacy (Hay-Smith, Herbison, & Morkved, 2002). This does not, however, preclude its use; it merely demonstrates the need for more rigorous research initiatives.

Diabetes

The rates of diabetes in Canada are well recognized to be of epidemic proportions. While physiotherapy is often involved in the rehabilitation phase of care, for example, following limb loss, physiotherapy could also play a significant role in the early primary and secondary prevention of diabetes itself and its complications. In his proposal of 10 strategies for the prevention or education of diabetes-related morbidity and mortality at a primary care level, Dagogo-Jack (2002) concluded that effective diabetes management entails a multi-modality approach that uses lifestyle and pharmacological interventions. Exercise has been shown to improve glycemic control, reduce cardiovascular risk factors and improve psychological wellbeing in persons with
diabetes (Betts, Betts, & Betts, 1995). More specifically, exercise has been shown to reduce HbA\textsubscript{1c} by 0.66%, an amount that would be expected to significantly reduce the risk of diabetic complications (Boulé, Haddad, Kenny, Wells, & Sigal, 2001). Timmerman, Reifsnider, and Allan (2000) examined how primary care providers manage weight control issues with their clients. Interventions primarily included advice on increased activity, low fat diets, and a referral to a dietitian or a weight loss program (Timmerman et al., 2000). As experts in movement and activity, physiotherapists are ideally suited to take on an active role in diabetes management programs, as well as weight control programs.

**General Chronic Disease Management**

When dealing with interventions at the community level, true effectiveness should not be measured over weeks or months, but ideally over years. Nine, Lakies, Jarrett, and Davis (2003) describe the development and initial evaluation of a community-based Chronic Disease Management Program for African-Americans. This program of education, meal planning, weekly support groups, service coordination and exercise was able to show improvements in blood pressure and blood sugar levels after one year. Pope (1997) described and evaluated a physical management program for people with chronic and severe neurological conditions living in the community. After a two-year period, the findings were inconclusive. The author argued that there is a role for generic therapists in community care, particularly in a navigator role. Pope went on to identify the need for specialist knowledge to augment care available at the community level.

**Neurological Conditions**

There is an increasingly large shift to transfer as much rehabilitative care to the community as possible for most neurological conditions, creating a favorable environment for secondary prevention measures. Particularly following stroke, spinal cord injury, traumatic brain injury and the onset of Parkinson’s disease, existing evidence supports the role for ongoing wellness and prevention programming.
Boult and Brummel-Smith (1997) pointed out that rehabilitation in the community should place high priority on the secondary prevention of stroke recurrence and its complications, as well as on wellness promotion, sensitivity towards the caregiver, and fall prevention. Donnelly, Power, Russell, and Fullerton (2004) compared a community-based multidisciplinary stroke team with a hospital-based rehabilitation program in a select group of stroke survivors in Belfast, Ireland. While only 13% of all 691 hospital admissions for stroke met their inclusion criteria, they found that there were no significant differences in hospital duration, costs, or outcomes measured at one year, except for higher satisfaction reported by the community-based patients. However, the authors also suggested that the level of caregiver stress with early discharge should be a concern. Early discharge to community rehabilitation for persons surviving a stroke has been shown to be feasible (Wolfe, Tilling, & Rudd, 2000) and cost-effective, but there have not been any significant financial savings or differences observed in hospital readmission rates over the long-term (Beech, Rudd, Tilling, & Wolfe, 1999). In a randomized control trial conducted in Norway, Rønning and Gulsvog (1998) found that patients with an initial Barthel Index Score of less than 50 had improved outcomes if they received sub-acute hospital-based rehabilitation services compared to the community. This group of patients had fewer deaths and increased levels of independence. The group of Early Supported Discharge Trialists (2004) completed a review for the Cochrane Library on the subject of early discharge following stroke. They, too, concluded that early discharge can reduce the length of hospital stay, but the relative risks and benefits and overall costs remained unclear in their opinion.

Saunders, Greig, Young and Mead (2004) conducted a systematic review for the Cochrane Library on whether or not fitness training reduces death, disability and dependence after stroke. The authors concluded that there was insufficient data available at present to guide clinical practice. Alternatively, in a separate Cochrane Library review, the Outpatient Service Trialists (2004) found that rehabilitation services targeted at persons living in the community following stroke improved their independence with activities of daily living and reduced their risk of deterioration in ability. Kwakkel, Wagenaar, Koelman, Lankhorst, and Koetsier (1997) found in their
meta-analysis that a small but significant intensity-effect relationship existed in the rehabilitation of persons following stroke. Feasible community-based therapy interventions applicable to stroke survivors include such initiatives as aquatic programs (Morris, Buettner, & White, 1995); functional electrical stimulation for the promotion of muscle strength recovery (Glanz, Klawansky, Stason, Berkey, & Chalmers, 1996); electrical stimulation for the prevention of shoulder subluxation and resulting pain (Ada and Foongchomcheay, 2002); and biofeedback for improving ankle dorsiflexion muscle strength (Moreland, Thomson, & Fuoco, 1998).

**Parkinson’s Disease**

Some studies show that physiotherapy benefits persons with Parkinson’s disease, though sometimes only modestly (Reuter & Engelhardt, 2002). In a meta-analysis conducted in 2001, de Goede, Keus, Kwakkel and Wagenaar (2001) found that physiotherapy improves activities of daily living and mobility in persons with Parkinson’s disease, but does not improve the neurological signs (de Goede et al., 2001). On the other hand, in the Cochrane Library review of the efficacy of physiotherapy for persons with Parkinson’s disease, Deane, Jones, Playford, Ben-Shlomo and Clarke (2001) found insufficient evidence to either support or refute the role of physiotherapy.

**Traumatic Brain Injury**

Persons with traumatic brain injuries have received on-going rehabilitation in the community. Coetzer, Vaughan, Roberts, and Rafal (2003) evaluated consumer satisfaction with a community rehabilitation program in the United Kingdom. Seventy-one per cent of an initial cohort of 24 using the services rated themselves as improved. Physiotherapy intervention included rehabilitation for balance and motor disabilities. Care providers did not, however, rate the significance of the improvements to the same degree as the consumers. A randomized control trial conducted by Powell et al. (2002), evaluated a multidisciplinary community-based rehabilitation program for 110 persons following severe traumatic brain injury. Participants were three months to 20 years post injury, and received two to six hours of service per week over an average 27-week time
period. Details pertaining to the interventions were not provided in the paper. The results showed that the outreach participants were significantly more likely to show gains in functioning, self-organization and psychological wellbeing (Powell et al., 2002).

**Spinal Cord Injury**

With the shift to community-based programming, it may be felt that specialty clinics, too, may benefit from this transition. Curtis and Hall (1986) evaluated a monthly outreach clinic in northern California for persons with spinal cord injuries. Persons who were already being followed by generalist therapists in the community were assessed by a physiotherapist specializing in spinal cord injuries. Thirty-three per cent of clients were identified as needing more direct intervention by the physiotherapist. The authors concluded that community physiotherapy should be augmented by specialty services. Hicks et al. (2003) examined the effects of nine months of twice-weekly exercise training on strength, arm endurance, and psychological wellbeing in a group of persons one to 24 years post spinal cord injury. In this randomized control trial, the exercise group had increased arm endurance (81% more) and strength (19-34% more), while there was no change in the control group. Furthermore, the exercise group reported less pain, stress and depression, improved quality of life, as well as improved perceived level of health, compared with the control group.

**Older Adults**

Physical activity and fitness have been shown to impact positively on morbidity, even when initiated late in life (Bean, Vora, & Frontera, 2004). There is strong evidence for the role of exercise in arthritis, heart disease, lung disease, diabetes, stroke, osteoporosis and falls prevention. Rehabilitation programs must be made equally accessible to all persons, particularly older adults, who may not have third party insurance to subsidize private practice. There may be important sociodemographic inequalities in the use of rehabilitation services and possible underutilization in certain groups of older people (Mayer-Oakes et al., 1992). Examples of health promotion
programs for the older adults made accessible by their delivery through student physiotherapists are available in the literature (Mount, 1991; Village & Village, 2001).

**Osteoporosis**

Physiotherapists are felt to be well qualified to devise exercise regimes and education programs in regard to bone health, an important issue in healthy aging (Turner, 2000). Anderson and Metz (1993) reported that physical activity significantly modifies the independent effect of calcium on the distal radial bone’s peak bone mass and density in women. In 1999, Wolff, van Croonenborg, Kemper, Kostense, and Twisk completed a meta-analysis of randomized control trials to determine the effects of exercise training on the bone mass of pre- and post-menopausal women. They reported that the evidence shows that exercise can prevent or reverse bone loss by almost one percent per year. Furthermore, the findings are consistent for the lumbar spine and the neck of the femur bone, and for both pre- and post-menopausal women (Wolff et al., 1999). A recent systematic review in the Cochrane Library (Bonaiuti et al., 2004), concluded that aerobics, weight-bearing and resistance exercises are effective means of increasing the bone mineral density of the spine in postmenopausal women. Walking has also been shown to be an effective prevention measure for osteoporosis of the hip.

**Prevention of Falls**

Gillespie et al. (2004) in their systematic review for the Cochrane Collaboration found that interventions likely to be beneficial in reducing the number of falls in older adults people included multidisciplinary, multifactorial, health and/or environmental risk factor screening programs in the community regardless of fall history. Individual programs of muscle strengthening and balance retraining, home assessments, withdrawal of psychotropic medications, and Tai Chi group exercise classes were also found to be of benefit (Gillespie et al., 2004). Despite the apparent value of fall prevention programs, their implementation in primary care is not universal. Hughes (2002) examined the prevalence of fall prevention programs in 143 health care settings in the United Kingdom. Seventy-three percent of the surveys were returned, of which
38% reported that they provided a fall prevention program; 34% were in the process of developing such a program; and 28% had no such intention (Hughes, 2002). Screening for risk of falls in a community setting has been found to be practical and feasible using the Functional Reach Test and gait speed (Ness & Gurney, 2001). Campbell, Robertson, Gardner, Norton, and Buchner (1999a) investigated the effectiveness of an exercise program for women over the age of 80 over a two-year period. After two years, the rate of falls stayed significantly lower in the exercise group. However, the authors recommended regular six-month follow-up visits to monitor for changes and to encourage ongoing adherence with the program. Alternatively, when Campbell et al. (1999b) assessed the effectiveness of exercise in combination with the withdrawal of psychotropic medications, only the withdrawal of the medications seemed to have any bearing on fall reduction in a group of men and women over the age of 65. The author suggested that further research is needed to investigate the role of age in exercise efficacy for fall prevention. The use of a consultation model has also been investigated by Hogan et al. (2001). They found that while the intervention significantly increased the time between falls, it did not decrease the cumulative or mean number of falls. Student physiotherapists have also been utilized in the delivery of such fall prevention programs in the community (Village & Village, 2001).

Musculo-Skeletal Disorders

Physiotherapists are commonly known in the health care realm for their expertise in the area of musculoskeletal dysfunction. In fact, in one survey of physiotherapy service providers in the United Kingdom, a full 80% of respondents reported that they provided musculoskeletal services at the community level (Minns Lowe & Bithell, 2000). The majority (60.6%) of the physiotherapy managers in this same survey felt that this role increased the participation of physiotherapy in the primary health care team. The source of the referrals to physiotherapy, however, may vary considerably. In the United States for example, it has been found that orthopaedic surgeons were more likely to refer to physiotherapy than primary care physicians (Mielenz et al., 1997; Freburger, Holmes, & Carey, 2003). Increased referral rates were demonstrated for low back pain,
fractures, strains, and sprains. The existing evidence supports the role of exercise and physiotherapy in the management of these disorders to varying degrees.

**Soft Tissue Injuries**

The evidence supporting specific physiotherapy interventions in the management of soft tissue injuries of the shoulder and knee may be weak (Deyle & Bang, 1999; Philadelphia Panel, 2001a; van der Heijden, van der Windt, & de Winter, 1997; van der Windt et al., 1998). However, early intervention in the management of soft tissue injuries of the ankle is supported (Ogilvie-Harris & Gilbart, 1995).

Improvement in physical capacity and a renewal of psychological motivation to become productive have been found to be the primary determinants for return to work following injury (Gliniecki & Burgel, 1995). In a systematic review to determine common repetitive strain injuries occurring in the workplace (O’Neil, Forsythe, & Stanish, 2001), carpal and cubital tunnel syndrome appear to be the most common. Exercises, electromyographic feedback, and relaxation training have all been shown to be of benefit in the management of nerve entrapment syndromes, interventions that physiotherapists use frequently. In a meta-analysis of spinal manipulation, exercise therapy, traction, ultrasound, and laser therapy, some forms of intervention were found to be promising for some disorders of the neck, back, shoulder, and knee, but definitive conclusions could not be made due to methodological flaws in the research (Beckerman, Bouter, van der Heijden, de Bie, & Koes, 1993). More rigorous research is required before conclusive recommendations about the role of physiotherapy in soft tissue injuries of the extremities can be made.

**Neck Pain**

Several authors have explored the efficacy of physiotherapy interventions in the treatment of soft tissue injuries of the neck. Unfortunately, due to the low number of methodologically rigorous studies, many of the results have been found to be inconclusive (Karjalainen et al., 2004a; Kjellman & Öberg, 1999; Magee, Oborn-Barrett, Turner, & Fenning, 2000). While a McKenzie treatment approach was found to be of
benefit in terms of neck pain during the first three weeks of intervention, no definitive evidence was found for efficacy after 12 months (Kjellman & Öberg, 2002). Alternatively, manual therapy for treating neck pain was found to be more effective (Hoving et al., 2002) and less costly than physiotherapy or care by a general physician in the Netherlands (Korthals-de Bos et al., 2003). The latter study has relevance here in Canada where it must be noted that many physiotherapists combine manual therapy with other treatment interventions for care of the neck. The Philadelphia Panel, in their meta-analysis (2001b), reported that there was sufficient scientific evidence to support, and recommend, the use of proprioceptive and therapeutic exercises for chronic neck pain of more than 12 weeks duration. Bradshaw, Watling, Bryce, and Steen (1995) reported less use of non-steroidal anti-inflammatory drugs for those persons with neck problems treated with physiotherapy compared to those treated with bed rest, advice, and analgesia. Furthermore, persons receiving physiotherapy intervention were less likely to experience a recurrence of spinal problems. However, the interpretation of the study’s findings is limited by the methodology used by the researchers: a case control study using a retrospective secondary data analysis.

Low Back Pain

Van Tulder, Koes, Metsemakers and Bouter (1998) surveyed a group of 26 general practitioners in the Netherlands to describe the course and management of persons with chronic low back pain in primary care. While the findings may not be generalizable to Canada, several findings are of interest. Survey results show that medication (mostly non-steroidal anti-inflammatory drugs) was the most frequently used type of treatment (21.6%). The most frequent referrals were to physiotherapy (16.3%), followed by neurology or neurosurgery (6.3%) (van Tulder et al., 1998). It appears that most cases of low back pain are managed in the primary care setting by the general physician.

In their systematic review to support the current guidelines of care of acute back injuries, Smith, McMurray and Disler (2002) reiterated that the evidence shows that exercise may have a positive effect while bed rest is ineffective and may even be
harmful; early intervention is recommended. A meta-analysis completed by the Philadelphia Panel (2001c) also supported and recommended the use of continued normal activities for acute low back pain. They also recommended therapeutic exercises for chronic, subacute, and post-surgical low back pain (Philadelphia Panel, 2001c).

Physiotherapy in its different forms has been shown to be an efficacious option in the management of low back pain (Karjalainen et al., 2003; Van Tulder, Malmivaara, Esmail, & Koes, 2004). Multidisciplinary programs for those with low back pain have been supported by the literature (Gill, Sanford, Binkley, Stratford, & Finch, 1994; Karjalainen et al., 2004b; Rossignol et al., 2000). A Cochrane Library systematic review reported that more than 100 hours of multidisciplinary biopsychosocial rehabilitation with a functional restoration approach produces greater improvements in pain and function for those with chronic low back pain than non-multidisciplinary rehabilitation or usual care (Guzmán et al., 2004). One-time consultation by a physiotherapist and a physiatrist have also been shown to result in less daily pain, less intensity of pain, less pain interfering with daily life, and a quicker return to work (Karjalainen et al., 2003). In terms of cost analysis, Seferlis, Lindholm, and Nemeth (2000) found that total costs in Sweden, including sick leave for low back pain, were similar for three types of conservative management approaches for acute low back pain: general practitioners, manual therapy programs or an intensive training program. Both the McKenzie approach to physiotherapy management of low back pain, as well as a chiropractic approach have been shown to have similar effects and costs (Cherkin, Deyo, Battie, Street, & Barlow, 1998). Outcomes, however, were only slightly better than an education booklet alone. The need for more rigorous research in this area has been frequently identified (Evans & Richards, 1996; Faas, 1996; Pengel, Maher, & Refshauge, 2002).

Chronic pain

In terms of chronic pain, there has been a recommendation, based upon the literature, that management should be holistic and multidisciplinary (Smith, Hopton, & Chambers, 1999). Linton and Andersson (2000) have demonstrated that a cognitive-
behaviour group intervention can lower the risk of long-term disability after one-year follow-up. Their findings emphasized the need for early intervention. Mårtensson et al. (1999) evaluated a biopsychosocial rehabilitation approach in primary care for 70 persons with chronic pain. Their results showed increased general wellbeing and ability to manage pain as well as decreased levels of perceived complaints. Physiotherapy has been found to benefit patients with chronic musculoskeletal pain during the period that they are being treated with most forms of therapy (Feine & Lund, 1997). Unfortunately, most of these therapies have not yet been proven to be more efficacious than placebo. The authors concluded that efficacy seems to be related to dose. Feine and Lund limited their systematic review, however, to one database only from the years 1976 to 1996, including only English and French language publications; their search criteria were not provided, nor did the authors report including any hand-searching for additional studies or references.

**Summary of Physiotherapy Evidence**

**Strongest Evidence**

The evidence supporting the role of physiotherapy in primary health care is strongest in the management of arthritis; coronary heart disease; chronic lung disease; incontinence of symptomatic women; diabetes; osteoporosis; falls prevention; and, chronic low back pain. Physiotherapists are already involved in the management of these clinical areas, but the scientific evidence supports an active role in each of them. **Arthritis:** Exercise of moderate intensity has been shown to improve a person’s gait, function, pain and endurance for people with osteoarthritis. Exercise therapy has also been proven to safely improve endurance and strength in persons with rheumatoid arthritis. Community-based physiotherapy intervention over a six-week period can significantly improve self-efficacy or confidence, disease management knowledge, and morning stiffness in persons with rheumatoid arthritis. **Coronary heart disease:** The existing literature supports physical activity as a means of reducing the risk factors associated with coronary heart disease as well as secondary
prevention of complications following a cardiac event. It is not clear whether exercise alone or comprehensive cardiac rehabilitation intervention is more beneficial.

**Chronic lung disease:** Community-based pulmonary rehabilitation has been shown to improve exercise tolerance, shortness of breath, and health-related quality of life. Leg training alone has improved exercise tolerance and strength. Endurance training has improved arm function. Pulmonary rehabilitation can improve shortness of breath, health-related quality of life, and reduces the number of hospitalizations and days of hospitalization. It may also improve survival.

**Incontinence of symptomatic women:** Pelvic floor muscle training appears to be an effective treatment for adult women with stress or mixed incontinence. It has been shown to be more effective than other interventions such as electrical stimulation, vaginal cones or no treatment for genuine stress incontinence in women in terms of improved muscle strength, as well as reduction in leakage.

**Diabetes:** The literature supports a multi-modality approach in the effective management of diabetes, which uses both lifestyle as well as pharmacological interventions. Exercise has been shown to improve glycemic control to an extent that would significantly reduce the risk of diabetic complications. Exercise has also been shown to reduce cardiovascular risk factors and improve psychological well-being in persons with diabetes.

**Osteoporosis:** Physical activity has been proven to significantly modify the bone mass of pre- and post-menopausal women. The evidence shows that exercise can prevent or reverse bone loss by almost one percent per year. Aerobics, weight bearing, and resistance exercises, as well as walking are supported by scientific evidence as effective means of increasing bone mineral density.

**Falls prevention:** Interventions shown likely to be of benefit in reducing the number of falls in elderly people include multidisciplinary, multi-factorial, health and/or environmental risk factor screening programs in the community regardless of fall history. Individual programs of muscle strengthening and balance retraining, home assessments, withdrawal of psychotropic medications and Tai Chi group exercise
classes were all found to be of benefit. Furthermore, screening for risk of falls in a community setting has been found to be practical and feasible.

**Chronic low back pain:** There is strong evidence that more than 100 hours of multidisciplinary bio-psychosocial rehabilitation with a functional restoration approach can produce greater improvements in pain and function for those with chronic low back pain than non-multidisciplinary rehabilitation or usual care. One-time consultation by a physiotherapist and a physiatrist have also been shown to result in less daily pain, less intensity of pain, less pain interfering with daily life, and a quicker return to work.

*Moderate Evidence*

Existing evidence is moderate for chronic neck disorders, acute low back pain, stroke survivors with moderate severity of impairment, and Parkinson’s disease.

**Chronic neck disorders:** There is sufficient scientific evidence to support and recommend the use of proprioceptive and therapeutic exercises for chronic neck pain of more than 12 weeks duration. Physiotherapy intervention has been reported to reduce the use of non-steroidal anti-inflammatory drugs for those persons with neck problems compared to those treated with bed rest, advice, and analgesia. Furthermore, those persons receiving physiotherapy intervention were less likely to experience a recurrence of spinal problems.

**Acute low back pain:** Evidence has shown that exercise may have a positive effect on acute low back pain while bed rest is ineffective and may even be harmful. Early intervention and continued normal activities are recommended.

**Stroke with moderate severity of impairment:** The literature has shown that rehabilitation services targeted at persons living in the community following stroke improves their independence with activities of daily living and reduces their risk of deterioration in ability. It has been acknowledged that further research is required in this area. For those with severe impairments resulting from a stroke, people receiving sub-acute hospital-based rehabilitation services experienced improved outcomes in terms of fewer deaths and increased levels of independence compared to those receiving community-based services. While early discharge to community rehabilitation for persons surviving a
stroke has been shown to be feasible and cost-effective, there have not been any significant financial savings or differences observed in hospital readmission rates over the long-term.

**Parkinson’s disease**: A limited body of evidence supports the role of physiotherapy in persons with Parkinson’s disease in terms of improved activities of daily living and mobility. Further research of high methodological quality is needed to explore the short and long-term impact of physiotherapy on Parkinson’s disease.

**Weakest Evidence**

The evidence is weakest in terms of spinal cord injury and traumatic brain injury. As stated earlier, “weakest” evidence should not be equated with negative or no impact. This designation may indicate that rigorous research is lacking in that clinical area.

**Spinal cord injury**: Few studies could be located in which the role of physiotherapy and survivors of spinal cord injuries living in the community was examined. Nonetheless, exercise programs following spinal cord injury, regardless of when the exercise program is initiated in the community setting, has been shown to improve arm endurance and strength, pain, as well as quality of life and perceived level of health, and reduce stress and depression. However, it has also been shown that there is a need for specialty care to augment services available at the community level in highly specialized clinical areas such as the case with spinal cord injuries.

**Traumatic brain injury**: While limited in scope, there is minimal evidence supporting the role of multidisciplinary community outreach teams in the long-term management of persons with traumatic brain injuries. Such programs were effective in improving independence in functional activities of daily living, self-organization skills and psychological wellbeing.

Much of the evidence pertaining to the practice of physiotherapy was in the role of exercise in primary and secondary prevention. Physiotherapists are trained specifically in exercise prescription for those persons with medical considerations that may preclude rigorous and unsupervised activity. This training and knowledge place physiotherapists in a unique position to offer such remedial and preventive programs.
QUALITATIVE RESEARCH

Purpose and Objectives

The purpose of the qualitative research component of the project was to obtain the perspectives of key stakeholders about the integration of occupational therapy and physiotherapy in primary health care. This was considered to be important for understanding the context of primary health care. Combined with the evidence from the literature, the qualitative component was used to develop a pilot project for a community area.

Focus groups and key informant interviews were conducted with three distinct groups of stakeholders. The first group of stakeholders participated in focus groups and consisted of occupational therapists and physiotherapists who were in leadership positions or involved in clinical practice. The focus groups were used to explore the perceptions of members of the professions of occupational therapy and physiotherapy about:

1. potential roles of their respective disciplines in primary health care,
2. challenges to integrating the respective disciplines into primary health care, and
3. potential indicators of the success of occupational therapy and physiotherapy services in a primary health care context.

The second group of stakeholders participated in in-depth interviews and consisted of administrators in community-based, publicly funded health and social services. The interviews were used to explore:

1. the current vision for community services,
2. challenges to achieving the vision for community services,
3. the decision-making process within their program or service to determine priorities, and
4. integration of occupational therapy and physiotherapy into primary health care teams.

The third group of stakeholders participated in a focus group and consisted of multidisciplinary staff from the community area in which the proposed pilot project would
occur. This focus group was used to obtain feedback about a proposed pilot project for the integration of occupational therapy and physiotherapy in the community area.

The project was approved by the University of Manitoba Health Research Ethics Board and the Winnipeg Regional Health Authority Research Review Committee. All participants signed informed consent forms.

The following sections summarize the findings of the qualitative research component of the project. Results from the three stakeholder groups are reported separately.

Focus Groups with Occupational Therapists and Physiotherapists

Methods

A total of four focus groups were held with occupational therapists and physiotherapists. Two focus groups were held with occupational therapists. One of these groups consisted of eight occupational therapists in leadership positions in publicly funded health services in the region. Participants were in their current position a range of 1 to 17 years (mean = 5 years) and worked in health or social services a range of 10 to 40 years (mean = 21 years). The individuals all knew each other and met on a regular basis. The other group consisted of five clinical occupational therapists working in a variety of publicly funded and private practice settings. Participants were in their current position a range of 1 to 9 years (mean = 4 years) and worked in health or social services a range of 12 to 30 years (mean = 19 years). Two focus groups were with physiotherapists using a parallel format to the occupational therapist groups. One of these consisted of 15 participants, all in leadership positions in publicly funded health services in the region. Participants were in their current position a range of 2 to 22 years (mean = 8 years) and worked in health or social services a range of 15 to 36 years (mean = 27 years). The individuals all knew each other and met on a regular basis. The other group of nine physiotherapists, were all involved in clinical practice in a variety of publicly funded and private practice settings. Participants were in their current position a range of 2 to 18 years (mean = 9 years) and worked in health or social services a range of 8 to 36 years (mean = 25 years). All four groups were facilitated by one of the
investigators, with a research assistant providing support by audio recording the group and taking notes.

During the focus groups, participants were asked to describe the current gaps in primary health care services in which they felt their respective professions could play a role, what the current roles were, how they saw their professions fitting into the core services of the Winnipeg Integrated Services Initiative (WISI), what roles their professions could play in the future and their ideas about indicators of success for any future roles. The focus group interview guide is included in Appendix B.

Audiotapes of the focus groups were transcribed verbatim. A summary of each focus group was written and distributed to participants of that group, with a request to review the summary for errors or omissions and to add any additional information they considered to be important.

Transcripts were analyzed using a grounded theory approach in which a coding scheme was developed based on the initial interview guide. Codes and subcodes were introduced as themes emerged through line-by-line review of the transcripts. Memo writing during the analysis served to elaborate assumptions and illuminate comparisons and patterns in the data (Charmaz, 2000). A cumulative coding system was developed for all four focus groups. However, the results for the two professions were analyzed separately.

**Results of the Focus Groups with Occupational Therapists**

Participants felt that occupational therapists had considerable expertise as collaborators with the people for whom they provide services and as educators who are able to adapt health education approaches to a variety of cognitive styles. Their holistic view of people that includes both physical and mental health perspectives and their ability to understand and address people’s functioning provides them with a solid base for roles in primary health care.
Potential Roles

Occupational therapists envisioned potential roles in several areas of the health service delivery continuum. Primarily, participants believed that there were current gaps in service delivery in which they felt occupational therapy could play a role. These areas were: prevention and health promotion; continuum of rehabilitation services; and, social adaptation and integration.

Improving the Well-being of Communities

Participants in the focus groups talked extensively about occupational therapy roles in the prevention of injury and the promotion of well-being before people become ill. This role is illustrated by the comments of a participant in one group.

FOA: the role of being a collaborator before people are sick and the whole idea of being able to raise awareness in the community about some of the risks and related concerns around the various stages of the developmental process and how to engage people in taking control of their own environments.

Although participants saw a lack of occupational therapy services in prevention and health promotion in the community as a gap in current service delivery, they also acknowledged that the types of intervention that they could provide in order to enact these roles were similar to those that are provided for populations who are sick or disabled.

FOB: we could contribute to healthier populations … looking at life skill development, looking at social skills sorts of things, lots of things that you know we work with people once they’re in the system, but we want to prevent people from getting in the system.

Potential roles in health promotion were envisioned for specific issues such as stress management and childhood obesity. In addition, stressful life events such as
single parenthood and bereavement could be important times for health promotion and prevention strategies. One participant in a focus group spoke passionately about the importance of health promotion during life transition times such as from childhood to adulthood and from worker to retirement.

FOB: I guess my raging issue would be smoothing the transitions, smoothing those bumps, that would be really, really nice and having pediatrics people talk to the adult system before they let go and so the person doesn’t feel like they’ve been dropped like a hot potato and waiting for somebody to pick them up, the same thing at the other end when they’ve gone from being a productive work person to a retiree.

Participants also considered a role in promoting prevention of injury in the workplace to be important.

FOB: clinically I think that there’s a huge role in terms of prevention and promotion … (for example) young workers are really at risk for injury and … from an educational point of view I think OTs have a lot to contribute there.

Community development was discussed several times in one focus group as a role for occupational therapists that could be expanded. One participant spoke about applying the skills that occupational therapists traditionally have used in treatment with individuals and groups, to interventions addressing the health needs of communities.

FOB: community development is really … treating the community as opposed to treating the individual, so we have skills and we do groups, we have focus groups around what the community wants … or what are the gaps and then work with that community to advocate for itself.
FOB: facilitating their development of what they see as their issue as a community … (such as) having difficulty with budgeting and that sort of thing and helping at one of the centers, at one of the churches or something, for people that do want to develop that skill or to develop more resources for people in the area to make ends meet.

Participants made the connection between community development and its role in health promotion and prevention as illustrated in this exchange between two participants.

FOB: (from a) community development point of view, if we can kind of go back to that, I mean helping the community decide what it is that they need as a collective to make that happen, because there’s so many barriers, you know whether it’s not safe places to walk or parks that feel that they’re okay places to be because others that are using it, so I think there’s a real range of ways that the communication needs to happen in order that that move forward.

And even working with the city, and…we’re looking at the community centers and how people are getting less involved with the community centers, so what does that mean, what does the community need. How can we promote healthy living and healthy lifestyles within these communities when people are not getting out to the community centers? What do we do for health promotion … which keeps people healthy, keeps them out of the health care system.

Service Transitions

The occupational therapist participants identified gaps in the continuum in transitioning from institution-based to community-based services. One participant expressed frustration with the time delay when referring a person to a community therapist upon discharge from hospital.
FOA: Carrying on treatment immediately on discharge (is important) and you can try but there is a definite delay and … that continuum … that’s a definite problem … more and more when we’re looking at discharging the patients who are more acute, (the delay) is even more of a problem.

There were also concerns about service transition points such as when people moved from the child system to the adult system of care. An occupational therapy role was identified for assisting people with transitions.

FOB: One of the gaps I’ve run into is the gap that I’m seeing in the adult field who have come from the Children’s, and as children they get everything on a silver platter … and when they land in the adult system it’s like, what do you mean we can’t get that, what do you mean we can’t do this, so like transitioning there and working; somehow OT services could work with the clients, the families, and help them transition easier into the adult system and what can you expect and how can you facilitate this and how can you navigate through the system, because we can help them with that.

**Combating Social Isolation**

Participants in one focus group spoke at length about the challenges facing people who cannot work or go to school and who need support to maintain social contact. These participants saw combating social isolation and outreach to people who are socially isolated as important roles for occupational therapists. Examples of groups who face these types of challenges included people with Multiple Sclerosis who are aging, the elderly living alone in homes without social contact, and people living with severe mental illness. The issues for people with mental illness are discussed in this excerpt from the focus group.
FOB: There is a huge population of people in the community who have … mental illness for a huge part of their lives and there’s a lot of … research about time use and what people do with their time … it’s … really a lot of isolation and not very much involvement in these occupations, and I think … (a) huge role … is just … finding ways to help.

The issues of social isolation were considered by this participant to be particularly important when people are not engaged in productive occupations such as work or school. Another occupational therapist agreed that more effort should be spent addressing these types of quality of life issues.

FOB: just being with others in social context is very therapeutic to people, and that not all of our clients whatever their disability may be, may ever work or may ever need to go to school, but they still need somehow to be able to contact other human beings, and how do you get a chance to do that because so much of the resources go into those get back to work, get housing, get education (issues), but it doesn’t go to some of those quality of life issues which are (about) connecting to others.

Reasons for Gaps in Occupational Therapy Services in Primary Health Care

Three major themes arose during the focus groups regarding the reasons for the current gaps in occupational therapy services and barriers to shifting occupational therapy services toward participation in a primary health care model. These themes were: funding, gate-keeping, and the fit between occupational therapy and community access models.

Funding

Participants spoke about the ways in which traditional funding allocations have driven treatment-focused hospital-based occupational therapy services. From the perspective of the participants, this has created a relative limitation of access for people...
to community-based occupational therapy services. This situation was seen as a contradiction to current public relations’ messages discouraging the public from using hospital services for non-serious health problems. In addition, the predominance of hospital-based services was perceived by the following participant as being in contradiction to the occupational therapy wellness and function based model of practice.

FOA: However, the funding is tied to illness, and the funding is primarily tied to hospital and that’s the way OTs and health care got funded, was hospital. But … it’s not congruent with our model of practice.

In some rare instances, occupational therapy is provided in a community-based, publicly-funded manner. However, concerns were raised about the stability of the funding. One participant described a situation of a therapist working in a new position for a non-profit organization.

FOB: (The position has been going) about six months and we’re hoping it continues … ’cause they’re a community-based program, a non-profit program that relies on funding from (the Region) and elsewhere, it goes sort of year to year whether they’ve got funding, so … you can do as much program development as you can and try to get stuff going and hope the funding holds out.

A multi-tiered system has evolved though private practice and third party insurance. Those people with financial resources access service by paying for them. Others are covered by third party insurance; although focus group participants noted that many insurance schemes do not cover occupational therapy services. Even people who are covered by third party insurance receive variable service depending on the terms of insurance. An example related to work place injury was given by one participant.
FOB: When people are returning to work after injury, the kind of intervention they get is so variable depending on what level of funding they have and who their funder is. Traditional funding priorities for treatment-based services were believed to limit the move of services upstream to a more health promotion and wellness focus. The enthusiasm for the occupational therapy roles in health promotion expressed by participants was tempered by the acknowledgement that the potential for the role has not been explored fully because of the lack of funding for those types of roles.

FOB: this business of health promotion. I think that is so huge and I think that there just hasn’t been the opportunity or funding in the past to even envisage this role, I don’t think we know how much we could do there.

*Gate-Keeping*

The need for physician referrals for some services was also questioned in the context of moving to a primary health care model of service delivery. The need for referrals from physicians was viewed by participants as a limitation to moving their services upstream to do more health promotion and wellness. Frustration was evident in wanting to find ways to “get out” from that traditional referral system to reach their potential in this area.

FOA: we’re too many steps insulated into the health care system … like you’ve got to go through your family doctor, to your specialist or something, or get sick and then you get to see an OT, but how do we get out?

Referrals required for some programs from case managers were perceived as limiting access for people who need occupational therapy services. Participants talked about the ways in which the case manager’s knowledge and philosophy about health service delivery impacted on whether a person was referred for occupational therapy services. This point was illustrated by the following example.
case management workers ... have very, very different ways of working and they have very different levels of knowledge about occupational therapy; so you see referrals happening from some people (case managers) over and over again, and never happening… (from) other people.

Fit Between Occupational Therapy and Community Access Models
Participants in both occupational therapy focus groups perceived an excellent fit between occupational therapy models of practice and community access models and some perceived this as a better fit than the traditional hospital-based models of practice. However, participants acknowledged that many occupational therapists would need to shift some of their existing expectations and practices to work in those types of settings. For example, most occupational therapists have traditionally worked in specific roles designated for occupational therapists and would need to risk moving into more generic health related roles. Therapists would need to move from an exclusive focus on individuals receiving treatment to a broader focus on the health of groups and communities and consideration of the broader determinants of health such as poverty and violence. It may be difficult for many experienced therapists to move into new roles.

I think recently, when there’s that comfort zone where people have where they currently work, although it sounds intriguingly exciting to think about some of those alternatives, there aren’t a lot of people that are trying to sort of break those barriers.

Participants in the focus groups also identified a lack of “self-promotion” within occupational therapy as a potential barrier to assuming new roles in health promotion and prevention. They felt that occupational therapists have not marketed their skills in this area and, therefore, have missed opportunities to assume roles as they become available. Maintaining an image about the profession also may impede their willingness
to practice in a setting with looser role boundaries in relation to working with other groups and organizations.

FOA: I think, that’s one of the things that worries me is that in our concern about maintaining an image we sometimes aren’t prepared to make some of the compromises of developing liaisons with others, because sometimes we do have to bend the rules a little bit in order to make things work.

**Integrating within a Community Access Model Team**

Despite barriers, participants spoke positively about the potential integration of occupational therapy into community access models. Working with other professionals and services was seen as important to addressing the complex needs of people with chronic conditions such as depression and chronic pain. Participants identified how collaboration with other service providers was important in encouraging the lifestyle changes necessary for the management of chronic illness and promotion of wellness. They were supportive of meaningful inter-sectoral collaboration that includes the people receiving services.

FOA: a building does not mean that it’s integrated, and multi-sectoral, there still has to be a large step in getting people to work together, not just referring, but actually sitting down and collaborating with the patient.

Participants remarked that it was important for people receiving services to recognize occupational therapists as part of the whole team. Participants also noted the importance of liaison and collaboration with organizations and services beyond the current WISI framework, for example, with the justice system and civic services.

**Indicators of Success**

Participants were asked about the types of indicators that should be used to measure the success of occupational therapy intervention in a primary health care
setting. Participants stated that a lot of interventions that occupational therapists provide are difficult to measure. For example, upstream prevention and health promotion initiatives targeting long-term outcomes are difficult but important to measure. Participants suggested the following indicators to demonstrate that occupational therapy is effective and successful in the primary health care setting:

1. **Outcome measures.** If the goal of an education program was to improve quality of life, did clients perceive that the program made a difference? If the outcome was to change client behaviour, did it? If the outcome was to educate on symptom management, was the client able to manage better after involvement with an occupational therapist? If the intervention is a falls prevention program, did it reduce the number of falls? If the intervention is a mental health program, what were the changes in the number of mental health admissions and relapses and suicide rates?

2. **Type of intervention provided - what did the occupational therapist do?**

3. **Number of physician visits - has occupational therapy intervention resulted in reductions?**

4. **Caseload - has client attendance at programs increased? Has caseload increased?**

5. **Referrals - self-referrals and professional referrals, have they increased? What are the presenting problems?**

6. **Client satisfaction - are consumers satisfied with what they're receiving and how they're receiving it? Did the interaction with occupational therapy meet the client's expectations?**

7. **Agency and peer satisfaction - were agencies and other professionals (physicians, nurses, social workers) satisfied with the service provided?**

8. **Caregiver satisfaction - did occupational therapy help caregivers?**

9. **Change in the health in the community over a five-year period. If a team of professionals have improved the community's health, the team would demonstrate effectiveness. Demonstrating success in individual disciplines may not be important.**
Results of Focus Groups with Physiotherapists

In general the physiotherapists saw their expertise as “exercise and movement experts”. Their unique blend of movement and medical knowledge and expertise in educating and motivating people were considered to be assets to support numerous roles within a primary health care framework.

Potential Roles

Physiotherapists spoke in depth about their ability to enact roles in primary health care that filled gaps in current service delivery. Discussion focused on three major areas of the continuum of health services: support, maintenance and continuation of rehabilitation in the community; health promotion and protection; and, diagnosis/acute treatment.

Continuing What Was Started in Hospital

The participants were very concerned about a lack of continuity of physiotherapy services when people were discharged from hospital inpatient settings to community environments. The physiotherapists in both focus groups talked about gaps in services for people who leave hospitals after injury, surgery, or major illness to continue with their rehabilitation in the community. There was a feeling that this lack of continuity severely compromised the potential for people to reach their maximum functional levels that allowed the best quality of life. One physiotherapist commented on the impact of this from the perspective of working in an acute care hospital.

FPA: They come in for a while and you treat them back to the level where they can go back home, but there aren’t the resources in the community to maintain that status, to monitor and to keep them at the level where they can function at home or maybe even improve their level and we need more resources that can do that because we see people coming back. We get them up after a month or two, they’re discharged from hospital they go home, three months later they’re back in hospital again, you’re starting a whole process again. You may never ever get
back to their level that they achieved the first time, but if we had more resources … we could have ongoing programs for people who try to maintain them, and I see that all the time and it’s a big issue in the acute care side.

Another participant in the same focus group talked about the lack of progression for people discharged from the hospital to the community using a walker.

FPA: The person who is doing well goes off with their walker with an appointment to see their doctor in “x” number of weeks and we know that … a lot of them stay on that walker a lot longer than they need to, ‘cause no one takes it off and hands them a cane and measures it, and no one updates their exercises to give them harder things, so they get stuck.

A similar theme emerged in the other focus group.

FPB: They find people who have been in (the hospital), had a broken hip, whatever, were sent home with a walker and maybe had a little bit of follow-up but not for that long and they come back three years later and they’re still walking with the walker, simply because they think that that’s what they’re assigned and they have to do … for the rest of their life, and when they meet up with the physiotherapist again, well you know, you can assess that and often it doesn’t need too much more than some education, encouragement, a little bit of practice, yeah, and they can then become more independent, not always tied to this walker.

An alternative situation that participants also identified that occurs without physiotherapy follow-up in the community is that people will stop using the walker on their own but the walker is needed to prevent falls.
FPA: six months later … (they) have finally gotten off of the walker … but there’s no involvement by physio or anybody and then they might be a repeater that comes back with a fall because they tried it on their own and they don’t have the muscle strength or balance anymore to do it.

Continuity of rehabilitation was also considered to be impacted by pressure on hospital-based services to discharge people as quickly as possible resulting in premature termination of rehabilitation. In addition, the appropriateness of some types of physiotherapy intervention when people are in the hospital was also questioned.

FPB: People aren’t that receptive at that time … to a lot of teaching; they’re just worried about getting home and getting through their emergency.

In both focus groups, participants identified challenges in giving people exercise or other therapy programs and ensuring that people carry through with the program. The need to have ongoing monitoring and progression in some form was seen as an important role. Likewise, participants discussed the importance of the social aspect of exercise programs that encourages follow through.

FPB: the population perhaps isn’t all that motivated to pursue independent exercise programs so they are rehabilitated because Mary is coming every day and telling them to do these things, and they really like Mary and so they’re going to do it, and they get home and they’re happy to sit or they have a very small house, you can’t do a lot of six minute walks in that eight hundred square foot bungalow, so those people are deteriorating in the community because … they can’t access a lot of outpatient situations, and there isn’t a lot of just, kind of activity for them to do. And they’re not really independent enough to mobilize in their community, only within their own dwelling, and so that shrinks their world.
Beyond intervention with individuals, participants also saw a role for primary prevention through advocacy for changes that would facilitate increased safe mobility and encourage people to be more active, effectively widening the worlds of people with mobility difficulties. Examples were lobbying the city to bevel sidewalks and remove snow more frequently during the winter.

*Initiating Intervention Upstream*

Participants envisioned a large and effective role for physiotherapy “upstream” in the continuum of health care services in the area of health promotion and disease prevention. This role included primary prevention as well as secondary and tertiary prevention. Participants noted that when physiotherapy was involved in prevention in the current health care system, strategies tended to be focused on secondary and tertiary prevention. However, participants felt that their expertise in developing and delivering educational packages for secondary and tertiary prevention could be applied further upstream. Several examples of existing and future roles in primary prevention included recommendation for the purchase and use of appropriate furniture in schools to prevent long-term musculoskeletal problems; encouragement of exercise in children to prevent diabetes; initiation of walking programs in seniors’ complexes; and, the posting of warm-up exercises in curling rinks to prevent sport-related injury. Screening for people at higher risk for injury was another example of a role in prevention.

FPA: I think another gap is this whole screening process. We don’t get involved in screening processes. There’s a lot you can do in screening. I mean, if you become the therapist for a local football team for example … you do a lot of screening up front to identify any issues that those athletes are going to develop … We don’t do that for the general public and there’s a lot of things you can find out through the screening … We all know that when you reach a certain age if you’re a woman you’re going to be screened for a mammogram, but we don’t screen a number of the elderly or people who are going into retirement to assist
them with some of the things to prevent problems down the road … and I think there’s a huge gap.

Participants were also concerned about exercise programs that occurred in the community, the appropriateness of the content of some of these programs, and the lack of adaptive programs for people with disabilities. A potential role for physiotherapy was to consult with people providing community-based exercise programs with the goal of preventing injury in participants and increasing their ability to accommodate people with disabilities.

Likewise, a potential role would be to consult with local community businesses to promote healthy workplaces.

FPB: if there was a community, a physiotherapist in a community access center and businesses in the area, maybe smaller businesses that can’t afford sort of their own workplace health and safety … physiotherapy could offer consultation, physiotherapy could be helping to set up those programs … and that’s the role that we aren’t playing very well.

Participants identified the value of involving physiotherapists in the early stages of diagnosis of chronic diseases such as chronic joint conditions, a practice that is currently not common. In the case of osteoarthritis, one physiotherapist pointed out that there was a potential for the prevention of surgery if physiotherapy was initiated at the time of diagnosis rather than when surgery was imminent. Even if surgery is imminent, participants felt there was a potential role for treating people on orthopedic surgeons’ wait list with the goal of reducing the need for surgery.

Participants discussed a role in triage for musculoskeletal conditions in primary care settings. Discussion in both focus groups indicated that many physiotherapists have expertise in assessment and treatment of acute low trauma musculoskeletal conditions and are capable of providing a triage function in acute care settings, while
referring more complex cases to physicians. One participant, in response to a question about envisioning a future role for physiotherapy in Community Access Centres said:

FPB: from a triage perspective … ideally if someone walks into that center with a problem and they could be seen perhaps not necessarily by a physician, perhaps there is a triage team and perhaps physiotherapy could be part of that triage team, to actually assess, okay you've fallen, or you've got a repetitive stress injury of your elbow, you know they don't need to necessarily see the physician, they could be, actually a program could be recommended to them, not treated there but referred out to a service that would be appropriate for their needs and then keep the physician to see the really important difficult things.

Also expressed was the belief that physiotherapy may be the most appropriate intervention for some musculoskeletal conditions.

FPB: The worst scenario is when they (primary care physicians) say to patients well go home, take this medication and come back in two weeks. Well, they're off work for two weeks where frequently they don't need to be, they could have started their program and instead of medication maybe ice would have been the appropriate local painkiller at the time.

Reasons for Gaps in Physiotherapy Services in Primary Health Care

Participants in our focus groups articulated many existing gaps in current primary health care service provision which physiotherapy could play a role in addressing. To address ways in which these roles could be actualized, we wanted to develop an understanding for the reasons for these gaps. Participants in our focus groups were not asked directly about reasons for gaps. However, four general themes related to reasons for gaps in physiotherapy intervention in primary health care emerged. These themes were: funding, gate-keeping, fit between physiotherapy and Community Access models, and socioeconomic and environmental barriers to access.
**Funding**

Participants identified the current funding arrangements for physiotherapy services as a potential barrier to the availability of physiotherapy services in the community. Only private practice and Community Therapy Services (CTS) provide physiotherapy services in the community. CTS services were perceived to be minimal and limited to assessing and making recommendations even though current literature emphasizes the importance of doing rehabilitation in the community. Participants in one focus group indicated that a two-tiered physiotherapy system occurs because of the existence of both publicly-funded and privately-funded services. Participants acknowledged that only those people who could afford private therapy were able to access many of the primary health services that participants considered to be important.

**Gate-Keeping**

Gate-keeping also emerged as a reason that gaps occurred in physiotherapy services. In several instances, gate-keeping was perceived to impact on the timeliness of services. Physicians and the Home Care program were identified as primary gatekeepers to physiotherapy services in the publicly funded health care system. The timeliness with which referrals were made to physiotherapy determined the degree to which preventative measures could be taken. An example of timeliness was mentioned in relation to whether people waiting for orthopedic surgery would be referred to physiotherapy. One participant relayed a concern that some surgeons have expressed that they do not want people on their waiting lists to be seen by physiotherapy because the physiotherapy intervention may result in the person not needing surgery. Physiotherapists, however, are reliant on the surgeon to identify people who are waiting for surgery.

FPA: The only way that we can actually get hooked into the system was … after the surgeon identified that they were going to have a joint replacement and then we were notified of them.
In talking about physiotherapy roles with people with chronic illnesses, one participant articulated the way that gate-keeping prevented “upstream” involvement.

FPA: We do a good job at the point we get involved at. We don’t do a good job at the earlier stages where no one takes the time to either refer to us or we’re just sort of passed over.

According to the discussion in the focus groups, referrals to physiotherapy were more likely to be made if several adverse things happened to a person. This created delays in initiating effective physiotherapy services.

FPB: So the timeline there, it has to snowball enough to be identified as a problem in the community and then there’s still, even once the referral is generated, there’s still a lag time there, unless it’s identified as urgent, so the wait is like that.

Participants considered Home Care to be a valuable system of support for people in the community. However, concern was raised about some of the policies around implementing an exercise program for some people. If a person is already on the Home Care program, support for a home exercise program designed by a physiotherapist would be provided. However, if Home Care was not being provided the person would not get the service.

Despite concerns about gate-keeping, mention was also made about the potential that demand for services would become great and unmanageable. However, several participants talked about staff mix, and how services could be implemented with a combination of therapists and assistants and using models of consultation to existing services and programs.

Fit Between Physiotherapy and Community Access Models

Participants in both focus groups spoke enthusiastically about the potential role of physiotherapy in the community access model. Participants shared stories about how
changes were occurring in the physiotherapy mindset and would need to continue to change to ensure a successful fit. Models of practice and professional expectations were two areas in which the need for change was identified. For example, one participant expressed a belief that there was a need to move away from a medical model of service delivery that physiotherapists were accustomed to using.

**FPA:** A lot of us are still on the medical model where we don’t want to give too much information without a doctor’s (permission) and so we have to get past that.

Participants also acknowledged that the idea of working in a primary health care setting was not necessarily appealing to many experienced physiotherapists, although newer graduates may be more willing to engage in that type of practice. In the following excerpt the lack of interest that experienced therapists may have in practicing in a primary health care setting is discussed.

**FPA:** There’s a deficiency probably of interest because there’s a deficiency of opportunity and it’s not part of the culture … but I suspect the interest would lie in a new grad as an exciting opportunity to pursue employment … but that’s a professional thing; that we have to change mindset and shift our whole focus away from that downstream to the upstream … but also looking at how we share our expertise across the continuum and where we invest our resources based on our experience.

Another individual relayed an experience working in a primary health care setting and the multiple challenges it presented.

**FPB:** I had a hundred clients that I saw every week. I was expected to do probably about three to four assessments a day … I also had to do the laundry, wipe down beds, serve lunch and coffee … I had eight minutes per person … it’s overwhelming.
Socioeconomic and Environmental Barriers to Access

Discussion in the focus groups also emphasized the socioeconomic and environmental barriers to people accessing services. These barriers included gender with women being less likely to receive health promotion services; transportation for older adults and the disabled; social engagement including the importance of the social factors in motivating people to participate in exercise programs; and, weather particularly the difficulty in following through with an exercise regime and remaining active in the middle of a Winnipeg winter.

Integrating within a Community Access Model Team

Despite the current barriers to integration, participants spoke positively about physiotherapists working within an integrated interdisciplinary team in a Community Access Model. During both focus groups, the advantages of being part of such a team were often expressed. Working within a team provided opportunities to educate other service providers in areas of physiotherapy expertise, to collaborate on interventions, and to facilitate client access to physiotherapy through closer links with referral sources. Enthusiasm for the potential for the role of physiotherapy to impact on the health and wellness of the community within the Community Access Model was expressed by this participant.

FPA: the biggest attraction … is that you’re accessible to not only the community individuals, but these other service providers, so you’re part of a big team, and you’re available to offer service when services are required, or when there’s a potential risk so it covers both ends of the spectrum … it offers tremendous opportunity for growth and development in terms of the wellness prevention model of getting out, getting visible, getting people active and hopefully changing their mindset on their own responsibility versus waiting to unload on the health system or other systems what has become beyond their control, so trying to get people involved in their maintenance and their own well being, so I think it is the way of the future.
Beyond the physiotherapy-specific roles within the Community Access Model, some participants envisioned that physiotherapists could also take on generic health coordinator roles within the inter-sectoral system.

**Indicators of Success**

We asked participants about the types of indicators that could be used to measure the success of physiotherapy programs in primary health care settings. Participants acknowledged difficulty in measuring long-term outcomes but that these would be important to capture.

Other suggested measures were as follows:

1. Hospital admission/emergency room visits: are there reductions in numbers of admissions and visits?
2. Decreases in unscheduled doctors’ appointments.
3. Wait lists for surgery: what is being done while people wait for surgery?
4. Number and source of referrals: do other health care professionals recognize the care physiotherapy offers?
5. Number and appropriateness of referrals to Community Therapy Services.
6. Timeliness: how long does it take the physiotherapists to make intervention from the point that the client walks through the door wanting help or from the time a referral is made; is the care available and accessible?
7. Review of the clients who are accessing the service and how easy it was for them to gain access: are certain disenfranchised groups still having difficulty accessing services?
8. Client follow-up: is an educational/support/motivational approach working for clients in the community; are clients understanding the education they are being provided; are they doing their exercises, doing them correctly and following the suggested changes in their lifestyle?
9. Client satisfaction: do clients feel that their needs are being met?
10. Client quality of life: what do clients perceive their quality of life to be?
11. Measures of outcome specific to patient population.
12. Length of time people are capable of staying in their homes, apartments or communities.
13. Reductions in level of Home Care required Because people are more independent.

Key Informant Interviews

Methods

A list of 19 potential interviewees was generated by requesting names of people who were in community or program management positions in publicly funded health or social service positions. From this original list, six potential interviewees were removed because they were not available during the study time-frame, did not feel they could contribute to the discussion sufficiently or were already identified as focus group participants. In-depth interviews were completed with 13 individuals.

Positions held among the thirteen interviewees included three community area directors, five team managers, and five regional managers and program directors. Among those interviewed, the number of years in their current position ranged from 1.5 to 13 years (mean = 3 years) and the total number of years in health or social services ranged from 5 to 31 years (mean = 21 years). Additional background information about respondents cannot be reported to protect the anonymity of the individuals.

All interviews were conducted with one of two trained and experienced interviewers. During interviews, participants were asked about the vision for their program or service, integration with other services related to the WISI framework, challenges, priorities and gaps in their program or service, and how does or could their program work with an occupational therapist or physiotherapist. Interviews were audio-taped and later transcribed verbatim. The interview guide is included in Appendix C. The primary investigator checked the complete audiotapes of two interviews for accuracy of transcription. Due to the high level of accuracy, no further checks were made.

To improve trustworthiness, transcripts were mailed to participants to allow them to review the interview content and correct inaccuracies or add additional information. In one case, due to audio equipment failure, interviewer notes were mailed to the
participant instead of the transcript. All changes resulting from participant review of transcripts or interviewer notes were incorporated into the texts prior to analysis. Transcripts were analyzed using a grounded theory approach in which a coding scheme was developed based on the initial interview guide. Codes and sub-codes were introduced as themes emerged through line-by-line review of the transcripts. Memo writing during the analysis served to elaborate assumptions and clarify patterns in the data (Charmaz, 2000).

Results

The purpose of the interviews was to describe the current context of primary health care in the region, including the vision for future service delivery. The exploration of this context helps to inform the identification of occupational therapy and physiotherapy roles that are not only effective but also relevant to the community and existing services. The following section summarizes issues identified by key informants about where primary health services are headed, challenges to achieving the vision, decision-making processes, and areas of service delivery in which occupational therapy and physiotherapy could play a role.

Where Community Primary Health Care Services are Headed

To understand the service delivery model that occupational therapy and physiotherapy should implement within a primary health care environment, it is important to understand where that environment is headed in the next five years. Participants spoke about a number of different issues. A few talked about wanting to develop primary care services and others wanted to maintain and enhance a focus on community wellness and prevention activities. The majority of respondents discussed an overall state of transition for community health services within the region. This transition is related to a vision of coordinated services that integrates each service or program with others identified in the WISI framework.

Participants spoke enthusiastically about the potential for increased communication across services and multidisciplinary teams and sharing expertise.
among service providers. Relationships between staff were considered to be the core factor in this coordination and building effective relationships was seen as paramount to providing effective services.

I07: I think the foundation … is the relationships that our staff build together and that’s the core. So, if we can put them (staff) together and we can help them to build the knowledge to know who each other are and who to call in different areas, I think it makes a huge difference … (when) everybody knows who everybody is, what everybody does and they have that ability to be able to look for each other and look to each other for answers and problem solve together.

I10: It’s a whole lot harder to pick up the phone with a stranger that you don’t have that relationship with versus someone that you’ve met in the hallway at least a few times or you’ve met at staff meetings on an ongoing basis … so that ability to develop those relationships which start to breakdown the barriers and … develop the creativity.

Having physical proximity to other service providers was seen as desirable by many of the participants who worked directly in the community. This physical proximity held the potential to build the relationships that were deemed to be very important. Participants saw locating service providers in one building as an important way to create opportunities for staff from different programs or services to connect with each other. The benefit of having staff providing services in close physical proximity is illustrated by this example provided by one of the participants.

I06: It’s really easy for the Mental Health Worker when working through an issue with a client, to say “you know we really could benefit if I could bring my colleague in, would it be okay with you if I ask my colleague to conference with us and we can work this out for you?” And she’ll go down the hall with the permission of the client and the person will come back (with another service provider) and they will
solve an issue that … between telephone tag and e-mail tag might have taken two weeks to solve and the client will leave with a solution.

There was some acknowledgement that informal collegial relationships between service providers have been present a long time among many staff. However, formalizing these relationships appeared to create efficiencies in the system.

I12: Whether it is primary care, public health, mental health. I think any clients who are within these programs have the potential to overlap … I think it is potentially just formalizing some of the relationships that have always been there; and looking at how we can be more efficient in the service delivery and how we can make access to services for clients easier within the integrated service model.

Formalization of the networks appeared to facilitate connections between staff of various programs and services.

I06 They (staff) built their own networks (with other service providers) because people don’t come nicely packaged into the service you’re delivering. So good workers always had that, what we’re essentially doing is giving them some tools to make that work better.

The integration of services has not been initiated as an end unto itself but rather as a way to improve the quality of the service delivery. Several participants identified within the vision for their program or service a focus on people receiving services, responding to their needs, and providing good customer service. Improving the ease with which people are able to find out about available services and to maneuver the complex system of health and social services to obtain the care they required was believed to be an important goal. Considerable time and energy was spent in supporting staff’s efforts in learning how to navigate this system.
I06: We’re finding through our training that it’s hard for staff to figure out what all the services are, who is eligible and how do you get them. If you think about a lay person who’s facing some issues or some crisis today, it’s almost impossible for them to be able to navigate it so … we’re trying to devote a lot of our training and a lot of our energy into being able to do that navigation.

Similarly, another participant talked about wanting to ensure that people obtain the services they need, when they need them within this complex system.

I09: We want … to know that people know how to access, that they’re getting the service they need, and that the service matches what they need … all programs are looking at … having standards (related to) how we provide service and how quickly we respond.

Although integration within the system of the WISI framework was perceived to be very important, participants also emphasized the importance of integration of services outside the WISI framework. Within the health sector more integration with acute care and long-term care health programs and services was seen as having the potential for improving services to people.

Many participants spoke about the importance of their connections with service providers outside of health and social services as being vital to meeting community needs and coordinating services. Connections with organizations such as the City of Winnipeg, First Nations, and schools were mentioned as desirable. One participant felt that the City could further health promotion goals if a relationship was built.

I01: We have to get a little more aggressive working with the City … if we’re going to do prevention and promotion. I think there are some groups already that have huge capacity … working with groups that have capacity … (will mean) we don’t have to deliver all the services.
Another participant spoke passionately about the importance of schools in integrated service delivery.

I19: But the Access Centres fall short … (by) not including education. You know, it’s just the WRHA and Family Services and Housing, so how do you get Education into that equation?

The Community Access Model bases services within a defined geographic community. In identifying where their services were headed, several participants spoke about the importance of responding to the needs of the geographic community and its residents.

I12: We’re looking at how we can better serve the population from the population health perspective and deliver services in a community based model, based on what the community needs are.

Some participants spoke about the value of the process of consultation with communities to address issues that are of importance to them; acknowledging that all communities are unique. Although respondents recognized that they and their staff have been working with communities, there was a sense that considerably more could be done.

I05: Each community area may have unique issues or needs and hopefully we’ll be able to work with the community (and) the people that live there … developing and designing that service with their input to meet … (the) unique challenge(s) (of the community) …. We do some of that now … hopefully we’ll be able to do more of that in a more organized fashion.

Enthusiasm about responding to the unique needs of the community was tempered by the concern expressed by some participants that the community
sometimes has expectations for services that are not reasonable. As one respondent summarized:

I07: Sometimes it’s hard to meet the expectations of clients.

Challenges to Achieving the Vision

Achieving a vision of an integrated primary health care service delivery system, based on best practices and responsive to the needs of the population as described above is a challenging endeavor. Participants identified a vast number of challenges to their program and services. In this section the most frequently mentioned challenges and those of most relevance to the research topic will be described. These include resources to meet demands, changes in community profiles, transitions, moving upstream, program criteria, decentralization, and change management.

Resources to Meet Demands

Many of the challenges experienced by respondents were related to insufficient resources to meet demands for services. Insufficient resources sometimes created wait lists for services. In other cases insufficient resources created tensions in meeting standards of care. As the system has become more evidence-based, availability of resources to meet the standards identified in the evidence may not be available. One participant described this tension.

I10: I think some of the challenges have to do with realizing more and more what is effective for the clients, for families, and not having the resources to meet them in the best way possible. So the more you know about what would really work for these clients based on best practice or literature or other programs and you don’t have that ability to put it in place for them, that becomes a huge challenge … staff want to do what’s best for clients. There aren’t always enough resources in order to do that.
The same participant went on to say that the solution to this challenge isn’t always about pouring more money into a service.

I10: I don’t necessarily think that … (there) needs … (to be a) whole ton of more dollars though, I think … it’s got to be, … creativity and breaking down some of the barriers of how we’ve always done things and see if we can do it sometimes a little differently or shift the dollars from one (area) to another.

Changes in Community Profiles

Shifting demographics and expanding health issues were also considered to be challenges to an already stretched resource base within communities. Participants talked about challenges in addressing needs related to increases in the senior population. Other changes were more localized such as new housing that increased the number of young children in the community or increased ethnic diversity in a neighbourhood. Expanding health needs such as increased rates of diabetes and greater demand for mental health services evident in some community areas were also important challenges. One participant also talked about changes occurring as the result of people with disabilities aging.

I05: I think one of the other challenges in terms of population is those with disabilities that are living in the community longer. You need time to coordinate and meet those (needs) through … health and social service … programs.

Transitions

According to participants, transitions created challenges to integrated service delivery. Transitions that were challenging occurred from hospital-based to community-based services and from child and youth to adult based services.

In speaking about people with mental health problems one participant described the challenge of managing the transition between hospital and community services.
I13: We still have a huge challenge in our continuity of care between hospital and community. It’s tremendous. And we continue to kind of trip over one another in terms of how is the best way to support and provide, long term, the whole range of needs that people have. And more often than not people are still being discharged without full good discharge plans in place and people with very high needs are often getting missed in terms of follow-up.

Difficulty Moving Upstream

Participants talked about the importance of moving community-based service delivery “upstream” to interventions concerned with primary prevention and health promotion. However, challenges were evident in trying to implement these interventions on a day-to-day basis when more urgent issues are continually confronting staff.

I05: We become … reactive when we become crisis oriented … that’s how the demands come in, you know someone’s got this, they want it now, it’s reactive … We, we spend very little on the sort of illness prevention and disease prevention and injury prevention aspect that we know in the long run can save us.

Program Criteria

Another important challenge confronting respondents was the difficulties that can arise when specific program criteria are identified but when not everyone fits nicely into the criteria. One participant described this difficult situation when people “fall through the cracks” of program eligibility.

I06: There are you know programs sort of designed with a specific clientele in mind and the criteria are re-wrapped around those clientele and we do end up with people that don’t quite fit, they’re in the middle and so it’s a challenge of program eligibility. So it’s basically resources, time and money, it’s the fact that people’s issues don’t package as nicely as program developers might want them to.
Decentralization

One of the goals of the Community Access Model was to devolve staff into community areas to integrate with other service providers who worked with the same people in the community. To achieve this goal, staff who were part of centralized programs within the region were decentralized into smaller community area teams. Decentralization of staff created both administrative challenges and stress on staff as described by this participant.

I05: With the decentralization we have smaller teams out in these community areas and the challenge is when you have smaller teams and even though you work together as a shared community area, if someone’s off ill or if someone’s out on mat leave …, it can just cause an unbalance in the team to provide the care and services that are required, or vacations, it becomes very difficult. So we’re … already experiencing a turnover in staff due to that.

Change Management

The last several years have been a time of considerable change for staff as the WISI framework and the Community Access Models have been initiated. Both of these initiatives have fundamentally changed the way staff are organized and how programs and services relate to each other. This has created significant challenges for implementing change to achieve the vision of the program. Many of the management staff we interviewed recognized the difficulty that staff experience as roles are redefined.

I11: There’s lots of really good experienced staff but there’s really some really well entrenched attitudes that you can’t change.

Some participants believed that resistance to change was complicated by insufficient resources and the demands of day-to-day work. Staff may fear that the
changes associated with integration will create expectations that they won’t be able to meet and don’t have time to process or think about the future.

I07: There’s a fear that more will be put on them and they’re already strapped … And I think that there’s a fear that they will be asked to do more in trying to do this (integration) and they won’t be able to do it. So I think that (is) … when you get the barriers.

Another participant commented,

I10: There’s a willingness on staff’s part to do this (integration) but the whole managing that change and that focus while they’re so busy doing their day to day work, it’s really hard … it’s hard to focus on the future if we don’t give them the time to process it and think about it. We just keep loading the present on them because there’s so much demand.

One participant talked about the importance of maintaining the focus on the best interests of the people receiving services. As long as staff perceived that integration was in the best interests of their clients, the changes were easier to support; otherwise staff were more likely to revert to old patterns of service delivery.

I09: I think most practitioners would say, yes it (integration) is in the best interests of the client and family and community but if that focus and priority is not those three, then it is easier just to revert back.

Much of the discourse in the key informant interviews talked about integration in general terms; between programs and services, few talked about it specifically related to professions or disciplines. This is interesting since there are significant initiatives nationally related to improving inter-professional collaboration in primary health care (Enhancing Interdisciplinary Collaboration in Primary Health Care Initiative, 2004).
However, a few individuals touched on some of these issues. One participant talked about the feasibility of integration despite professional differences due to the commonality of basic respect for other disciplines.

I06  (Integration) is incredibly feasible and it’s made feasible … in a large part by the core values that people brought when they came to the job, aside from their specific skills. … if you out and ask staff … about the notion of integrating service, I don’t think you’d find anybody who would say it wasn’t a good idea. There may be some concerns about how it’s done, there may be some concerns that (staff of a specific discipline) signed on because … (they’ve) worked with people living with a disability and … have a real interest in … working with them and … don’t want that lost because that’s really important to them. But nobody would undervalue other people’s services … there really is a value and an understanding, and an interconnectedness.

Another participant insightfully talked about the ways that professionals have aligned themselves with their discipline in traditional models of practice. Within an integrated services model, people are expected to identify more with the community and integrated service.

I09: Individual professionals … because of education and probably historical, the way they’ve worked, affiliate themselves on the basis of the discipline and then in relation to their program, then in relation to the community area and the integrated services. What we’re trying to challenge people (with) is … to look at the integrated service … and how … their discipline could be maximized to provide (a part of that service). So it’s … flipping what you are looking at first and foremost and what you identify with that’s different from what you do now.
Decision-Making Processes

Of importance to the implementation of a new service is an understanding about how decisions about program and service priorities are made. Participants described a decision-making process that was primarily centrally driven by government and regional administrators although there was some room for flexibility within the local work unit.

At a government level, participants talked about standards and priorities that are tied to funding.

I06: Programs come with standards and priorities already because government departments fund programming to a certain level and in return for that funding we meet certain targets or expectations.

At a regional level, participants talked about priority setting based on accreditation processes, national best practices, community health assessment data, examining practices in other jurisdictions, and consultation through Community Health Advisory Councils or other formal community consultation processes.

One participant talked about a strategic planning process that was done regionally for one of the programs several years ago. She went on to explain that planning also occurs through the regional accreditation process.

I10 The RHA is accredited so we have quality teams in each area that get together and talk about how are we meeting … standards of care about clients and around delivery of services and where might we go and how might we tackle things, both locally and regionally. So that kind of thing sets priorities absolutely.

At the local community area level, participants identified that there was some room to take on additional initiatives.
I12: From a regional perspective, they may, might have picked two more global priorities, for example, chronic disease management and services for seniors. From a community area, I might look at smaller initiatives in the community area that I can initiate to respond to local priorities.

Decisions made at a community area level were often done in collaboration with other sectors. An example was given by a participant who talked about an initiative working with local schools to support youth not attending school.

I05: We worked with them to identify those students and then looked at what are their issues and what is it that they need to get them back to school.

Other participants talked about priorities being established through neighbourhood networks and coalitions.

I10: On a more localized basis around the Parent Child Coalition … it’s very much broader discussions and consultations and people representing various organizations and agencies coming together to talk about the needs (of the community).

Connections with people receiving services through processes in which they provide compliments and complaints about the services they received and more formalized satisfaction surveys were important sources of information.

I06: One of the advantages of complaints is people are telling you something you’re doing isn’t working for them and that’s an opportunity to take that as a valid piece of feedback about what you’re doing and figure out how you (can) do it differently.
Respondents also considered their staff to be very important sources of information from which to develop priorities.

I01: We have people (staff) out there meeting with community groups all the time, doing presentations with groups and our staff are really our eyes and ears … a lot of our staff sit on tons of committees.

There was hope that the decentralized WISI framework would allow flexibility in the “how” of delivering services within the larger context of centralized decision making about the “what” of service delivery.

I05: I think this is one thing about WISI and the decentralization being in the community areas is that we can hopefully, down the road, provide services that are within a priority or within a framework, but how we implement them might be different based on our population. And we may be able to have some unique services that meet those needs of those various populations.

I06: I … (described) what was called “the what” and “the how”. The what was about the programs and the criteria and the conditions of eligibility and all that. And those are things that are decided by program areas (regionally), they’re decided by government. A lot of the rules around programming actually find their way through the government estimates process. It’s part and parcel of the governments getting permission to spend money and the rules come with it. On the other hand, the area that I felt was owned by the staff and the people they’re servicing jointly was “the how”, … exactly how I deliver that service I have some wiggle on.
Allowing some decision making to occur at all levels of the organization was also felt to be important.

I05: I think one of the things we have to try to do is … allowing decision-making to happen, giving the ability to make decisions … (from) the lowest level to the highest … so people feel that they have some empowerment over, and control over, their work.

**Integration of Occupational Therapy and Physiotherapy Services**

An important challenge for all professional disciplines is to ensure that their practice is aligned with the priorities that have been established for health care service delivery.

I16: Looking at the strategic plan of the region, looking at the priorities of the region, looking at the way health care is moving over all, and then how do we ensure that whatever we’re doing in our disciplines fits with those priorities?

At the present time, publicly funded, community-based occupational therapy and physical therapy are very limited in the region. One occupational therapist works on a Seniors Health Resource Team. The WRHA Geriatric Program Assessment Team and the Psychogeriatric Team provide occupational therapy and physiotherapy services to seniors. As well, Community Therapy Services provides occupational therapy and physiotherapy to the WRHA on a contract basis, mostly to clients of the Home Care program and personal care homes. A small amount of service is provided by occupational therapists to clients of the Mental Health Program.

Several limitations were identified for the current model of service delivery in which occupational therapy and physiotherapy services are provided on a contract basis. Several participants commented that they believed that the services were not utilized to their maximum. Reasons for this included the lack of a formalized link as illustrated in this exchange between the interviewer (I) and a participant (P),
P: Working with the support of occupational therapy in terms of environmental assessments and occupational assessments … in terms of how a mental health worker and occupational therapist would work together in that recovery-based model … and obviously looking at tapping in to the greatest potential for this client. I mean, they’re never going to recover from their illness; but what is the greatest potential? If there is a client who is living in a group home with the support of O.T., could they actually be living independently? Those services are out there in the community, through Community Therapy Services. I’m not sure we tap into them as much as we could.

I: And the reason, perhaps, for not tapping into that might be?

P: You know what, that’s probably speculation on my part. Again, I think it’s something, anything that has a formal link would be easier to do … currently, as we refer, or we say to a client, for example, you know, they’re recovering from a fracture, and we suggest to them that they should see a physiotherapist in the community. So they go out there and try out one of them and connect with the physiotherapist in the community. And there’s none of the communication.

I: Right.

E: Back and forth. There’s not an integrated plan of service where the physician knows what the physiotherapist is doing and vice versa.

Another participant used an example from her own family to describe how a referral was only made for physiotherapy by her family member’s doctor after being prompted to make a referral.

I14: She was going to her family physician and … I’m fortunate because I have Physio for a friend and we suggested that and he (the physician) was only too glad to make that referral, I don’t think he would have thought of that by himself and that’s really done more for her than other things because of her back pain and … she was not moving as well, her function was definitely deteriorating and we’ve certainly seen an improvement since she started … working with the
physio(therapist). But I think that she’s not alone. You’ll see those kind of folks at the Primary Clinic and I think we need to look at … prevention, get away from such a medical model.

Part of the explanation for not referring people who could benefit from services is that, without a working relationship other professionals don’t know that a referral is warranted. As one participant commented,

I10: Until you have some familiarity you don’t even know what you don’t know.

Other participants explained the importance of maintaining a relationship with the service, how that was difficult to do within the current system, and what impact that might have on referrals and follow-up of clients.

I09: Part of the challenge in particular in this community is ongoing relationships and connection with service. The connection with services has a lot to do with the connection of people providing the care. Not that you want to have people dependent upon you but a part of how people learn and understand how service can really be maximized for their use is in that time there’s interaction between the personal professional relationship. So even though we contract Community Therapy Services and they provide the follow-up … they’re not part of the core and core service provision means that you don’t forget who can be involved.

I07: This is … some of the OT/PT, we have … good access to referral agencies to help us in assessments but sometimes … we have to wait awhile for assessment or it’s hard for us to make the connection with the people doing assessments and … have an ongoing conversation with them, really bring them into the care plan … just knowing who it is and what the relationship is and how do we access it and sort of those things. I think that that’s sort of probably one of the things that we could say about it and I think that it’s probably an under-utilized resource,
I think that most of our clients could benefit from having OT/PT assessment and services. But whether most of our clients get it, I think we really save it for the ones that we feel absolutely have to have it sometimes because it’s just not that easily accessible.

Other concerns expressed were that the current system has long wait times for many clients and does not include active rehabilitation therapy for any clients.

Participants were supportive of occupational therapy and physiotherapy services in the community. The vision for a transition from a primarily institution-based model of service delivery in acute care settings to community based services was identified.

We strongly recognize that we have too much of a reliance on an acute care hospital model and need more of a community-based approach … we’re hoping that what will lead to is more appropriate delivery of service in a more appropriate environment that will better meet the needs of the patient.

In speaking about community-based roles, some participants believed that physiotherapists and occupational therapists could fill generic community roles such as case coordinators and, in the case of occupational therapists, community mental health workers. Generic refers to those roles that can be filled by any number of disciplines such as nurses and social workers. However, for the purposes of this project, we were more interested in the roles that required the “specialized” skills of occupational therapists or physiotherapists.

The types of services that participants felt occupational therapists could provide varied along the health care continuum. Services could include rehabilitation and tertiary prevention in home using a mix of staff.

… a focus on rehabilitation and prevention of long term issues that impact on function … (as well as the) provision of direct therapy in home settings … using professional and paraprofessional service providers.
Another role possibility was identified as early intervention or secondary prevention, particularly for people with chronic diseases.

I12: I think in terms of specific population groups and chronic disease management, particularly in terms of the groups that we have priority services to, for example, persons with disabilities, and, folks with arthritis, it’s sort of that team structure of working with all of the health professionals providing that support and having that opportunity to learn from each other. So the OT and the PT certainly become more aware of the role of the primary care physician and the nurse practitioner and how everybody’s working together; obviously for better outcomes for the clients. I think there are opportunities for earlier intervention with the support in the community area. Currently, I would suspect that there are probably delays, specifically of the treatment of arthritis.

The value of occupational therapists and physiotherapists being part of the primary health care team was reiterated many times during the interviews. The following are several examples of these team connections.

I13: A mixture of Home Care resources and occupational therapy assessments and functional, planning around functional needs, tied in with some long-term support could be much more beneficial.

I13: A small sub-group that we could be doing so much better with is post-partum moms, who end up being in hospital often for extended periods of time which of course throws that whole bonding, baby, family, settling, nesting thing off kilter maybe for years. That would be another place where Home Care, Mental Health, Public Health with an OT could make a significant shift in how we actually provide service to that group of folks.
Other potential roles mentioned by participants were physiotherapists in musculoskeletal injury; occupational therapists in health promotion and injury prevention with seniors; occupational therapy in mental health practice; and both physiotherapy and occupational therapy in intervention with people with acquired brain injury. One participant mentioned the benefit of working collaboratively with primary care physicians related to supporting people with disabilities.

I12: Physiotherapists, or the OT, may have a better understanding of what this client is up against in terms of some of the challenges of accessibility … all the sides that the primary care physician may not be aware of.

Although participants were very supportive of occupational therapists and physiotherapists being part of community area teams, they identified the potential for conflict between disciplines as roles are defined and negotiated.

I14: I think it, when we look at situations we have to be prepared that it will be different disciplines will take a lead depending on what the needs of the folks are and that either as a group thing or an individual thing and I think that that’s still a barrier that’s there. I think … all of those things need to break down.

I11: I think that that’s a gap, just getting people to think about how to use each other within a service plan for a client correctly. Similarly with PT, I mean they’ve got lots of things to offer for clients with pain control that are having musculoskeletal problems) … that’s their specialty but … I know that … (other professions) tend to be quite a bit of the gate keep(ers), no that’s my job, that’s not your job, kind of thing. So … I think there’s a real gap in how do we bridge some of that and how do we get people to think beyond.

I13: I certainly hear that within the primary care setting that there would be a very strong desire to have the occupational therapist working along side the shared
care counselor and the psychiatrist. That is a primary area where there is the desir
to have that piece.

Some respondents felt that the addition of specialized services such as occupational therapy and physiotherapy will be essential in the model of service delivery that is evolving out of the WISI framework in which generic health coordinators assist people with complex problems to navigate the health and social service system. In the following exchange, the interviewer and participant are speaking about the role of occupational therapy in mental health.

I13:  P: OT just carries that bag around with them (a skill set) and knows what to provide. So if you have the right people at the table, the plan you come up with is incredibly different and the efficiency with which you can assist people is incredibly different.

I: Which is another point, efficiency, the time involved, how long someone’s involved in service could change if they get more accurate service delivery.

P: Yes. So we have a generalist model which is great for creating the kind of scope of what the needs are but if you don’t have the right people to pull in, it’s inefficient, quite inefficient. “I know what all the needs are but I have no skills to do anything about it”. And I think that the other issue maybe just is that at the end point if we’re moving to a health coordination model which is a much more generalist model than what we’ve had, those specialist’s skills become absolutely required. They’re not optional any more. And so I think that’s the other piece of it; the more that you put your front in as a generalist the more you need the special skills coming in.

Opportune Time for New Roles

One respondent optimistically indicated that during the current context of immense change, as the Community Access Models were being developed within the WISI framework, was an excellent time to establish new roles.
When we’re in a change process like this, although change is overwhelming for some people, if you’re involved in change and everyone is sorting out each other’s roles, another role or two isn’t going to hurt.

Summary

Interviews with administrators of community and regional health and social service programs identified the context within which occupational therapy and physiotherapy services are being delivered. These informants spoke of a health care and social service system in a complex state of change. The vision they described was one of integrated service delivery responsive to the needs of people, families, and communities. They envisioned a broader integration to include other sectors such as local government services and education. In the process of achieving this vision, several challenges were evident. The ability to meet needs and implement best practices within available resources was a frustration for many of the respondents. Others identified the challenge of keeping pace with changes in demographics and the health status of the community. Transition points in service delivery were also identified as particular challenges. These included transitions from inpatient to community care and transitions from child and youth programming to adult programming. Key informants were cognizant of the challenges of maintaining an upstream community development and health promotion focus to service delivery. The challenges of ensuring people who require services don’t fall through the cracks of program criteria and mandates were also identified. Decentralization of front line service delivery into community areas also presented difficulties for staffing because fewer staff were available to cover vacations and sick leave. Finally, the administrators faced the challenge of managing complex change on an ongoing basis.

Participants discussed how decisions were made about program and service priorities. They described a centralized process driven by government and regional priorities with some flexibility at a community level to respond to unique needs and priorities.
Key informants were very supportive of the inclusion of occupational therapy and physiotherapy services in community area teams. Several roles were suggested in the areas of health promotion, prevention, mental health, primary care, and enhancing existing services in home care. Issues of integration into teams and the potential for interdisciplinary conflict were identified. This time of complex change within the health and social service system was seen as an opportune time for integrating new roles.

Community Area Focus Group

Methods

After analysis of the results of the focus groups with occupational therapists and physiotherapists and the key informant interviews, a model of occupational therapy and physiotherapy service delivery was proposed. The model was developed from the results of the literature review, key informant interviews and focus groups discussions. Key roles for occupational therapy and physiotherapy were proposed for the pilot site. To obtain feedback about the proposed service delivery model and roles a focus group was held with front line staff from various health and social service programs at the proposed pilot community site.

The focus group consisted of six participants. These individuals were in their positions a range of 1 to 10 years (mean = 6 years) and worked in health or social services a range of 6 to 30 years (mean = 21 years). Focus groups were facilitated by two of the investigators, one of whom took notes.

A series of semi-structured questions provided participants with the opportunity to talk about the proposed models and their views on how occupational therapy and physiotherapy can integrate into primary health care teams. The focus group interview guide is included in Appendix D.

The focus group was audio-taped. Audiotapes were transcribed verbatim. A summary of the focus group was written and distributed to participants of that group with a request to review the summary for errors or omissions and to add any additional information they considered to be important. Transcripts were analyzed using a grounded theory approach similar to procedures described earlier in this document.
Results

Overall, participants spoke positively about the integration of occupational therapy and physiotherapy into their primary health care teams. Most had previous experience working with occupational therapists and physiotherapists and spoke positively about the contributions of their roles with a variety of clients. Participants provided feedback on two general areas related to the integration of occupational therapy and physiotherapy in primary health care; expansion of the roles that therapists currently have in the community to meet population needs; and increased collaboration with other service providers through the integration into multidisciplinary teams.

Expansion of Current Roles

Participants felt that occupational therapy and physiotherapy roles within Community Access Models could provide opportunities for earlier intervention with people with chronic disabling conditions. The primary care clinic, which treats many clients with rheumatoid arthritis and osteoarthritis, would be an ideal place for therapists to provide earlier intervention and perhaps “slow down the progression of the disease”. The opportunities to providing individual, group education or both to people immediately after diagnosis with chronic disorders such as osteoporosis could also be an important role for people who use Access Centre services whether it be through primary care, home care or others. Participants felt that the current publicly funded service delivery model could be expanded to include more intervention for a variety of issues such as pain management, joint protection, home adaptations, self care, exercise, pressure sore prevention and caregiver education for a wide range of physical health issues. Group interventions focusing on issues such as money management and independent living skills for people with mental health concerns was also seen as an important community role expansion for occupational therapists. Participants also felt that services within Community Access Models need to continue to develop health promotion and wellness programs and that occupational therapy and physiotherapy had an important interdisciplinary role to play in this area. This role could be one of educating people in general health issues as well as providing information to people in the early stages of a
chronic disease about the disease and its management. One participant also saw the potential for occupational therapy roles in developing life skills and promoting stress management for women living in women’s shelters.

Participants also expressed the hope that the roles for therapists within Community Access Models would address the needs of people who are the most vulnerable or who are currently falling through the cracks in the system. One example was adults with Fetal Alcohol Spectrum Disorders. A participant suggested that occupational therapy could assist in providing support, particularly to those people who have good intellectual ability but lack social judgment. These individuals were considered to be very vulnerable due to their poor judgment. However, often these individuals do not qualify for the existing programs, such as the mental health program, but have clear vocational and life skill needs that aren’t adequately being met. Providing timely occupational therapy intervention could provide much needed support for this group of people in the community.

Another participant also felt that criteria to include or exclude people from programs can limit access to people at most risk. For example, young people with intellectual disabilities who also have a physical health condition may be as much at risk for falls as people who are over the age of sixty-five. This group will be excluded if falls prevention programs, for example, only target seniors. Likewise, people who have intellectual disabilities and mental health concerns also may be excluded from interventions. The language used to define target populations for roles of occupational therapists and physiotherapists need to take into consideration a wide range of risk factors.

Participants were asked whether they felt that physiotherapy could play a role in triage of people with acute musculoskeletal conditions in primary care clinics. At the present time, this role was not considered to be feasible because there was not believed to be a sufficient volume of people who attended the clinic for these types of conditions.

Although the focus of this study was on adult services some participants also mentioned expanded physiotherapy and occupational therapy roles for children, youth
and families. One example was the potential roles that both professions could play in maternal health and healthy baby programs. Another participant suggested that occupational therapy could play an important role in facilitating independent living skills as youth transition into adult programs.

Integration into Interdisciplinary Teams

Participants believed that there was great value in having occupational therapists and physiotherapists integrate into interdisciplinary teams within Community Access Models. Participants spoke about the importance of having therapist located in the same building, gaining a better understanding of their roles, and working collaboratively to meet the needs of people who use their services. Participants perceived several positive outcomes from integration into teams. First, the use of a multidisciplinary team was felt to result in a service that was more cost effective. In one participant’s experience, providing a community based comprehensive interdisciplinary approach to addressing health issues for people with chronic diseases reduced hospitalizations with the potential of saving costs to the health care system. A specific example was provided in which, without an interdisciplinary approach in which therapists are available in a timely manner, people who are unable to put on their own socks may be given homecare attendant services creating a dependency on the service. If a therapist was available to provide education and assistive devices, aids or adaptations, the person may become more independent more quickly thereby reducing the costs to the health care system.

Some participants also talked about the general effectiveness of having therapist on multidisciplinary primary health care teams. A team approach could facilitate people receiving the right intervention from the right professional particularly when rehabilitative interventions are required.

Some participants also saw an important role for occupational therapists and physiotherapists in educating health care and rehabilitation aids. An example given was providing education on performing safe transfers.
Current Challenges

Participants identified people’s access to occupational therapy and physiotherapy community based services as an issue of concern. Two general barriers to access were identified. First, people who need these services are often referred by other health professionals, particularly physicians. People will not be referred if the service providers doing triage, for example, in a primary care environment, are not aware of services or the appropriate criteria for referral. In addition, some participants felt that referrals depend on whether a physician values the service or not. As one participant commented, “(physiotherapy) is something that some physicians really believe in, some don’t.”

The other issue that participants identified as creating a barrier to access was the availability of publicly funded occupational therapy and physiotherapy services. Publicly funded adult community based services in the region currently include Community Therapy Services Inc., the Seniors Health Resource Teams, the Geriatric Program Assessment Teams, and the Psychogeriatric Teams. These services are limited in the extent to which they provide intensive treatment for people. Outpatient hospital services are also available, although participants felt that long wait lists and transportation issues made these services inaccessible for many people. All other adult physiotherapy and occupational therapy services are privately funded. Consequently, participants felt that issues of whether people had insurance coverage determined people’s ability to access services. This may be particularly true for people who require services with a treatment focus rather than assessment and consultation focus.

Strategies to Integrate Occupational Therapy and Physiotherapy Services

Co-location of occupational therapists and physiotherapists in community areas was seen as an important way to facilitate their integration into interdisciplinary teams. This would enhance mutual consultation with other service providers, joint goal setting, referrals, and better awareness of services available. Participants also felt that the development of a set of screening questions would be very useful in assisting service providers to know when to refer people to occupational therapy and physiotherapy.
This type of screening tool was considered by service providers to be particularly useful for nurses doing triage in primary care clinics, physicians, and Employment and Income Assistance workers.

**Summary**

In summary, participants valued the potential role that occupational therapists and physiotherapists could play as members of interdisciplinary primary health care teams. Participants saw a variety of ways that roles could be expanded in health promotion, primary care and secondary prevention. They also perceived roles for addressing the needs of populations, e.g., people with FAS and intellectual disabilities, who did not consistently meet the criteria for existing services despite having needs for service. Participants were enthusiastic about having occupational therapists and physiotherapist as part of interdisciplinary teams within the Community Access Models. Current physician referral practices and limited public funding of community based services were perceived as barriers people having greater access to occupational therapy and physiotherapy. Participants suggested that co-location of occupational therapy and physiotherapy in community areas and the development of specific screening criteria for services were ways to facilitate integration of therapists into teams.
CONCEPTUAL FRAMEWORK

The following is a conceptual framework to guide the integration of occupational therapy and physiotherapy services in primary health care. This framework considers roles of occupational therapists and physiotherapists as specialists in the therapeutic assessments, planning and interventions they provide. Although occupational therapists and physiotherapists can assume “generic” roles in primary health care, such as case managers, the focus of this discussion is on their contributions to primary health care as a result of their unique knowledge base and skills. The framework consists of five components:

1. integrating into interdisciplinary teams,
2. promoting accessible services and a continuum of care,
3. taking a population health perspective,
4. identifying core service roles using a multi-faceted approach, and
5. systematically evaluating services.

Integrating into Interdisciplinary Teams

The development of interdisciplinary teams is one of the key visions of primary health care strategies regionally (Manitoba Family Services and Housing et al., 2003), provincially (Manitoba Health, 2002) and nationally (Fooks, 2004). Integration of occupational therapy and physiotherapy into primary health care teams was supported in this study by administrators as well as members of the respective professions. Integration was frequently identified by the health and social service administrators in the key informant interviews as an important vision for community services as a whole. They spoke, at length, of efforts being made to bring people from different disciplines, services and programs to work together and collaborate to meet the needs of individuals, families and communities. Integration was also supported by occupational therapy and physiotherapy participants in focus groups. Participants talked about the importance of working within interdisciplinary teams, collaborating with other sectors, and enhancing the continuity of service delivery. Many professional organizations, including those related to occupational therapy and physiotherapy, have voiced their
support for an interdisciplinary approach to primary health care (Enhancing Interdisciplinary Collaboration in Primary Health Care Initiative, 2004). However, within the region studied, participants did not feel that the current system integrated occupational therapy and physiotherapy services into community teams. They described limitations in opportunities to collaborate because occupational therapy and physiotherapy services were limited in scope and were provided to the home care and mental health programs by consultation from a centralized resource.¹ Relationships often were not well developed. The key informants in this study saw the integration of occupational therapy and physiotherapy into primary health care teams as an important goal for the development of these services.

There are several factors that should be considered in integrating new members in primary health care teams. Ensuring physical proximity to the other members of the primary health care team is one way to facilitate team relationships. The importance of sharing space was described by several administrators in the key informant interviews in recounting their experiences in facilitating integration with staff of various programs and services. Although sharing space can be important, it is not sufficient to ensure a interdisciplinary approach to service provision. As one focus group participant pointed out “a building does not mean that it is integrated and multi-sectoral, there still has to be a large step in getting people to work together”.

Administrators spoke about inter-professional “turf” issues as one of the potential barriers to integration. Turf issues may become more pronounced when staff are concerned with professional autonomy (O’Neil, & the Pew Health Professions Commission, 1998). One key informant talked about the need to “flip” the alliances of professionals from their own discipline to the integrated team. The tensions between affiliation with a discipline’s frame of reference and that of the team may work at cross purposes in interdisciplinary teams (Sicotte, D’Amour, & Moreault, 2002). Other issues such as professional power and dominance may also impact team functioning (Kenny & Adamson, 1992).

¹ One exception is the occupational therapist working on the Seniors Health Resource Team
Participants in both interviews and focus groups suggested ways in which interdisciplinary collaboration could be facilitated. Formalizing relationships and keeping the focus on the needs of the people receiving services, families and the community were ways that were suggested to promote interdisciplinary collaboration. This approach was supported by Sicotte and his colleagues (2002) who found that formalized team administrative structures such as a formalized evaluation of the quality of the service and a common form to collect clinical information were positively associated with interdisciplinary coordination. This implies that there should be joint accountability for the processes and outcomes of services. Other research has found that a focus on the satisfaction of the people receiving services also leads to greater perceptions of team effectiveness among team members (Shortell, et al., 2004). Key informants identified the importance of respect among professionals for their areas of competency as important to integrated service. Respect for the different knowledge bases of the various professions and recognition of all disciplines for their contributions to outcomes have been identified as important contributors to the integration of services (Glouberman & Zimmerman, 2004).

Promoting Accessible Services and a Continuum of Care

To achieve an accessible and seamless continuum of care, referrals for occupational therapy and physiotherapy should be accepted through WISI programs, inpatient and emergency hospital units, family physicians and self-referral. This approach will improve access to primary and secondary preventative occupational therapy and physiotherapy service “upstream” for people with chronic diseases.

Funding models for occupational therapy and physiotherapy need to be addressed to improve access for people to primary health care occupational therapy and physiotherapy services. Due to the provisions in the Canada Health Act (Department of Justice, Government of Canada, 1985), the majority of publicly funded services have been delivered through institutions. Both the Canadian Association of Occupational Therapists (2001) and the Canadian Physiotherapy Association (2001) have identified the limitations of current funding models in people being able to access
services in their home and community environments. To reduce inequities in access, publicly funded services need to be enhanced, regardless of whether the services are delivered by public, not-for-profit or for-profit providers.

Participants in the discipline-specific focus groups described current “gatekeeping” and referral practices as barriers to assuming primary health care roles and limiting the access of people to community-based services. The decision to refer may be based on limited knowledge of appropriate referral criteria. Administrators in the interviews reported that referrers often had difficulty determining when to refer people for service. Other key informants believed that differences in philosophy determined whether people were referred. Evidence suggests that early referral of people with chronic disease such as rheumatoid arthritis reduces the negative long-term effects (Steultjens et al., 2004) and may reduce subsequent costs to the health care system. However, to improve access to occupational therapy and physiotherapy services system gatekeepers must have clear referral criteria that are flexible and broad enough to prevent the most vulnerable from “falling through the cracks” and must be held accountable for making appropriate referrals. Other service delivery models that do not require referrals for individuals, such as primary prevention, community development approaches, screening, and triage should be supported.

Taking a Population Health Perspective

Taking a population health perspective with attention to health promotion, primary and secondary prevention, and primary care is a basic principle of primary health care (Manitoba Health, 2002). Although some occupational therapists and physiotherapists have assumed roles that are consistent with a population health perspective, their traditional and predominant focus of interventions continues to be on tertiary prevention and rehabilitation. Occupational therapy and physiotherapy participants acknowledged that this shift may be a difficult transition for many therapists. However, these participants also expressed strong support for a shift of practice “upstream” to a population health perspective.
Funding models may have shaped therapy practice more than professional theories (Jongbloed & Wendland, 2002). Publicly funded services have been delivered primarily through hospitals with a focus on tertiary prevention and rehabilitation. Occupational therapists and physiotherapists require opportunities to develop upstream models of health promotion, and primary and secondary prevention in the community.

To achieve and maintain a shift in practice philosophy, occupational therapists and physiotherapists must have access to professional development opportunities (O’Neil, & the Pew Health Professions Commission, 1998) and formalized collegial consultation related to a primary health care service delivery model. The small number of staff in each discipline in a community area may contribute to the professional isolation and staffing issues identified by therapists in primary health care practice (Minns Lowe & Bithell, 2000). One administrator, during our key informant interviews, talked about difficulties experienced by staff in providing vacation and sick leave in the decentralized Community Access Model. Establishing a formalized network of therapists in each discipline can enhance the quality of service delivery through peer consultation, support and leadership, and address administrative issues such as vacation coverage.

In keeping with a population health approach attention to the environments in which people live is very important. Occupational therapy and physiotherapy services in the community require environments that support improved access to health and social services and community programs. Occupational therapy and physiotherapy interventions are aimed towards meaningful physical activity and community engagement. Many focus group participants talked about barriers to participation in services and community activities resulting from issues related to transportation, inaccessible community environments, and limited opportunities for social engagement due to the nature and extent of a person’s disability. Actions that eliminate these barriers can facilitate accessible occupational therapy and physiotherapy services, and may increase successful outcomes of therapy, improve community participation, reduce social isolation of vulnerable populations and improve the well-being of the community.
Identifying Core Service Roles Using a Multi-faceted Approach

Core service roles for occupational therapy and physiotherapy are best developed using a multi-faceted approach using evidence of effective practices, expert knowledge about existing services service delivery, community health indicators and meaningful participation of community members. This approach is consistent with primary health care principles (Manitoba Health, 2002), existing practice in the region as described by the key informants and organizational documentation, and evidence-based practice guidelines (Sackett, Strauss, Richardson, Rosenberg, & Haynes, 2000). The extensive review of the literature cited earlier in this document provides important information on the current state of evidence for occupational therapy and physiotherapy interventions relevant to primary health care. Community demographics and health status indicators can be used to inform priorities for individual communities. A review of existing services and gaps in services as described by service providers is important to ensure that new services do not duplicate existing services. Finally, consultation with community residents can help to identify the community’s highest priorities and preferences for service delivery.

Systematically Evaluating Services

The preceding literature review described the research evidence for effectiveness of some areas of occupational therapy and physiotherapy primary health care practice. However, opportunities for research in disciplines like occupational therapy and physiotherapy are limited by the focus of educational programs toward practice rather than research and difficulties in developing outcome measures (O’Neil, & the Pew Health Professions Commission, 1998). There are many areas of “promising practices” but a lack of sufficient systematic evaluation to conclude that they are “best practices”. More research is required to determine the effectiveness and cost-effectiveness of interventions done by occupational therapists and physiotherapists within primary health care. Dedicated funding for discipline related research of this type is required (Glouberman & Zimmerman, 2004).
PILOT PROJECT IN RIVER EAST

Introduction

The review of the literature and consultation with key stakeholders indicates that the integration of occupational therapy and physiotherapy in the Community Access Model will contribute significantly to the health and well-being of communities. Each community is unique in its population demographics, health status and existing services. Therefore, flexibility is necessary in determining the roles of occupational therapy and physiotherapy in each of the community areas. Priorities for occupational therapy and physiotherapy services may be determined regionally, while the ways in which the services are provided could occur locally in response to community priorities. This approach is consistent with planning processes described by key informant administrators within the WRHA.

Health Related Priorities for the River East Community Area

The River East Community Area Profile (WRHA, 2004b), which uses demographic, social and health-related statistics, identifies the community as having average health outcomes as compared to the Winnipeg region as a whole. Health outcomes vary according to neighbourhood cluster, of which River East has three. The neighbourhood cluster at the north end of the community area has above average outcomes, while the cluster at the south end, Elmwood, has below average outcomes. Health issues that have been identified through the profiles for the community as a whole include cardiovascular disease, diabetes, and other health issues that are related to social and economic disparities in the community including teenage pregnancy, communicable diseases and injuries. The Community Health Advisory Board for the River East/Transcona Community area has strong community representation and provides advice to the WRHA Board of Directors on issues related to the community. In their report to the board, the advisory council identified several areas of improvement for the health care system. Among the top eight areas relevant to occupational therapy and physiotherapy were: access to mental health services ranked number three, access to medical specialists including therapists, ranked number five and more health promotion
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and prevention activities ranked number six. Council members also identified reducing wait times for health services, building partnerships between the WRHA and other health and social service organizations and increasing public awareness of health services, as some of the areas for improvement in the coordination of health service (WRHA, 2004c).

The following are the proposed roles of occupational therapy and physiotherapy in the Community Access Model in the River East Community Area. We acknowledge the benefit of occupational therapists and physiotherapists assuming generic roles such as case managers, community facilitators, system navigators and educators for chronic disease management. Their skill sets have much to contribute to these roles. However, extensive discussion of these roles is not within the scope of this document. Instead, we will discuss roles relevant to each discipline’s specialized area of expertise.

We have based these proposed roles on evidence and service delivery models documented in the literature, the current and local context of primary health care delivery and the conceptual model we proposed in the previous section. In describing roles, we refer to primary care teams. These teams are health care providers who are the first point of contact for people seeking primary care services and can include, but are not limited to, interdisciplinary staff at an Access Centre and primary care physicians in the community. These teams also refer to staff at emergency rooms in community hospitals at which a substantial number of people currently seek primary care services (WRHA, 2004a).

Occupational Therapy Services

One of the strongest areas of practice for which we found evidence for effectiveness was in the area of health promotion and wellness for the well elderly. An occupational therapist currently provides health promotion and prevention intervention to community dwelling seniors in the River East community area as part of a Seniors Health Resource Team. The needs of the well elderly are being serviced by this therapist. Since this service is already being provided in the community area it will not be duplicated in this proposal. However, other community areas that have a significant
senior population, and which do not have an occupational therapist in this role, should consider the strong evidence for the effectiveness of this role in future health planning.

We also acknowledge other roles that occupational therapists are currently assuming in providing community-based services in the River East community area. Community Therapy Services provides occupational therapy services to residents of River East who are referred primarily through the WRHA Home Care program and, to a lesser extent, through the WRHA Mental Health program (See Appendix E). Occupational therapists are also part of two WRHA specialized teams that provide services to seniors in the community; a Geriatric Program Assessment Team and a Psychogeriatric Team.

We are proposing two additional publicly funded roles for occupational therapy in the River East Community Access Model. These roles integrate services into a primary health care context, address areas of unmet need as identified through our interviews and focus groups with service providers and administrators, and are supported by evidence available in the literature.

The two roles are: 1) the secondary prevention of injury and disability related to physical conditions; and 2) the secondary prevention of disability and promotion of activity and participation for people with mental health problems and those who are homeless. Both of these roles build on existing services but are unique in that they move intervention “upstream” from current service delivery models. These new models assume that referrals for services will come primarily, although not exclusively, from primary care practitioners as well as from service providers from other sectors within the WISI framework, e.g., housing, employment and income assistance. The intent is to provide services to people with chronic health conditions prior to the onset of functional impairment, to prevent or delay long term disability and to promote greater social integration. This model is distinct from current models in which referrals are most often received for people who are already experiencing functional impairment.
Secondary Prevention of Injury and Disability Related to Physical Conditions

Within this role, occupational therapists will work closely with primary care teams to screen, assess and intervene with people who meet criteria for risk of disability. The role will include interprofessional consultation. Evidence suggests that criteria for occupational therapy intervention should focus on identifying:

1. People with chronic diseases, especially rheumatoid arthritis - Other areas of chronic disease also show promise of effective occupational therapy intervention e.g., chronic obstructive pulmonary disease, coronary heart disease, and chronic fatigue. While occupational therapists often see people in the late stages of these diseases, there is evidence that earlier intervention can be effective in assisting to prevent or reduce disability. Interventions would include education on self-management, behaviour and lifestyle change, training and advice related to functional ability, and occupational performance (self-care, productivity and leisure).

2. Elderly people with risk factors for falls - Risk factors include: over 60 years, have experienced a fall, visual changes, visual impairments associated with diabetes or other neurological disorders, decreased neuromuscular control and muscle strength, decreased sensation, decreased vestibular function (dizziness), depression, urinary incontinence and decreased cognitive function (Painter & Elliot, 2004). Mackenzie et al. (2004) also suggested women who experience joint stiffness, report poor health, take four or more medications, two or more over the counter medications or medications for nerves, sleep or chronic illness, report more than seven symptoms, two or more health conditions, and experience three or more life events have a significantly greater risk for falls. Interventions to include education, home assessments, environmental modifications, training and advice related to functional ability, occupational performance (self-care, productivity and leisure) and engagement in meaningful activity. Consideration should also be given to including younger people in the target population who may be more vulnerable to falls due to other conditions such as intellectual impairment.
3. Frail elderly at risk for functional decline, including, but not exclusively, those recently discharged from inpatient hospital units who are not candidates for home care services. Interventions will include promotion of occupational performance, home environmental modifications and provision of assistive devices.

**Secondary Prevention of Disability Related to Mental Health Problems and Homelessness**

The most promising role for occupational therapy in this area is working with primary care teams within the shared care model (Craven & Bland, 2002). In the context of this region, shared care refers to the provision of a mental health service provider working in collaboration with primary care teams. Target populations would include:

1. Persons with psychotic disorders who are not connected with a specialized mental health service such as the Program for Assertive Community Treatment or the Intensive Case Management Program - Occupational therapy interventions will include supportive employment, activity analysis and adaptation, social and physical environment adaptation, skills development and rehabilitation. There is also some evidence of effectiveness of intervention for anxiety. Consideration should be given to include people with Fetal Alcohol Spectrum Disorders who have mild to moderate impairments but require support, environmental modification and skill development to participate in employment and social and community life.

2. Homeless individuals – Interventions will include independent living skill building such as money management, prevocational skills, stress management, interpersonal and self-advocacy skills. Consideration should also be given to extending this role to women in shelters.

**Physiotherapy Services**

We acknowledge roles that physiotherapists are currently assuming in providing publicly funded community-based services in the River East community area. Community Therapy Services provides physiotherapy services to residents of River
East primarily referred through the WRHA Home Care program (See Appendix E). Physiotherapists are also part of the WRHA specialized Geriatric Program Assessment Team. Privately funded physiotherapy services are also provided to residents of River East who have the financial means or insurance to cover services.

One of the areas of physiotherapy practice that was identified in the literature as having an important impact was the role of physiotherapists in triage, screening and consultation for acute musculoskeletal injuries. Evidence exists for a role for physiotherapists to assess individuals presenting to primary care clinics with acute soft tissue injuries surrounding joints of the extremities or the spine. Therapists provide the instructions for self-management and where necessary, consult with the family physician for further interventions beyond the scope of the physiotherapist, such as X-rays, laboratory tests, pharmaceutical management or referral to the appropriate specialist. However, according to staff in the community area, current numbers of people attending the River East Access Centre for acute musculoskeletal injuries are not sufficient at the present time to warrant this type of role. Therefore, we propose that referral patterns in the River East Access Centre be monitored and this role be seriously considered at a later date, when the number of people attending the primary care clinic increases.

To complement physiotherapy services that are currently provided in River East we are proposing two additional roles for physiotherapy in the River East Access Model. The first is a primary care role for the secondary prevention of disability related to injury and chronic disease. The second is a health promotion and wellness role related to prevention of injury and early intervention for chronic disease. These roles integrate services into a primary health care context, address areas of unmet need as identified through our interviews and focus groups with service providers and administrators and are supported by evidence available in the literature.

**Secondary Prevention of Disability Related to Injury and Chronic Disease**

Within this role, physiotherapists will work closely with primary care teams to provide the following services.
1. Consultation to people in early and later stages of chronic disease – Target populations will include people with rheumatoid arthritis, coronary heart disease, chronic obstructive pulmonary lung disease and diabetes. Interventions will include providing people with individualized exercise programs which have shown strong evidence for improved health status. While physiotherapists often see people in the late stages of these diseases, there is evidence that earlier intervention can be effective in assisting to prevent or reduce disability.

2. Consultation to elderly people at risk for falls – Interventions will include education regarding fall risk management, balance and strengthening exercises.

3. Consultation to people at risk for, or with a diagnosis of, osteoporosis and women with symptomatic incontinence – Interventions will include prescribing individualized exercise programs.

The role will include interprofessional consultation.

Health Promotion and Wellness

There is strong evidence for the role of exercise in the prevention and management of a number of injuries and chronic diseases. Physiotherapists are well suited to promote and provide exercise programs because they have the necessary knowledge and skills to manage a wide spectrum of physical abilities and health conditions. Exercise programs are available in many community venues such as Parks and Recreation programs and the YM/YWCA. However, people who have pre-existing medical conditions or who are older may require special attention to engage in the various community exercise programs available. We are proposing that the physiotherapist adopt a community development approach (Labonte, 2002) to enhance the capacity of community-based organizations to provide and promote physical activity programs that are safe and appropriate for a wide variety of people, with the goal of preventing and reducing the impact of chronic disease. Examples of community development activities that would be done by the physiotherapist include:
1. Work with healthy living programs in community centres, fitness facilities and apartment blocks to develop appropriate exercise programs and modification to accommodate all people, including those with special needs.

2. Work with disease-related consumer organizations such as the Parkinson Society of Manitoba and the Heart and Lung Association to promote active living in their members.

3. Work with local businesses and service organizations to promote active living and provide consultation related to injury prevention.

4. Work with community residents to promote active living in the community.

This role will complement the existing Seniors Health Resource Team. However, it will not be limited to addressing the activity needs of seniors but rather to move “upstream” in facilitating exercise to prevent and manage injuries and the long-term negative outcomes of a variety of chronic diseases.

**Other Areas of Practice**

Evidence is present in the literature for occupational therapy and physiotherapy community roles in secondary and tertiary prevention for people who have experienced stroke or traumatic brain injury, those who have chronic pain or need assistance to return to work. The literature in these areas suggests that the most successful practices are implemented within specialized teams. Therefore, we recommend that interdisciplinary community-based rehabilitation teams be developed to provide intervention with these populations.
PROJECT LIMITATIONS

This investigation of the role that occupational therapy and physiotherapy services can play in a primary health care setting was extensive. However, it must be acknowledged that there are certain limitations to this study.

The review of the supporting evidence was limited to published studies only, pertaining specifically to physiotherapy or occupational therapy. The authors felt it was crucial to focus research efforts on proven outcomes which have been critically reviewed by appropriate peers. This may have precluded the inclusion of pertinent studies or program models which are currently underway, but not published. Therefore, information regarding other Canadian models of service delivery in primary health care is limited.

By limiting the search strategy to the two specific rehabilitation therapies, other roles that may be considered to be more generic will not have been included. For example, evidence pertaining to generic case management roles was not explored. This should not preclude their consideration in future exploration of potential roles or service delivery models. The authors felt that a focus on the unique roles that occupational therapy and physiotherapies can play in primary health care superseded generic roles at this stage of program development.

In terms of the qualitative component of the study, efforts were made to elicit representative samples for both the physiotherapist and occupational therapist focus groups and key informant interviews. Key informant interviews were broad in scope. The data collected through these interviews, relevant to the purpose of this study provided sufficient depth for understanding the context of primary health care in the region. However, true saturation of information gleaned from focus groups of occupational therapists and physiotherapists may not have been reached.

There are other stakeholders in this project who were not consulted. Members of the public who are the current users and potential users of occupational therapy and physiotherapy services in primary health care have not been consulted. This is a major limitation of this project.
Another possible limitation of this study was the urban focus of service delivery. While the interventions supported by the literature could easily be transferred to a rural setting, the models of service delivery are mainly based on an urban setting. The initial search strategy did not exclude rural models of service delivery, but no special efforts were made to locate rural data. The urban focus was intentional as this was to inform the recommendations for a pilot project in an urban area. Anyone wishing to use this document to develop programs in rural settings will have to consider these parameters.

Hospital-based services were not included in this project. All efforts were focused on community-based programming. Outreach services from a hospital but delivered in a community setting were included, but out-patient services delivered within the walls or confines of an institution were excluded. It is possible that many out-patient program service delivery models could be transferred from a hospital to a community health care setting, but this was not a focus of this study. It is important to note that some systematic reviews or meta-analyses that examined the effectiveness of occupational therapy or physical therapy with a particular population may have included interventions provided in a hospital-based setting. Therefore, hospital inpatient and outpatient programs may have been included in our project through our use of these reviews and meta-analyses.

A review of interventions related specifically to children and youth were not included in this project. From a primary health care perspective, in which the needs of communities are considered, the exclusion of a segment of the population limited the scope of the project.
RECOMMENDATIONS

1. That a pilot project be implemented in the River East Access Model that expands publicly funded community-based occupational therapy and physiotherapy services. The pilot project should operationalize the roles that were identified above as the most promising practices for primary health care in the River East Community Access Model. Based on the results of the qualitative research component of this project, these roles should be implemented in keeping with the conceptual model outlined in this document. To that end, the service delivery model should do the following.
   a. Integrate occupational therapist and physiotherapists into interdisciplinary teams. Therapists should be located within the community area, participate in interdisciplinary team planning and evaluation of services, and have ongoing contact with staff in the community area. Issues of turf and professional dominance need to be addressed within teams and by management. Resolution of these issues needs to be done to promote the provision of the right service by the right provider in the most cost-effective manner.
   b. Increase accessibility and promote a continuum of care. The new roles should be publicly funded and should complement existing services. Referrals should be accepted through WISI programs, inpatient and emergency hospital units, family physicians and self-referral. Clear referral criteria should be established and “gate-keepers” should be held responsible for making referrals based on the criteria. Criteria need to be flexible enough to ensure that vulnerable people are not excluded.
   c. Take a population health perspective. New roles should focus on moving traditional occupational therapy and physiotherapy “upstream” to include health promotion and primary and secondary prevention. Occupational therapists and physiotherapists must have access to professional development opportunities and formalized collegial consultation to develop and maintain expertise in these areas of practice. Attention should be paid...
to environmental barriers that limit participation of vulnerable people in
health and wellness programs and community life.

d. Identify core service roles using a multi-faceted approach. In keeping with
evidence-based practice literature, roles for occupational therapy and
physiotherapy should be based on evidence of effective practices,
community specific need, knowledge of the range of existing services
within the community and meaningful community consultation. This project
addressed evidence in the literature, key informant interviews with service
providers and current services. Consultation with current or potential
recipients of service was not done. Such consultation is recommended in
the context of a pilot project.

e. Systematically evaluate services. The conceptual model and roles for
occupational therapy and physiotherapy were based on the most
promising practices. However, it is recommended that services
implemented through a pilot project be systematically evaluated for
effectiveness and efficiency.

2. That the results of the project be disseminated to key stakeholders including
consumer organizations, service providers, users of services and government.

3. That a comparable project addressing service delivery for children and youth be
conducted.
CONCLUSIONS

This project makes an important contribution to the development of occupational therapy and physiotherapy services within the current health and social service delivery system. The vision for this system is an integrated service delivery model based on the best evidence for effectiveness in a primary health care environment. There is evidence to suggest that selected occupational therapy and physiotherapy interventions provided early in community-based settings can positively impact on people’s health and wellbeing. The integration of occupational therapy and physiotherapy services into primary health care teams provides considerable opportunity for enhancing the health of community residents.
GLOSSARY OF TERMS

Health Promotion – “is the process of enabling people to increase control over, and to improve, their health” (WHO, 1986).

Occupation – defined as clusters of activities and tasks. Occupations are chosen to fulfill a purpose and for the value and meaning which individual or groups attribute to them. Occupation includes everything that people do during the course of everyday life, including the occupations through which people look after themselves (self-care), enjoy life (leisure), and contribute to the social and economic fabric as members of society (productivity) (CAOT, 1997).

Occupational Performance – “The task-oriented completion or doing aspect of occupations, often, but not exclusively, involving observable movement” (Christiansen & Townsend, 2004, p. 278). It is the interaction between persons, their environments, and their ability to choose, organize and satisfactorily perform meaningful occupations that are culturally defined and age appropriate (CAOT, 1997).

Occupational Therapy – “Occupational therapy is a profession concerned with promoting health and well being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by enabling people to do things that will enhance their ability to participate or by modifying the environment to better support participation” (World Federation of Occupational Therapists, 2002).

Physiotherapy – also known as physical therapy, is a health care profession dedicated to rehabilitation, prevention and education. In performing these roles, physiotherapists take the holistic approach to the individual. Physical agents and specialized techniques are used to help the individual attain maximum functional independence with minimum complications. Education of patients, families, and the public plays an important role in
both the rehabilitation and prevention aspects of physiotherapy (University of Manitoba, School of Medical Rehabilitation, n.d.).

**Primary Care** - is the point of first contact with the health care system. “It includes diagnosis, treatment and management of health problems with services delivered predominantly by physicians” (Health Canada, 2000, p. v).

**Primary Health Care** – “incorporates primary care, but also recognizes and addresses the broader determinants of health including population health, sickness prevention, and health promotion with services provided by physicians and other providers often in group practice and multi-disciplinary teams” (Health Canada, 2000, p. v).

**Primary Health Care Team** – “is a group of persons who share a common health goal and common objectives determined by community needs, to which the achievement of each member of the team contributes, in a coordinated manner, in accordance with his/her competence and skills and respecting the functions of others” (WHO, 1985 as cited in Sicotte et al., 2002, p. 992).

**Primary Prevention** – “Preventive measures that forestall the onset of illness or injury during the prepathogenesis period. Practice focuses on the identification of potential risk factors for disease or disability in healthy individuals & targets factors that are amenable to change. Examples include wearing seatbelts, diabetes public education programs, back schools, & the identification of workplace risk factors” (McCloy, 2001, p. 314).

**Rehabilitation** – “is a goal-oriented and time-limited process aimed at enabling an impaired person to reach an optimum mental, physical and/or social functional level, thus providing her or him with the tools to change her or his own life. It can involve measures intended to compensate for a loss of function or a functional limitation (for
example by technical aids) and other measures intended to facilitate social adjustment or readjustment” (United Nations, 1983, p. 3).

**Secondary Prevention** – “Measures aimed toward the early detection of underlying disease when overt clinical symptoms are not yet apparent. Early detection allows for prompt treatment. Examples include mammograms, prostate examinations, physiotherapy assessment of joint flexibility & alignment” (McCloy, 2001, p. 314).

**Tertiary Prevention** – “Treatment is implemented after the disease becomes symptomatic. Focus is on the restoration or maintenance of maximal function & the prevention of further disease or disability. Examples include surgery to treat lung cancer, rehabilitation after a stroke, & cardiac rehabilitation post-myocardial infarction” (McCloy, 2001, p. 314).
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APPENDICES
### Appendix A

**Paper Review Summary**

Citation:  
Type of Paper:  
- Qualitative Study  
- Quantitative Study  
- Mixed methods (qualitative and quantitative)  
- Program Evaluation  
- Systematic Review  
- Narrative Review  
- Theory  
- Service Delivery  
- Other; Specify

If qualitative study, what was the study design?  
- Ethnography  
- Grounded theory  
- Participatory action research  
- Phenomenology  
- Other; Specify

If quantitative study or program evaluation, what was the study design?  
- Randomized control trial (RTC)  
- Cross-sectional  
- Cohort  
- Case control  
- Single case study  
- Pre and post measure  
- Case study  
- Other; Specify

What population or group was the study applicable to (e.g., age, gender, etc)  
What was question being answered by the paper?  
What were the conclusions?  
What is your overall rating of the quality of this paper?  
- High quality (conclusion provide information relevant to the question; if research paper – appropriate methodology, quantitative research has good reliability and validity, trustworthy)  
- Moderate quality (conclusions provide some relevant information related to the question but alternative explanations are possible; methodology could have been strengthened)  
- Poor quality (appropriateness of the conclusions is unknown due to poor study design and implementation of the protocol)

How applicable was this paper to the review topic?  
- Very applicable  
- Moderately applicable  
- Slightly applicable  
- Not applicable

What are the implications of the paper to the review topic?
Appendix B

Focus Group Guide for Occupational Therapists and Physiotherapists

1. What are the gaps in the current model of community health care provision where you feel that occupational therapy/physiotherapy can play a role? Think in terms of:

   a) promotion/protection prevention
   b) diagnosis
   c) treatment / care
   d) rehabilitation, support maintenance, continuum of rehab care
   e) social adaptation / integration

2. What is your perception of the current role of occupational therapy/physiotherapy in primary health care?

3. How can occupational therapy/physiotherapy potentially fit into the core services to be offered at the community access centres proposed in the Winnipeg Integrated Services Initiative (WISI) by the Winnipeg Regional Health Authority and Family and Housing Services? The core services to be considered include the following:

   - Child Day Care
   - Child and Family Services
   - Children’s Special Services
   - Community Engagement and Development
   - Community Mental Health
   - Employment and Income Assistance
   - Employment Supports for Persons with Disabilities
   - Home Care
   - Housing
• Primary Care
• Public Health
• Service to Seniors
• Supported Living

4. What role do you feel that occupational therapy/physiotherapy can potentially play in a primary health care setting in the future?

5. What are 3-4 indicators that you would suggest as measures of success of occupational therapy/physiotherapy in a primary health care setting?
Appendix C

Key Informant Interview Guide

1. Where would you like to see your program/service 5 years from now?

2. Which population is your program/service targeted towards?

3. How do you see your program/service integrating with the other core services provided in the Winnipeg Integrated Services Initiative framework?

4. What are some of the challenges that you experience currently and foresee in the future?

5. a) What are the priorities of your program/service in terms of the population you serve? How well do you feel that you are meeting those needs?  
   b) What are the priorities of your program/service in terms of the services that you provide? How well do you feel that you are meeting those needs?

6. How were program/service priorities established?

7. Can you identify the largest gaps in meeting your priorities? Are there any other gaps you anticipate in the future?

8. How is the community involved in your program/service and/or in the process of establishing your program/service goals? What are the gaps that the community has identified that may be addressed by your program/service?

9. How could your program/service work with and/or support an occupational therapist or a physical therapist working in your area?
Appendix D

Community Area Focus Group Guide

Questions:

1. As you read the proposal or listened to us, what words, phrases or ideas leaped out at you?
2. What do you like about the proposal?
3. What concerns you?
4. How might the roles that we have proposed meet the needs of your clients and community?
5. What is missing in the proposal?
6. Where would you see difficulty in implementing these roles in this community?
7. What would make this proposal better?
8. Do you have any other suggestions?
Overview of Services Provided by Community Therapy Services

The WRHA Home Care Program engages the services of Community Therapy Services (CTS) for the provision of occupational therapy and physiotherapy services to its clients. CTS services are provided in all community areas in Winnipeg. In 2002/2003 the percentage of WRHA home care clients referred to CTS in each of the community areas ranged from 20% to 38% with a mean of 23%. CTS services can be categorized as secondary and tertiary prevention and assist WRHA Home Care in maintaining persons with varying levels of functional disability in the home environment.

Occupational therapy and physiotherapy services are integrated with each client being served by the most suitable professional(s) based on the client’s presentation and spectrum of needs identified by WRHA Home Care. Therapy services to WRHA Home Care clients include client assessment and intervention in the home environment for a range of issues including activities of daily living, exercises for acute and chronic conditions, pain management, client safety, falls prevention, client mobility, community access, environmental adaptation, home modifications, seating and positioning, care giver safety, and general education regarding disability prevention and management.

WRHA Home Care referrals to CTS represent a wide spectrum of physical conditions and disabilities and vary from early onset to the later stages of the disease process. CTS therapy interventions may be short term and episodic or may be ongoing with continued regular follow-up depending on the needs of the client and the WRHA Home Care Program.

WRHA Home Care referrals to CTS originate from a variety of sources; community based case coordinators, hospital based case coordinators, hospital therapy departments, primary care physicians and specialists, directly from clients and their families or agencies such as the Society for Manitobans with Disabilities as well as Family Services and Housing, and Employment and Income Assistance.
CTS occupational therapists and physiotherapists also provide general and client specific training to WRHA Home Care personnel in such areas as mobility, body mechanics, transferring, and injury prevention.

The WRHA Community Mental Health Program engages CTS for the provision of occupational therapy services to persons with mental illness living in the community. The CTS Mental Health Rehabilitation Program occupational therapists provide individual assessments and interventions tailored to a client's abilities and occupational performance concerns. This includes a broad range of services such as functional assessment, life skill development, interpersonal and social skills development, stress and anxiety management, management of physical concerns, and environmental adaptations. The program also provides group programs for clients living in residential care homes or in their own homes.

* Information provided by Community Therapy Services, Inc., March 2005.