

CAOT, CPA and CASLPA Steering Committee of the Interprofessional
Caseload Management Planning Tool in Occupational Therapy,
Physiotherapy and Speech-Language Pathology in Canada

The Development of an Interprofessional Caseload Management Planning Tool in Occupational Therapy, Physiotherapy and Speech- Language Pathology in Canada

Background Document

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9/23/2009

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Executive Summary

This background paper is the first step in the Interprofessional Caseload Management Planning Tool project in OT, PT, and S-LP in Canada. It provides an analysis and synthesis of the academic and gray literature related to caseload management in order to inform the development of an appropriate Tool for the OT, PT, and S-LP professions and to identify the critical elements which must be considered.

To set the context, a brief profile of the three professions of OT, PT, and S-LP in Canada today is presented. The data reveal that the number of professionals has steadily increased over the past 20 years. Despite this growth, findings from the recent literature indicate that OTs, PTs, and S-LPs continue to face unmanageable caseloads. Excessive work intensity leads to workplace stress with subsequent sick leave and burnout, which in turn places increased pressures on remaining workers. The informed deployment of OT, PT, and S-LP human resources must be a major priority for employers to minimize attrition and encourage the retention of skilled workers. The development of a caseload management Tool will contribute to the informed and effective utilization of these health professionals.

Caseload management has been an ongoing issue of concern for the members of CAOT, CPA, and CASLPA. Substantial work has been carried out to date by each of these professional associations which set the foundation for this project. An evaluation framework suggested by the Human Capital Alliance (2006) describes four categories of caseload management tools including: ratio-based, procedure-based, categories of care-based, and diagnostic casemix-based methodologies. An analysis and synthesis of the literature according to this framework in OT, PT, S-LP, and other professions notably nursing reveals ongoing efforts and multiple approaches to promote effective caseload management. Despite these diverse and innovative methodologies, there is clearly no one superior model that suits all practice contexts and service delivery systems. The evidence confirms that effective caseload management in OT, PT, and S-LP remains a highly complex and variable process in which many factors must be considered including: client classification system, flexibility, client complexity, population health perspective, simplicity, evidence-based, provider experience, and organizational factors.

Nine caseload management models with most relevance for the development of a caseload management tool in OT, PT, and S-LP are presented to provide an overview of the diversity of methodologies and a clearer picture of how these models could be applied practically. Each model is evaluated according to its compliance with the above criteria. The authors of this report conclude that based on the evidence, a hybrid tool which combines elements from several models is the most appropriate for consideration in this project. The proposed caseload management tool for OT, PT, and S-LP in Canada consists of a seven step process which includes: 1. Classify client group; 2. Rate complexity of client interventions; 3. Estimate intervention times required; 4. Determine human resources available; 5. Match client intervention time to human resources time; 6. Evaluate process and data; and 7. Share the findings. The next phase of this project includes validation and application of this tool in a variety of working contexts of OTs, PTs, and S-LPs to determine the relevance, appropriateness, and effectiveness of this proposed caseload management tool.

1. Background

1.1 Introduction

Present and future shortages of health professionals in Canada have been reported by a number of studies over the past two decades. While significant efforts have been focused on supply side human resource data, it is recognized that workforce planning should extend beyond simply the supply of health professionals. Strategic approaches should include issues related to workforce distribution, scope of practice, patterns of practice, appropriate deployment and interprofessional collaboration (von Zweck, 2006).

Effective caseload management is one measure that should be integrated into overall human resource planning. With growing demands on services, recruitment and retention issues, caseload/workload management has been identified by members of the three professions of occupational therapy (OT), physiotherapy (PT) and speech-language pathology (S-LP) as one of major significance to themselves as health professionals,¹ to their patients/clients,² and to the health delivery system. Caseload/workload management has and continues to be determined primarily by economic factors, that is, the funding allocations available for OT, PT, and S-LP positions. With global budgets steadily diminishing, little consideration is given to patient and population health needs in workforce planning for these professions. The status quo or existing numbers of funded positions are frequently used as the gold standard despite reports of therapists facing increased numbers of patients with complex health issues. This situation is leading to therapist recruitment and retention issues and patients experiencing lengthy wait times and unmet health needs.

The Canadian Association of Occupational Therapists (CAOT), the Canadian Physiotherapy Association (CPA) and the Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA) are partner organizations of the Interprofessional Caseload Management Planning Tool project, funded by Health Canada. The Interprofessional Caseload Management Tool (hereafter called the Tool) is intended to be an evidence-based tool or structured set of factors and considerations that are designed to assist individual professionals, organizations, and policy makers in determining effective caseload/workload management for OT, PT, and S-LP services in Canada. This work will integrate an understanding of the competencies of the three professions into a Tool that is intended to facilitate the effective and efficient matching of human resources to a wide variety of client populations and service delivery models.

1.2 Definition of Caseload Management

This document will use the following definition of caseload management (Cavouras 2003):

... the productive and efficient use of time and resources to maximize and achieve successful client outcomes. The systematic synthesis of client and service information should assist to design effective and efficient service delivery. Such a delivery system should accomplish positive outcomes within available health agency resources and professional guidelines (Management Dimensions in collaboration with D. Parker-Taillon and Associates, 2005).

¹ These three professions work in a variety of settings such as public institutions, private practices, educational facilities, and community agencies.

² The terms patient and client will be used interchangeably in this document.

The American Speech-Language-Hearing Association (ASHA) makes the distinction between *caseload*, the number of clients assigned to an individual health professional and *workload*, the full complement of responsibilities that are performed by individual clinicians in their daily job (American Speech-Language-Hearing Association, 2002). In addition to direct interventions, workload also acknowledges all other tasks performed by health providers in order to fulfill their professional responsibilities such as indirect client care services, report writing, case conferences, meetings, and other administrative activities. For the purposes of this document, workload will be subsumed within caseload management.

1.3 Project Goals

The overall goal of this initiative is to develop a Tool with a structured set of factors and considerations that can assist individual professionals, organizations, administrators, and policy makers in determining the appropriate number of OTs, PTs, and S-LPs to effectively manage the service requirements of patients in a variety of service contexts in Canada (caseload management). Most importantly this project will provide guidelines to promote the effective and cost-efficient utilization of scarce human resources in these three professions.

The specific objectives of this project are to:

1. Identify the critical elements, issues and considerations involved in caseload management in different service delivery models.
2. Develop a Tool for OT, PT, and S-LP services in Canada using informed best practices and competence-based profiles to assist professionals, administrators, and policy makers with effective HHR planning and caseload management.
3. Validate the Tool elements in each of the three professions.
4. Implement the Tool through pilot projects in each of the three professions identifying its strengths, gaps, and utility.

1.4 Purpose of this Paper

As a first step, this document provides an analysis and synthesis of the academic and gray literature related to caseload management in order to identify the elements, issues, and considerations that are involved in different service delivery models. This paper will inform the development of an appropriate Tool by providing an overview of the most recent evidence related to caseload management and by highlighting the critical issues that must be considered when developing an appropriate instrument.

In order to set the context for this project, a brief profile is presented of each of the three professions of OT, PT, and S-LP in Canada today. This is followed by highlights from the recent literature related to recruitment and retention issues which strongly support the urgent need for this Tool. A summary of the work to date carried out by each of the three professional associations related to workload/caseload management provides further background context. An updated literature review, analysis, and synthesis describes the evidence to date related to caseload management in OT, PT, S-LP and other professions notably nursing. The paper concludes with an overview of models that have been developed for caseload management, a description of the nine tools deemed the most promising and applicable to the three professions, a tool analysis framework, and the steps involved in a proposed Tool.

1.5 A Profile of the Three Professions in Canada

A brief overview of the Canadian profiles of the three professions is presented to provide the contextual background for this project. The Canadian Institute for Health Information (CIHI) has published full reports of the OT and PT workforce and plans are underway to develop a comparable report for the S-LP profession. Limited information related to S-LPs can be found in the CIHI report, *Canada's Health Care Providers, 1997 to 2006*. While membership in the three professional associations (CAOT, CPA, and CASLPA) is voluntary and characteristics of members are not necessarily reflective of all practicing individuals, information from a recent CASLPA membership survey will be used to supplement the limited available CIHI data for S-LPs. CIHI asserts that, "In order to determine the number of health professionals required in any jurisdiction, it is necessary to understand the current supply and how that supply is changing" (Canadian Institute for Health Information, 2008a). Being informed of the workforce trends in these three professions will support the informed application of the caseload management Tool to permit the most effective and efficient deployment of existing limited human resources.

1.5.1 The Occupational Therapy Profession

OTs are the primary service providers for occupational therapy. Canadian OTs are graduates of accredited university programs at the master's level and understand the effects of factors such as disease and injury on the ability of individuals, groups and communities to engage in life's occupations. OTs have the required skills and knowledge to provide an evidence-based approach to help others identify, engage in and achieve their desired potential in their occupations (Canadian Association of Occupational Therapists, n.d.).

OTs are regulated in Canadian provinces and one territory. They are accountable to a provincial/territorial regulatory body that has the responsibility of governing the practice of occupational therapy in that jurisdiction (Canadian Institute for Health Information, 2008b).

In a recent report on Canada's workforce, CIHI reports there are a total of 12,296 active registered OTs in Canada (Canadian Institute for Health Information, 2009). Over the past eight years, the OT population has increased substantially from 8,389 in 1999, to 12,296 in 2007. This later figure equates to a ratio of 37 OTs per 100,000 population with regional variations ranging from 21 in Saskatchewan to 49 in Quebec. The Canadian OT profile is 92% female. The average age of this health provider group is 38.9 years; 8.1% of OTs is internationally educated (Canadian Institute for Health Information, 2008b).

The majority of OTs (94.8%, excluding Quebec) work in urban centres, which are defined as having a population of over 10,000 residents. A small percentage (2.2%) work in rural regions, characterized as being in close proximity to urban centers, while 3% are employed in remote regions defined by CIHI (2008b) as, "those communities with relatively little social and economic interaction with urban areas." The employment profile of Canadian OTs (excluding Quebec and Alberta) is characterized by a predominance of direct service providers (84.5%), followed by 15.5% in other disciplinary related professions such as managers (5.3%), professional leaders (3.9%), educators (2.2%), researchers (.7%), and other (3.3%). The majority of OTs (76.8%) cites the public sector as their primary source of employment. OT practice is reflected as follows: general physical health (31%), neurology (14.1%), mental health (12%), musculoskeletal (11.7%), and other (11%). The majority of OTs (excluding Quebec, Alberta and the Territories) is employed in general hospitals (25.4%) or rehabilitation centres (15.9%), followed by community practice (29.1%), and professional clinics or business agencies (11.8%). Approximately one third of OTs is employed part-time (32.3%).

OTs often work in relationship with support personnel. CAOT supports the inclusion of support personnel where their contribution enhances the effectiveness of OT services (Canadian Association of Occupational Therapists, 2007). Specific job expectations are determined by the requirements of the supervising OT and the needs and environment of the client. OTs are directed to utilize the *CAOT Guidelines for the Supervision of Assigned Occupational Therapy Service Components* (Canadian Association of Occupational Therapists, 2007) and *The Practice Profile for Support Personnel in Occupational Therapy* (Canadian Association of Occupational Therapy, 2009) to review supervisory responsibilities and support personnel competencies that will determine which service components may be assigned to support personnel. OT support personnel are not regulated.

1.5.2 The Physiotherapy Profession

PTs manage and prevent many physical problems caused by illness, disease, sport and work related injury, aging, and long periods of inactivity. PTs are skilled in the assessment and management of a broad range of conditions that affect the musculoskeletal, circulatory, respiratory, and nervous systems. PTs are the primary service providers for physiotherapy. Canadian educated PTs are graduates of accredited university programs and effective 2010 all entry-level programs will be at the master's level (University of Manitoba is presently in the process of transition to the master's degree). PTs are regulated in each Canadian province and the Yukon Territory. They are responsible to a provincial/territorial regulatory body which has the responsibility of governing the practice of physiotherapy in that jurisdiction (Canadian Physiotherapy Association, n.d.).

According to CIHI's recent report on the Canadian health workforce, in 2007 there were a total of 16,463 active registered PTs in Canada (Canadian Institute for Health Information, 2009). Over the past eight years the overall supply of PTs grew from 13,906 in 1999 to 16,463 in 2007. The Canadian ratio of PTs to 100,000 population is 50, with regional variations ranging from 36 in Prince Edward Island to 64 in Nova Scotia. Of the total number of PTs, 79% are female.

CIHI's report on the workforce trends of PTs provides additional information (Canadian Institute for Health Information, 2008c). The average age of this provider group is 41.2 with about 15% internationally educated. Approximately one quarter of PTs nation-wide is over 50 years of age.

The majority of PTs are employed in urban settings (92.1%) with 4.1% working in rural locations and 3.7% in remote districts. The employment profile of PTs is characterized by 96% employed in direct patient care. The place of employment of PTs includes: group or solo professional practice (39.3%), general hospital (32.5%), rehabilitation facility (7.2%), visiting agency (5.4%), residential care (4.3%), community health centre (3.1%), government (1.8%), postsecondary education (1.8%), school or school board (.7%), industry (.4%), mental health facility (.2%) and other (3.3%). The majority of PTs (57.2%) are employed in public sector agencies, while 42.8% reported to be working within the private sector or self employed. Employment settings for physiotherapists include: hospitals (40%), clinic or business (39.3%) and community (13.5%). The areas of practice of PTs include: musculoskeletal and integumentary system (44%), general practice (28.4%), neurology (6.8%), other areas of direct service (6.9%), multisystem (6.1%), non clinical practice (3.7%), health promotion and wellness (2.2%), cardiovascular and respiratory diseases (1.5%) and other (.3%). Approximately one third of PTs are employed part-time (34%).

The CPA values the contribution that physiotherapist support personnel bring to the provision of quality physiotherapy service in Canada and the importance of their role in the delivery of physiotherapy services to address client needs (Canadian Physiotherapy Association, 2008). Physiotherapist support

personnel are employed in a variety of practice settings and assist in the delivery of safe, effective and efficient care under the supervision of PTs. The number of physiotherapist support personnel across Canada has been growing steadily with significant regional variations evident in their roles, training, and titles. At this point in time, PT support personnel are not regulated. *The Competency Profile: Essential Competencies of Physiotherapist Support Workers in Canada* was published in 2002 to define the specific competencies of support personnel and to clarify the support personnel's role in service provision to the public, health care providers, and employers (Canadian Physiotherapy Association, 2002). In all jurisdictions, the level of supervision and the type of tasks assigned to support personnel are determined by supervising physiotherapists in accordance with provincial/territorial regulations (Canadian Physiotherapy Association, 2008).

1.5.3 The Speech-Language Pathology Profession

S-LPs are autonomous professionals who are the key providers of speech-language therapy in Canada. They have expertise in typical development and disorders of communication and swallowing, as well as assessment and intervention for these areas. S-LPs are governed by a regulatory body in six provinces (British Columbia will be regulated in 2010) and must meet regulatory requirements to practice. S-LPs are involved in a number of different activities to promote effective communication and swallowing for the individuals they serve (Canadian Association of Speech-Language Pathologists and Audiologists, 2008).

S-LPs work directly with clients and/or with their caregivers or other persons who regularly interact with them (e.g. friends, relatives, professionals, colleagues, support personnel, etc.) for the purpose of creating environments that promote optimal communication and swallowing. S-LPs are graduates of accredited university programs at the master's degree level and "work in a variety of settings, including but not limited to hospitals, rehabilitation centres, mental health facilities, nursing homes, childcare facilities, early intervention programs, schools, universities, colleges, research centres, private and group homes, and private practice" (Canadian Association of Speech-Language Pathologists and Audiologists, 2008).

CIHI's publication on provincial profiles of Canadian health care providers indicates that in 2007, there were a total of 6989 registered S-LPs in Canada (Canadian Institute for Health Information, 2009). Over the past four years this number increased from 5,814 in 2003 to 6989 in 2007 (1999 numbers were not available). The ratio of SL-Ps to 100,000 population is 21 with regional variations ranging from 18 in British Columbia to 27 in Manitoba and Alberta. The age breakdown of S-LPs (as reflected in four provinces – New Brunswick, Quebec, Ontario, and Alberta, other data were not available) in 2006 was as follows: 15 to 24 years - 1%; 24 to 34 years – 32%; 25 to 44 years – 35%; 45 to 54 years – 24%; and above 55 - 8% (Canadian Institute for Health Information, 2008a). Additional CIHI data are not yet available.

The demographics of a recent CASLPA member satisfaction survey will be used to provide additional information to describe the S-LP profile (Canadian Association of Speech-Language Pathologists and Audiologists, 2008). CASLPA has a total number of 3,785 S-LP members who make up 81.3% of the total membership (total membership is 4566 members, which also includes audiologists and supportive personnel). There was an overall response rate of 33% to the membership survey representing 1,231 S-LPs or 80.6% of the total number of respondents (19.4% of respondents were audiologists). The demographic characteristics of these 1,231 CASLPA members cannot assume to be reflective of the total number of S-LPs in Canada (these members represent 17.6% of the total of approximately 7000 S-LPs in

Canada in 2007) however in the absence of CIHI data, survey information will be described. These respondents were 97% female.

The majority of the CASLPA survey respondents work in urban settings (85%), while 11% are employed in rural regions (population ≤10,000 residents) and 4% in remote districts. The employment profile of these S-LPs is characterized by 65% in clinical practice; 24% in clinical practice with a supervisory role; 4% in management; and 7% in other areas. The place of employment of these S-LPs includes: education/school board 36%; hospital 17%; community 11%; private practice 9%; clinic 8%; rehabilitation centre 8%; government 2%; postsecondary institution 2%; and other 7%. The majority of these S-LPs work in the public sector (68%), while 14% work exclusively in the private sector and 18% in both. Approximately one quarter of these S-LPs are employed part-time (26%).

S-LPs also work closely with support personnel to enhance services to clients. The supervising S-LP is ultimately responsible for the client/patient as stated in the CASLPA Code of Ethics (Canadian Association of Speech-Language Pathologists and Audiologists, 2005). The amount and type of supervision required should be based on the skills and expertise of the supportive personnel member, the needs of the patients/clients served, the service setting, the tasks assigned and other pertinent factors. CASLPA has developed the document *Supportive Personnel Guidelines: Working with Speech-Language Pathologists* (Canadian Association of Speech-Language Pathologists and Audiologists, 2008) to assist both the support personnel and S-LPs to determine the type and level of supervision required. S-LP supportive personnel are not regulated.

1.6 Recruitment and Retention Issues in OT, PT, and S-LP

There is increasing acknowledgement in both the academic and gray literature that the workload of health professionals has increased over the past decade and this is having a significant impact on the recruitment and retention of health care workers including OTs, PTs, and S-LPs. It is beyond the scope of this paper to present an exhaustive review of the literature on this topic. Instead selected reports will be used to provide an overview of the evidence that links workload/caseload to recruitment and retention.

According to von Zweck, the OT workplace environment has changed over the past decade and is presently characterized by “lack of resources, lack of staff, unrealistic workloads, lack of professional prospects, and lack of professional status” (von Zweck, 2003). She states furthermore that members of the Canadian OT professional association claim they are dealing with increasing caseloads, productivity expectations, increased professional accountability, and diminishing resources. OTs are reported to be leaving the profession at a rate of 5% per year. A study of OTs, PTs, and S-LPs working in the school system revealed increasing levels of job dissatisfaction due to increased caseload levels and the inability to provide what the therapists felt was quality service to clients (Burnett, 2003). Frequent staff turnover was reported in the practice setting and many study participants were reported to be considering leaving this work environment.

A recent study of Australian physiotherapists indicated that the most frequently identified workplace stressors identified by survey respondents was increased caseloads, periods of increased demands, and human resource shortages (Lindsay, 2008). Junior PTs, 20 to 29 years of age, and PTs working on inpatient rehabilitation services identified increased levels of stress. Sick leave absences due to stress were reported by 11% of respondents.

Surveys of PTs in hospitals, home health services, and paediatrics by the Public Practice Advisory Committee of the Physiotherapy Association of British Columbia (PABC) were carried out to understand how changes in health service delivery were impacting on PTs' practice (Physiotherapy Association of British Columbia, 2007). Key practice change issues identified by PTs in hospital environments included a diminution in the number of funded PT positions and subsequent services and programs, increased number and acuity of clients with increased demands for services, and unsurprisingly augmented levels of job stress and dissatisfaction in 75% of respondents. Respondents working in publicly funded paediatric positions also reported increasing levels of job dissatisfaction, which had worsened over the past five years (Physiotherapy Association of British Columbia, 2006). High case loads were reported to be the main source of dissatisfaction followed by insufficient time for direct treatment, lack of educational support, and low salaries. Many respondents indicated that they were considering withdrawing from this practice area. In contrast, PTs working in home care reported increased levels of job satisfaction (Physiotherapy Association of British Columbia, 2005).

A report by Kaegi et al. (2002) evaluated job satisfaction in S-LPs in three regions in Canada. Caseload was identified as a significant factor contributing to burnout, which was reported in 76% of survey respondents. Edgar and Rosa-Lugo (2007) surveyed S-LPs in Florida school districts to determine the elements that influenced respondents' recruitment and retention in this work environment. Excessive workload and large caseloads were identified along with role clarification and salary expectations as the most important issues related to job dissatisfaction.

A number of studies confirm that the incidence of workplace stress leads to burnout in OTs, PTs, and S-LPs (Schlenz, 1995), (Wisniewski, 1997), (Balogun, 2002), due to among other factors large caseloads, excessive workloads, and insufficient resources (Browne, 1992), (Wisniewski, 1997), (Struber, 2003). In many cases these factors contributed to the health providers' decision to leave the work environment. Of particular note is a recent study of the nursing workforce which demonstrated a direct relationship between increased workload and sick time absences (Rauhala, 2007). When nurses' workload was increased to over 15% of ideal or optimum, there was an increased incidence of both short-term and long-term sick leave. The greater the increases in workload, the longer the sick leave. These authors claim that increasing workload does not necessarily increase productivity, in fact, "...about 5-6% of the increased productivity resulting from nurses' work overload is lost in increased periods of sick leave."

The literature indicates that increased workloads are a common occurrence in OTs, PTs, and S-LPs in Canada and internationally. The impact of excessive work intensity leads to the acknowledgement of workplace stress with subsequent sick leave, which in turn increases the work of those who remain. Extended periods of workplace stress can lead to burnout with subsequent recruitment and retention issues. It follows therefore that the prudent and informed utilization of OT, PT, and S-LP human resources should be a major priority for employers to minimize attrition and encourage the retention of skilled workers. The development of a caseload management Tool will contribute significantly to the informed deployment of these valued health professionals.

1.7 Previous Work on Caseload Guidelines

Caseload and workload management has been a priority issue for some time for the professional associations of OT, PT, and S-LP. In response to ongoing member feedback and input, each association has carried out significant work in this area. The Interprofessional Caseload Management Planning Tool project is a collaborative endeavor which builds on this previous work. An overview of the initiatives carried out by each professional association provides essential background.

1.7.1 Canadian Association of Occupational Therapists

In 2005, CAOT produced a paper entitled “*Toward best practices in caseload assignment and management*” (Management Dimensions in collaboration with D. Parker-Taillon and Associates, 2005) which can be accessed at: http://www.caot.ca/pdfs/CAOT_CASELOAD_MANAGEMENT_REPORT.pdf. This document presents a focused review of the literature related to caseload management, an environmental scan of international work in the area, a targeted questionnaire to OT stakeholders, and an analysis and synthesis of results. Key findings of the project include: while caseload management is an important issue with OTs and work is being carried on in the area, there are no existing rigorous models which can be used to assist with caseload management; past strategies have been based on averages of work being done while the present trend aims to address population health needs; and “there is no clear direction for caseload management in OT; in fact, more research and development is definitely required.”

The authors of this report suggest that future work in caseload management should adhere to the following principles: evidenced-based, cost-effective, accountable, guided by professional leadership and expert judgment, comprehensive, and flexible. Approaches to caseload management in OT should be based on retrospective data, address the needs of specific populations and be flexible enough to focus on specific service contexts, client and service outcomes. A five-point plan to move forward is suggested for CAOT which includes: developing an inventory of OT caseload management tools and models used across Canada; hosting a consensus workshop on best practices; commissioning further research to develop “valid and reliable caseload management frameworks/models,” developing an evidence-based framework for caseload management, and ensuring that research and evaluation is ongoing.

1.7.2 Canadian Physiotherapy Association

In June 2006, the CPA passed a position statement on caseload guidelines which states:

The Canadian Physiotherapy Association recognizes and endorses the need for a Pan-Canadian approach to caseload assessment and management which reflects the diversity of physiotherapy practice, the different populations served by the physiotherapy profession and varying service delivery models. Planning should consider future population health needs and be framed within specific environmental contexts instead of reflecting the status quo. Caseload guidelines should be applied specifically to individual physiotherapy services providing an effective tool for physiotherapy human resource and service planning and ensuring accountability and transparency among service providers (Canadian Physiotherapy Association, 2006).

To support this position statement, a background paper was solicited to provide a review and synthesis of the literature related to the development of caseload management models and tools. The resulting report, “*Background paper: The development of caseload guidelines in physiotherapy*” (Pollard 2006) can be found on the Members Section of the CPA website at www.physiotherapy.ca. This report provides an overview of the literature related to caseload management to June 2006 including models and tools, and issues that have been identified within nursing and other health professions with a particular focus on OT, PT, and S-LP. The paper highlights the following: the current literature is based on existing caseloads and does not address the levels of caseloads that are manageable from a provider perspective and effective in terms of quality interventions and client outcomes; there are no standardized trends or procedures for data collection rendering comparison of studies exceedingly difficult; and while studies

consistently suggest that developed processes for caseload management should be continually reviewed and updated to ensure relevance, this is not happening.

A number of factors were identified which should be considered when developing caseload management tools. These include patient characteristics (diagnosis, severity, complexity, population health needs, and client demographics); therapist characteristics (skill mix and experience and roles); facility characteristics (services offered, type and size of facility, and resources available); treatment characteristics (plan and frequency, assessments, and discharge planning) and client outcomes. The report makes the following recommendations: a national standardized data collection strategy should be developed to facilitate data comparison and benchmarking; caseload management should be linked to client outcomes; an interprofessional approach should be taken to the development of a caseload guideline tool to maximize existing resources; regulatory issues should be considered in caseload management; and the client, provider, agency, and intervention characteristics outlined above should be considered in caseload management.

1.7.3 Canadian Association of Speech-Language Pathologists and Audiologists

In 2003, a report was prepared for CASLPA entitled "*Caseload guidelines survey final report for speech-language pathology*" (Vision Research, 2003) which can be accessed at:

<http://www.caslpa.ca/english/profession/caseload%20ratio%20guidelines.asp>. This report outlines the results of a member survey to identify ideal and actual caseloads of S-LPs in different service sectors to inform further caseload guideline development. The report establishes three distinct profiles of S-LPs: those working primarily with adults, another group working mainly with school-aged children, and others involved predominantly with children under six. The findings are as follows:

- S-LPs working primarily with adults (31% of respondents), were for the most part employed fulltime (72%) in hospitals (86%), delivering a mix of direct (96%) and consultative care (49%). Their average monthly caseload was 37 clients with a median range from 31 to 40 clients. The caseload size recommended by this group to appropriately service clients was an average of 17 per month.
- The S-LPs working predominantly with school-aged children (44% of respondents) were for the most part working fulltime (67%), delivering services in schools (81%), with a combination of direct (83%) and consultative (85%) service delivery. The average monthly caseload of this group was reported to be an average of 65 clients with a median range of 51 to 60. This group demonstrated the highest caseload size of the three client groups with four out of ten respondents reporting caseload of over 75 clients. Recommended caseload levels by this group were suggested to be an average of 36 clients per month, almost half the actual number!
- The cohort working primarily with children under six (65% of respondents) were employed predominantly fulltime (67%) by health departments or community agencies (60%) and the service delivery model was a combination of direct (87%) and consultative (83%) care. Average monthly caseload size was 46 clients with a median of 40. This group recommended a manageable caseload size of 31 clients per month.

This report affirms that caseload and workload is of considerable concern to S-LPs in all sectors of practice. Unmanageable caseloads are a source of job dissatisfaction in that S-LPs feel they cannot deliver quality service to clients. Professional standards for caseload management have been identified as an urgent need by the membership. A recent CASLPA survey indicated that caseload management

continues to be a priority issue (Canadian Association of Speech-Language Pathologists and Audiologists, 2008).

2. Review of the Evidence Related to Caseload Management

An overview of the literature related to caseload management is presented to inform the development of an appropriate and functional Tool for OT, PT and S-LP in Canada. The section includes: a) a description of the literature search methodology; b) an update of the evidence which builds on the previously presented background work carried out by CAOT, CPA, and CASLPA; and c) an overview of the relevant literature in other health professions.

2.1 Literature Search Methodology

A systematic review of the academic literature was carried out using the key words occupational therapy, physiotherapy/physical therapy, speech-language pathology and workload and/or caseload management and occupational stress. The search was then broadened to include the terms nursing and caseload and/or workload management. The following databases were accessed: CINAHL, Cochrane, EMBASE, Medline, and PubMed. The search strategy was limited to English language articles from 1994 to present, however seminal documents related to caseload management published prior to this time frame have also been included.

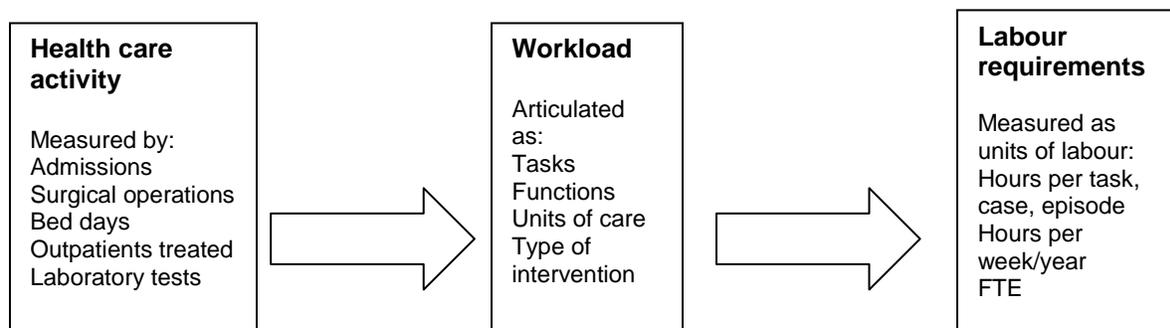
In addition to the academic literature review, the websites of the OT, PT, and S-LP professional associations in Australia, the United Kingdom, and the United States were accessed for relevant materials. A search for additional gray literature was carried out using the Google search engine.

Additional materials were also identified through a review of the reference lists of retrieved articles. The project Steering Committee and experts in the field also contributed to identification of key information.

2.2 Caseload Management Review

It is not the intent of this document to repeat background information previously covered. Reference will be made however, to key articles that have particular relevance to the development and/or selection of a caseload management tool for this initiative.

A recent report by Human Capital Alliance (2006) provides a comprehensive overview of the evidence related to workforce management tools and strategies in the allied health professions. The document provides a clear and useful description of the relationship between health care activities and the workforce required to provide these services.



The authors describe the relationship as follows:

...workload measurement be conceived through a simple relationship between **service activity** (or service demand), the **work or workload performance** this activity would require, and the **units of labour** needed to bear this workload... In this relationship labour demand is shown to be clearly a 'derived' demand, from the health services required. The amount of labour required (units of labour) is derived from the level of service acuity demanded and the effort or work required to deliver the activity (workload).

The findings from the evidence are organized according to the four types of tools described in the Human Capital Alliance report:

- **Ratio-based methodology** – utilization of straight ratios of workers to clients.
- **Procedure-based methodology** – examination of work activities to characterize the services delivered and therefore required.
- **Categories of care-based methodology** – determination of client group care needs and complexity with assignment of client to worker ratios based on this classification system.
- **Diagnostic or casemix-based methodology** – workloads are assigned based on clients' clinical grouping categories.

2.3 Findings from OT, PT and S-LP

The focus of the OT, PT and S-LP literature related to caseload management over the past two decades is a response to the steadily shrinking human resources funding for these health professionals, notably in the public sector, with the concomitant increase in services demands by clients of increasing complexity and acuity. Williams (1987) observed in the mid 80's, that clients seem to be referred to physiotherapy services regardless of whether there were sufficient human resources in place to offer quality care. No changes have occurred to this situation in the OT, PT and S-LP professions since this time. Excessive workloads, unrealistic expectations, and failure to acknowledge professional standards and evidence-based guidelines have led OTs, PTs, and S-LPs, both nationally and internationally, to address workforce management issues. Hollis and Kinsella (1994) draw attention to Williams' warning that:

...the lack of quality indicators and assessed case weighting to estimate the actual needs of patients would result in current output being used as the basis for future planning and budgets, is now a reality. A poorly staffed service unable to give the therapy that is required, is no basis for determining future needs.

The literature affirms that caseload management tools should not only document the actual time health providers spend in direct and indirect client care activities, it should also be linked with service utilization, therapist variables, client characteristics and outcomes (Cockerill, 1994). The fundamental question in caseload management is: "... how many people are needed to provide a quality service?" (Hollis, 1994).

2.3.1 Ratio-Based Methodology

Ratio-based methodology uses a straight ratio approach of workers to clients. Two Canadian studies have utilized ratio-based methodologies to assess workload capacity in physiotherapy. A nationwide survey of hospital physiotherapy services was carried out in 2004, to determine physiotherapy staffing benchmarks for a variety of clinical practice areas (BC Section, CPA Leadership Division, 2006). A survey was distributed to 85 general hospitals across the country with a response rate of 59%. Hospital and department characteristics were gathered, patient groups identified, and coverage by PTs and PT assistants described. The number of beds to PT and PTA fulltime equivalents was determined, on average, to be 25 beds to 1 PT full time equivalent (FTE) and 96 beds to 1 FTE PTA. While this project attempted to gather baseline-staffing data to inform workforce management, the authors of this report identified issues of data quality, variability, consistency, recording, and gaps that influenced the survey results. It was also unclear if existing staffing ratios in the respondent institutions were based on patient needs or available hospital funds.

A project carried out in a Manitoba hospital attempted to establish the OT and PT staffing requirements per bed numbers per ward (Christie, 2006). Using retrospective data, FTE OT and PT workloads were determined for each hospital ward using these services. These ratios were then used to prospectively determine OT and PT staffing requirements within a reorganized ward system. After more than a year of application, it was reported this workforce planning strategy was proving successful in predicting staffing requirements.

2.3.2 Procedure-Based Methodology

Procedure-based methodology examines providers' work activities which characterize the services that are delivered and that are therefore required. A large focus in recent years has been related to profiling the caseloads of health professionals working in school-based practice, predominantly in the United States (US) and also in Canada. Changes to federal US legislation in 1997 (Individuals with Disabilities Education Act) granted all children with disabilities the right to the services they require, in the least restricted environment (Nolan, 2004). The integration of children with disabilities into regular school settings has had a huge impact on the caseloads of school-based health professionals, notably S-LPs. Much effort has been invested in determining the daily work activities of S-LPs in school-based practice and from this information, determining appropriate caseload numbers for quality service delivery.

To encourage appropriate and manageable caseload numbers, the American Speech-Language-Hearing Association (ASHA) has collected data related to the work activities of practicing S-LPs to determine appropriate caseload sizes (American Speech-Language-Hearing Association, 2003). In an effort to promote consistency in data collection, ASHA outlined a workload analysis method for S-LPs working in

school-based practice. This tool is described in Section 3.1 (American Speech-Language-Hearing Association, 2002). ASHA recommended early on that fulltime S-LPs service a maximum of 40 students dependent on the complexity and severity of cases (American Speech-Language-Hearing Association, 1993). This guideline has had very limited success (American Speech-Language-Hearing Association, 2003), (Dowden, 2006), (Edgar, 2007). The 2003 ASHA workload activity survey indicated that the average S-LP caseload was 50 students. A survey of S-LPs in Washington State revealed the average caseload size was 59 students, with a range from 53 to 75; 85% of respondents indicated they regularly worked a weekly average of 5.9 hours of unpaid overtime (Dowden, 2006). Survey participants indicated there were no limits placed on caseload size, and no consideration made for the experience level of therapists or client complexity. These caseload sizes are supported by the work of Cirrin (2003) who claims there is evidence to show that large caseloads have a negative impact on students' communication outcomes.

Similar trends have been noted in Canada. In response to members' concern, the CASLPA report, noted previously, documented S-LPs practice patterns and actual and preferred caseload numbers of S-LPs in school-based practice (Vision Research, 2003). The concern for caseload size and quality service delivery is also reflected in an extensive literature review commissioned by the Alberta Ministry of Health and Wellness to inform a review of speech-language services in that province (Alberta Health and Wellness, 2004). The current situation is summarized as follows:

The main question S-LPs must address in managing their caseloads, given greater demand for the service than they can readily supply, are how to allocate their services most effectively, efficiently and fairly, and what alternative means of service delivery are viable, especially in remote geographical regions (Alberta Health and Wellness, 2004).

The procedures-based methodology was also used to examine the workload and caseload of OTs in school-based practice. A survey of 103 OTs and OTAs in Colorado found that the average caseload was 43.68 students with a range of 7 to 115 (Spencer, 2006). Survey participants indicated that of their average weekly working hours (32.33 hours), the greatest proportion of their time was spent in direct treatment interventions (average 15.56 hours/ 64%) while indirect activities consumed 4.22 hours (13%) per week. The average amount of unpaid overtime was reported to be 4 hours per week with a range of 0 to 15 hours.

2.3.3 Categories of Care-Based Methodology

Categories of care-based methodology look at patients' needs and complexity; weighting and time allotments are assigned accordingly to determine the workforce needs. Much of the work carried out in the United Kingdom (UK) related to calculating caseload levels is based on the work of Williams (1987). This approach involves carrying out a comprehensive analysis of providers' caseloads and the time required for various aspects of care with respect to specific client groups and complexity. The time available for care from an individual and service perspective is then calculated and applied to the activities and time required to address patient care needs. Application of this tool to the physiotherapy services required in critical care is described by the National AHP and HCS Critical Care Advisory Group (2003) and found in more detail in Section 3.1. Hollis and Kinsella (1994) and Fortune and Ryan (1996) have also developed caseload management tools for OT based on categories of care-based methodology, the former also founded on the work of Williams. These tools are described in more detail in Section 3.1.

2.3.4 Diagnostic or Casemix-Based Methodology

Casemix-based methodology defines workload according to clients' clinical diagnostic grouping. A recent study examined the use of the World Health Organization International Classification of Functioning, Disability and Health (ICF) by PTs to describe their caseload (Mitchell, 2008). The overall purpose of the project was to determine if the ICF system could be applied by PTs and other health providers to describe their caseloads with the view to, if this project proved successful, linking patient classification to workload activities and staffing resources. The results demonstrated that the majority of cases (98%) reported by PTs were captured by the ICF classification system. Furthermore PTs did not require assistance from the 'helpdesk' leading to the conclusion that "physiotherapists could use high-level ICF intuitively." This article suggests that the ICF could possibly serve as an appropriate classification system for a caseload management tool.

2.3.5 Other

Monroe and Rushton (2008) describe the processes involved in the development of a management tool within an Atlantic province health sciences complex to assist OTs in managing their caseloads and setting patient priorities. In response to increasing demands for service, decreasing human resources and changes in client complexity, the Prioritizing Occupational Performance Issues (POPI) process was developed. While the tool was not outlined in explicit detail, the authors indicated this multi step process proved to be a useful tool to assist OTs in managing their caseloads in light of external contingencies, changing priorities, and increased service demands.

Murchland and Wake-Dyster (2006) describe a comprehensive workforce-planning model that can be used to address the therapy needs of children and their families in the community. This tool appears to be a combination of categories of care, procedures-based, and casemix methodologies. While the model is complex and requires extensive data collection, it provides an alternate, comprehensive approach to the tools previously presented. It is described further in Section 3.1.

2.3.6 Summary

Relevant reports related to caseload management in OT, PT, and S-LP have been presented according to the classification system outlined by the Human Capital Alliance. Five tools have been selected and will be described in more detail to provide an overview of approaches that may prove to be useful in the development of a Tool for OT, PT, and S-LP. These tools were selected to demonstrate the diversity of methodologies which have been developed and to describe approaches which were particularly relevant with potential applicability to the Canadian context.

Considering the diversity of approaches and the continued evolution of innovative methods to address caseload management, it is evident that there is no one superior methodology that will suit all situations. The Chartered Society of Physiotherapy, after an extensive review of the literature, concluded that there is no one preferred method of determining caseload that is rigorously validated (National AHP and HCS Critical Care Advisory Group, 2003) due to the evolving nature of the rehabilitation professions, persistent personnel shortages preventing a clear picture of patient health needs, and the absence of norms for productivity and effectiveness. The evidence confirms that caseload management in OT, PT and S-LP remains a highly complex and variable process.

2.4 Relevant Findings from other Health Professions

It is beyond the scope of this paper to provide an exhaustive review of the literature related to caseload management in nursing and other health professions. Due to the large quantity of information, this review will focus on the nursing profession with additional material from other provider groups as appropriate. This information will further inform and provide a frame of reference for the development of the Tool in OT, PT, and S-LP in Canada.

Caseload management is a topic of major concern to many health provider groups, especially the nursing profession (Registered Nurses' Association of Ontario, 2007). As nurses are the largest group of health providers, issues of workplace health, recruitment and retention are of major significance to the health care system and patient care as evidenced by the preponderance of published reports on these topics. Over the past two decades factors such as cuts to health care, increased acuity and complexity of patients, informed consumers, and evolving client-focused, team-based care trends have all contributed to nurses' workplace stress (Registered Nurses' Association of Ontario, 2007).

Increased workload is acknowledged in many studies as a significant contributor to nurses' inability to provide quality care with subsequent job dissatisfaction and major health impact (Way, 2006), (Haycock Stuart, 2007), (Rauhala, 2007), (Aalto, 2009). There is a wealth of evidence confirming that not only do workload expectations have an impact on nurses' health, recruitment and retention (Canadian Institute for Health Information, 2006), but also on the quality of care provided to patients and patient safety (Registered Nurses' Association of Ontario, 2007), (Aalto, 2009). While increasing the workload of nurses is intended to have a positive effect on productivity reducing costs, the evidence shows that beyond an 80% increase in workload, productivity diminishes and costs increase due to absenteeism and sick leave (Garretson, 2004), (Registered Nurses' Association of Ontario, 2007). Caseload management is thus an issue of major significance to the workplace health and safety of nurses.

Anglin (1992) suggests that caseload management:

... requires the ability to manage a number of clients within a given period of time and provide optimum service. The concept also includes being able to prioritize the sequence of the service delivered within the agency philosophy.

She proposes a decision tree model which provides an overarching approach to caseload management in the community setting. This six-step process includes:

1. Develop an understanding of agency philosophy
2. Education and planning related to scheduling and caseload management
3. Determination of caseload priorities including analysis of client needs – a suggested 47 minute home visit with 4.91 visits per day
4. Selecting the approach to patient management
5. Monitoring services
6. Evaluation for effectiveness and efficiency.

This approach provides a valuable overview to issues involved in effective caseload management, that of agency philosophy, education, monitoring, and evaluation. However it lacks precision related to the determination of patient and provider characteristics and the integration of these two important variables. These issues have been addressed in a variety ways in the following studies. Once again the

method classification system developed by the Human Capital Alliance will be used to provide an overview of the evidence in nursing and other professions.

2.4.1 Ratio-Based Methodology

A powerful and yet simple approach to caseload management is the establishment of mandatory ratios of nursing staff to patients, a method that has been adopted in the state of California and the state of Victoria, Australia (Buchan, 2005). In response to pressures from nursing groups, mandatory ratios were established and phased in, in the early to mid 2000's in both these jurisdictions (Spetz, 2004),(Buchan, 2005). In California, nurse to patient ratios were set at 1: 4, with 1: 2 for critical care patients and 1: 1 for trauma patients (Hackenschmidt, 2004). The overall objective of this approach was to improve the quality of patient care, alleviate the impact of excessive caseloads on the work life of nurses, and address increasing recruitment and retention issues (Coffman, 2002), (Garretson, 2004), (Hackenschmidt, 2004). To date, the impact of ratios on the health outcomes of patients is unclear (Spetz, 2004), (Buchan, 2005). Supporters of this approach cite the simplicity and consistency of its application and the positive impact on nurse staffing levels (Coffman, 2002), (Buchan, 2005). Limitations of this approach include: the lack of flexibility to address fluctuating patient needs and regional variations; potential overall increased costs to the health system; difficulty in determining appropriate minimal ratio standards; the lack of nursing involvement in decision making; and inadequate supplies of nurses to meet these increased demands (Buchan, 2005), (Coffman, 2002), (Registered Nurses' Association of Ontario, 2007). Buchan in his analysis of staffing ratios concludes:

... there is no single right answer to the question, what is the best staffing level for this ward? Research has demonstrated that different systems applied in the same care environment will give different answers.

The ratio-based literature, in particular, notes that this approach is too simplistic and inflexible to determine workforce requirements with clients of varied complexity in multiple settings. This methodology also limits the professional judgment and decision-making capacity of health professionals.

2.4.2 Procedure-Based Methodology

The first step to effective caseload management is a sound understanding of the daily work activities performed by health care providers. Analysis of work practice facilitates the development of averages or norms for direct and indirect care for specific patient groups, and calculates the time spent on travel, personal, and professional activities. Work time analysis can be used to promote efficiencies in time utilization and examine differences in provider skill mix.

Several reports present differing methodologies related to creating a profile of the workday of nurses within the hospital environment. A study by Thomas and Davies (2005) used nurses' self-reporting to determine the breakdown of their time on several inpatient hospital wards. Activities were classified as follows: administration activity, communication activity, patient property, housekeeping duties, off-ward activities, and other activity. While the purpose of the project was to determine the portion of nurses' work that could be delegated to support personnel (finding at least 8%), the authors concluded that the methodology was effective in capturing in real time, the complexity and variety of direct and indirect activities of nurses' daily workload. Walker et al. (2007) used a team of trained observers to document the activities of nurses in two-hour time samples throughout a six-week period. Activities were divided into the five categories of direct care (10 activities), indirect care (9 activities), unit related

(5 activities), and personal (one activity). Within each category specific activities were clarified to facilitate standardization in the documentation of tasks. The model of time sampling enabled the authors to detect different service delivery patterns across two distinct time periods. Other studies report matching computerized staffing activities and patient databases to determine patient care time per unit of nursing care (Walker, 2007), (Junttila, 2007).

2.4.3 Categories of Care-Based Methodology

Another approach to caseload management is matching client cases determined by a patient classification system to workload to determine optimal levels of staffing. Two tools are referred to repeatedly in the literature. The Easley-Storfjell Caseload/Workload analysis instrument is designed to assist workload evaluation and management within the home care setting (Storfjell, 1997). It consists of caseload and workload analysis to arrive at appropriate levels of caseload assignment and management. The authors state that the tool is readily applicable to other professions including OT, PT, and S-LP. Its use has been documented for community nursing workload management in the United States (Anderson, 2001) and Ireland (Byrne, 2006), (Brady, 2008). The RAFAELA system, developed in Finland, consists of a patient classification system (Oulu Patient Classification/OPC) and a tool to determine appropriate staffing requirements (Professional Assessment of Optimal Nursing Care Intensity Level/PAONCIL) in institutional facilities (Fagerstrom, 1999), (Raino, 2005). The use of this tool has been documented for computerized workload management within an acute hospital setting (Junttila, 2007), for benchmarking resource costs (Fagerstrom, 2007), and to evaluate the work health of nurses (Rauhala, 2007). Both tools are described in more detail in Section 3.1.

The use of the categories of care-based methodology for caseload determination and management is reported frequently in the literature. Lewis and Pontin (2008) developed a model to determine effective caseload management for nurses working in complex pediatric community care. Clients were categorized according to a classification system adapted from the Cornwall Community Trust Health Visitor Weighting Framework through input from nurses involved with this clientele. Six classification levels were identified:

- high+ - five hours contact per week;
- high – minimum one visit per two week period;
- medium – one visit between every two weeks to every two months;
- low – one visit every two months to six months;
- dormant –contact every year;
- discharged

Clients were then weighted according to their treatment intensity – category high received a weighting of 5, followed by category medium a weighting of 3 and low a weighting of 1. Caseloads were then assigned according to client intensity with a ratio of high to medium to low of 1:3:4. The authors felt that this model was effective in caseload assignment and monitoring. A similar approach has been described by Ferrant (2004) in which caseload management in home care is based on a three level patient acuity system to ensure that nurses have balanced and manageable workloads. Tools using this approach have also been documented for use in neonatal wards (Sawatzky-Dickson, 2009).

2.4.4 Diagnostic or Casemix-Based Methodology

The use of casemix groupings to determine nursing intensity and staffing needs is described in a report by Romito (2006) in an acute rehabilitation facility. A tool was developed that successfully integrated

staffing requirements with patients' acuity and resource needs according to casemix index. An international, historical overview of the use of diagnosis related groups (DRGs) is presented by Laport et al. (2008). This report outlines how patient groupings related to patient illness and acuity can be linked with nursing human resource needs and hospital finance systems.

2.4.5 Other Health Professions

While the evidence related to caseload management is predominantly representative of the nursing profession, other groups have also attempted to address workload issues from a variety of perspectives. A strategy for social services staffing needs is presented in a report by Sage and Simons (2008), while Segal et al. (2008) present a comprehensive approach to workload planning and management in chronic diseases from an evidence-based, quality service perspective. Both models are described in more detail in Section 3.1. Finally there are reports in the literature related to workload planning in a cellular pathology department (Carr, 2006), in infection control (O'Boyle, 2002), outpatient substance abuse programs (Lemak, 2005), and pharmacy (Australia Society of Hospital Pharmacists, 2001).

2.4.6 Summary

A review of the literature reveals numerous reports of caseload management tools in nursing and other health professions. Once again there is clearly no one tool that stands out with respect to appropriateness, flexibility, and applicability to multiple contexts and situations. It is increasingly evident however that a clear distinction must be made between caseload management in community and institutional contexts. Haycock Stuart (2007) describes nursing within a community context as:

... 'a ward without walls,' a care environment which is constantly expanding as it is not as contained by walls or limited bed spaces, unlike the acute setting. The community service has the disadvantage that the nurses cannot limit the number of patients to be cared for safely... Increased workload with its associated loss of caring and the 'knowing' of patients leads to disenchantment of the workforce which has implications for the retention of nurses and potentially adversely affects recruitment at a time when the balance of care is shifting into primary care.

As with the OT, PT, and S-LP literature, the evidence related to other health professions concludes that caseload management is a complex and inexact science and that different methodologies applied within the same care settings will give yield different answers (Buchan, 2005). There is consensus however that staffing should be based on patient needs rather than budgets (Garretson, 2004), on evidence-based clinical guidelines (Segal, 2008), and on provider input and decision-making (Registered Nurses' Association of Ontario, 2007). The recent report by the Registered Nurses' Association of Ontario concludes: "Determining optimal staffing requirements is a complex issue and the literature on the topic suggests that the debate continues on the most effective strategies to manage nursing workload." This stance is further supported by the findings of this report. The challenge now remains – taking into consideration what we have learned from the evidence from OT, PT, S-LP and other health professions, what is the most effective strategy to determine caseloads for these professions in Canada? An analysis of selected models within a critical criteria framework may help illuminate this issue.

3. Model Evaluation

After a review of the literature, the nine models outlined below are the most relevant for the development of a caseload management Tool in OT, PT, and S-LP. The following tools have been selected in order to:

- present an overview of the diversity of methodologies which have been reported;
- to provide the reader with a better understanding of how these models could actually be applied in practice;
- demonstrate how different methodologies can be applied to various work settings;
- assist the decision-making process to determine the most appropriate Tool or combination of Tools that could be considered in this project.

Each of the nine tools will be briefly described, followed by a tool evaluation framework, and a summary table which outlines each tool's compliance with the selected criteria, its strengths, and limitations.

3.1 Models from the OT, PT, S-LP and Other Health Profession Literature

3.1.1 ASHA Workload Analysis - Procedure-Based Methodology

In 2002, ASHA released a report outlining a workload analysis method for S-LPs working in school-based practice (American Speech-Language-Hearing Association, 2002). This initiative was a response to the many concerns raised by members that S-LP workloads were becoming too high to provide quality service to clients. ASHA asserted that workloads must be determined according to an established process "to provide students with the services they need, rather than the services that SLPs have time to offer or services that are administratively convenient." The workload management tool they recommend is as follows:

1. Each S-LP should analyze their individual caseload and document the activities needed to address each individual student's needs with an accurate assessment of the time required to accomplish these objectives.
2. The schedule of each S-LP should be sectioned into the "timeslots" required to provide quality client care and other required professional activities.
3. Once "...all available timeslots are filled, the caseload maximum has been reached for any individual S-LP." This number will vary according to client complexity, regional variations, professional responsibilities, etc.

ASHA states that caseloads are unbalanced when all the S-LPs schedules are filled and there remain unmet needs. Strategies are suggested for negotiations to resolve these issues with administrative personnel.

3.1.2 Determining Physiotherapy Levels of Staff in Critical Care - Categories of Care-Based Methodology

An initiative was undertaken to determine the staffing levels of allied health professionals and healthcare scientists in critical care units in the UK (National AHP and HCS Critical Care Advisory Group, 2003). The purpose of the project was to clarify a method of determining staffing benchmarks in critical

care taking into consideration client casemix, complexity, and level of dependency. The method for each provider group was approved by the appropriate professional association.

While the role of both OTs and S-LPs in critical care was strongly acknowledged within the document, no staffing guidelines were provided due to the absence of recognized, established protocols for these groups. This project, to establish guidelines for physiotherapy staffing levels in critical care, is based on the work of Williams (1987) which calculates the time available for client service and matches this variable to provider time availability.

Workload is estimated over a one-year period. Using one FTE as the base human resource unit, it is estimated that 30% of the total per annum work time of 1872 hours (36 hours x 52 weeks) is taken up with various leaves (sick, study, vacation, etc.). Seventy per cent of this time is then available for client care (1058 hours per year) per FTE.

An analysis of the client workload is then estimated:

- A 17-bed unit with 100% occupancy yields a total of 962 patients in a one-year period.
- Estimated time (20 min) to assess 90% of clients equals 288 hours.
- Daily time to treat all appropriate patients (average time 30 minutes per patient), equals 3390 hours.
- Indirect time for rounds, etc., is equivalent to 90 minutes per day which equals 253 hours per year, plus education of 50 hours, which provides a total of 303 hours per year of indirect time.
- Total required staffing hours = direct 3390 + indirect 303 = 3693 hours.
- 3693 hours divided by the service time provided by 1 FTE (1058 hours), indicates that 3.5 FTE physiotherapists are required to service a 17-bed critical care unit for a one-year period.

While this tool was specifically designed for critical care institutionalized services, Williams' model has also been applied to the calculation of S-LP staffing in both hospital and community services (Royal College of Speech and Language Therapists, n.d.).

3.1.3 Workload Measurement for Occupational Therapy Health Needs - Categories of Care-Based Methodology

In 1994, Hollis and Kinsella published a report of a workload measurement tool to determine OT workforce needs. Their work, also founded on the work of Williams (1987), was based on the following premises derived from observed data:

- Different client groups require different levels of OT interventions in terms of quality of treatment and level of expertise.
- The time required for OT interventions was similar for clients groups regardless of where that care was delivered.
- OTs were being pressured to treat increasing numbers of patients which was affecting the quality of care delivered and "impinged on ethical and legal issues."
- Time allocations must be based on geography and regional needs.

Based on these premises, the workload assessment method developed by Hollis and Kinsella involved:

1. Calculating the time required to manage one specific case, including direct and indirect interventions. Data gathered over a finite period of time enabled the calculation of the average amount of time required to service a specific client case group.
2. Determination of the OT human resource capacity was the next step in this process. This involved calculating 'total number of hours worked per week' to arrive at 'total hours available per year' which excluded leaves. The calculation of 'total number of hours worked per week' included the time breakdown per patient group. Each client care group was calculated separately.
3. The authors determined that approximately 30% of total time worked was allotted to non-patient care activities; hence the total clinical time available was determined to be 70% of the 'total hours worked per year.'
4. The total amount of clinical time available was divided by the time required by each clinical case group to arrive at the total time required by individual client case groups.

Hollis and Kinsella stress the need for constant evaluation and reassessment of the data derived from this process and the importance of linkage to such factors as funding, professional practice standards, individuals' performance, service objectives, etc.

3.1.4 OT Caseload Management Based on Delivery of Quality Services – Category of Care-Based Methodology

Fortune and Ryan (1996) presented a framework for caseload management that was based on the premise of providing quality care and not just reducing waitlists and adapting to the number of cases one can reasonably accommodate. Developed in response to pressures to increase OT output, the model is based on weighting clinical cases' complexity according to the expertise of the individual OT, whose experience and clinical reasoning capacity is seen as the key to effective caseload assignment. Cases are weighted according to the following guide:

- Simple (quick) – the client's issues are immediately identified, solutions are straightforward, and little interaction is required with other professionals/departments.
- Simple (long) – while client assessment and management plans are uncomplicated, elements of the intervention take time to complete.
- Complex – problems are not readily identified or resolved, interventions are long and difficult due to cultural or personal issues, and interventions involve multiple participants in numerous steps.

Complex cases are assigned a value of 3 while those classified as simple receive a 1 or 2 depending on the length of time it takes for resolution. Experienced therapists are suggested to be able to handle a caseload of 40 points per month, while junior OTs and those involved in activities other than client care such as managers, carry a workload of less than 40 points.

3.1.5 Workforce Strategy Allocation in Community Based Therapy – Combined Methodologies

A report by Murchland and Wake-Dyster (2006) describes a comprehensive workforce-planning model that can be used to address the therapy needs of children and their families in the community. This approach involves:

1. The development of a description of the service which includes geographical profile, characteristics of the professional services, provider caseloads, and client group characteristics. This profile was developed through examination of retrospective data and staff focus groups.
2. The next step involves establishing baselines through the comprehensive and standardized collection of data to determine: the characteristics of clients with high service usage; travel time; caseload statistics (direct and indirect) of the service providers; the time spent on 'social and environmental activities' related to client care (ICF framework was used to describe client care activities) and time not directly related to client care. Clients were divided into five levels dependent on the treatment required: A – over 60 hours; B- 30 to 60 hours; C-10 to 29 hours; D- 5-9 hours; e- 0-4 hours. Client intensity subgroups and therapy ratios were developed.
3. A resource allocation model was created integrating the following factors: direct service to clients; social and environmental activities related to client care; patterns of service delivery; the ability to provide intensive therapy as needed; and travel.

The model is represented by the following equation:

$$IU = (T+L+S) + X$$

Intervention Unit (2.5 hour) = (Travel time + Leave time + Social environ time) + X (service demand)

The demand for each service can be expressed as:

$$X = ZN_{EI} + YN_S + VN_O$$

X (service demand) = Z (early intervention) N_{EI} (number of clients in early intervention)

Further applications of this model can be used to determine the profile for each therapy service within varied client groups, for example:

$$\text{Early Intervention (EI) intensity factor} = (ZN_{EI} \times R_{OT}) + (ZN_{EI} \times R_{PT}) + (ZN_{EI} \times R_{SP})$$

Z= early intervention, N= number of clients in service, R= discipline ratio

Method:

1. Total number of intensity units are determined by multiplying the number of FTEs 150 (15 IU per week for 10 weeks).
2. Deduct travel, leave, time allocated for social and environmental interventions (could be percentages based on retrospective data).
3. Amount of time remaining is the time available for providing service.
4. Calculate service demand using the above formula to determine the total number of intervention units required for each service – each service can then be given a ratio.
5. If total number of intervention units available equals demand – units are assigned based on the needs as determined by the previous calculations.
6. If demand exceeds the time available, total available time units are assigned to each service – “each discipline and service will then receive a reduced amount of intervention time compared to the potential demand for services.”

While this tool profiles existing practice patterns within established funding envelopes, the authors claim the tool provides a means of calculating benchmarks for the time required to provide services to clients of varying profiles, service delivery models and characteristics. Accurate benchmarking is then

“useful in predicting resources required for new clients on entry and for developing new service programs.”

3.1.6 Easley-Storfjell Caseload/Workload Analysis Instrument - Categories of Care- Based Methodology

The Easley-Storfjell Caseload/Workload analysis instrument is designed to assist workload evaluation and management within the home care setting (Storfjell, 1997). It consists of the two processes of caseload and workload analysis. The process consists of four steps:

1. Analysis of each case to predict the intensity of intervention required.
The amount of time per case is categorized from 1 to 4 according to the number of visits per month (1. One visit or less; 2. Two to three visits; 3. One to two visits per week; 4. Three to five visits per week). Each case is then evaluated according to complexity of the case on a scale from one to four from minimal complexity to very great complexity. Specific criteria are outlined for each level.
2. Time and complexity ratings per client are then charted for each service provider to provide a profile of each individual’s caseload.
3. Time is then recorded for non- client care activities.
4. The findings are summarized for clients and providers; client case requirements are examined in light of the individual or service time available. Average time per visit is determined through workload analysis or an average amount of 60 to 90 minutes is allotted. The number of visits required per case is then compared to the amount of time available on the individual provider’s caseload. “By subtracting the average number of home visits required by the caseload from the number of visits possible based on available time, a determination easily can be made about how reasonable are the caseload requirements.”

An analysis of the literature related to workload measurement of nurses in community settings suggests that the Easley-Storfjell Caseload/Workload analysis instrument seems the most appropriate measurement tool to “explain the variation of need in the diverse public health nursing clients. This will assist in workforce planning and continuous quality improvement in the public health nursing service” (Brady, 2007).

3.1.7 RAFAELA System - Categories of Care-Based Methodology

The RAFAELA system is a complex process consisting of two components: the Oulu Patient Classification System and the PAONCIL assessment of professional resources to meet patients’ nursing needs described as follows: “the same thing is measured two difference ways, that is, on the one hand patients’ caring needs (nursing care intensity related to the OPC) and on the other the extent to which there has been time to meet the caring needs (PAONCIL)” (Fagerstrom, 1999).

Nursing care is divided into the following actiities:

1. Planning and coordination of care
2. Breathing, blood circulation and symptoms of disease
3. Nutrition and medication
4. Personal hygiene and excretion
5. Activity, movement, sleep and rest
6. Teaching, guidance in care and follow-up care, emotional support

Patients are classified according to four levels: A. Independent (1 point) B. Occasionally in need of care (2 points); C. Repeated care needs (3 points) and D. completely dependent (4points).

The nursing care required for each patient is determined by multiplying the nursing activities score by the patient category score to arrive at a patient classification number. Patients are divided into four categories: I. Score 6 – 8; II. 9 -12; III. 13- 15; and IV. 16-24. Each category is weighted in order to calculate the value of nursing interventions required for all patients on a particular service.

The nursing care required for patients is then evaluated by the nursing staff to be optimal – staffing levels balanced with patient needs, below optimal – staffing was greater than that needed to meet patients’ needs; and above optimal – needs needed to be prioritized. The two scores, that of nursing intensity and professional assessment of staffing provided were compared according to a series of statistical processes.

3.1.8 Caseload Management Tool for Social Services – Combined Methodologies

In the UK, a caseload management tool was developed to “assist social workers and their managers... to allocate and prioritize cases and associated tasks within manageable workloads” (Sage, 2008). The model is described as: “... a dynamic tool and is not intended to be an exact science. The complexity of circumstances being addressed and the need to respond to unseen events requires that the model and its application have a degree of flexibility.” The authors add furthermore that, “the scheme is applied retrospectively with regard to work completed but gives a sense of what capacity there may be to allocate future work.”

This tool asserts that caseload management is an ongoing process that places an emphasis on the optimization of human resources which benefits both the client and the health care provider. Sage et al state that health providers’ activities are affected primarily by the following elements: risk, complexity, and travel.

The tool uses a point system in which clients or client groups are allotted a number of points per month, which take into consideration the risk, complexity and travel associated with each individual case. Activities are categorized for example: family intervention team/family support, adoption, children’s disability – there are a total of twelve different categories, and the application of points in each activity is outlined specifically. Application of the point system in the children’s disability category is as follows:

- Two points are allotted for each child per month
- Additional points up to a total of 4 can be added depending upon risk elements, complexity of the care and the travel involved (specific guidelines are described).

The tool suggests that social workers with less than one year’s experience carry a caseload equivalent of 40 to 50 points per month. Those with over one year’s experience are suggested to manage 50 to 60 points per month. The report stresses that: “Caseload weighting cannot just be a ‘numbers’ game. It has to be part of a framework to assist effective monitoring, evaluation, supervision, support and accountability.”

3.1.9 Workforce Determination in Chronic Disease Management – Combined Methodologies

Segal et al (2008) have taken an evidence-based, best practice approach to caseload management. The authors assert that “delivery of best practice care requires a complementary workforce strategy.” They add that it is futile to spend valuable and limited resources on developing best practice guidelines when health professionals do not have the time required to deliver evidence based care. In the absence of their ability to identify a workforce-planning tool of this nature, they developed an evidence-based approach to comprehensive workforce planning in chronic care. The ten-step model is based on local population health needs and best practice guidelines. The steps are as follows:

1. Scope – refers to identification of the condition to be addressed and the skill mix required to provide best practice care.
2. Health status of the study region – this step involves determining the risk of and incidence of the identified condition.
3. Define best practice care – a review of the evidence related to clinical practice guidelines for the selected condition.
4. Skill requirement to deliver best practice care to each patient - matching the provider competencies required to managed the identified condition “to estimate mean per patient hours per year of care by distinct skill type or competency for each distinct patient group.
5. Total skill requirements at the population level – translating skill requirements from the patient level to the population level resulting in “the total person hours/ year by skill and competency required to support best practice care within the case study region” including all non patient required activities.
6. Regional workforce service requirement- determining the health professionals required to address the population health needs determined in step 5.
7. Workforce implications – matching workforce demand against current supply.
8. Budget or resource implications – determining the funding required to provide the human resources supply determined in step 7.
9. Monitor and review- ongoing evaluation to assess how the workforce deployment outlined in previous steps is meeting patient needs and effecting patient outcomes.

3.2 Tool Evaluation Framework

The Human Capital Alliance (2006) review of workforce planning tools provides the following framework for the analysis of strengths and limitations of each of the four tool categories.

Tool	Strengths	Limitations
Ratio-based	<ul style="list-style-type: none"> • Simple to apply • Data collection straightforward • Most appropriate use in situations where activity type is stable (e.g. Nursing home) 	<ul style="list-style-type: none"> • No accommodation for local, regional variations • In most cases probably set too high or too low • Difficult to make comparisons from one service to another • Does not take into account provider skill sets or decision making processes (Buchan, 2005)
Procedure - based	<ul style="list-style-type: none"> • Standards set good benchmarks from which to evaluate productivity • Incorporates different provider skill mix • Most appropriate application in situations where activities are relatively set 	<ul style="list-style-type: none"> • Can be costly or contentious if based on judgment • Standards or time averages for activities may not accurately reflect the characteristics of specific services
Categories of care-based	<ul style="list-style-type: none"> • Most appropriately applied in high volume services 	<ul style="list-style-type: none"> • Data gathering resource intensive • Intended for rapid staffing adjustments • Difficult to apply to macro level
Diagnostic or casemix- based	<ul style="list-style-type: none"> • Allows tracking to financial indicators 	<ul style="list-style-type: none"> • Data collection extremely resource intensive • Time allotments per case mix group may not accurately reflect regional variations • Should provide sound macro level estimates

Authors of the Human Capital Alliance report conclude that after their analysis and review of methodologies, the procedures-based approach to workforce planning would be the most appropriate especially for rehabilitation personnel. The basis for their decision is, this approach is:

- applicable to the community setting where a large portion of OTs, PTs and S-LPs are employed;
- accepted and understood by these health professions, producing little increased stress;
- sufficiently flexible to permit an interprofessional approach to workforce planning.

These advantages, they claim, are counterbalanced by the intensity of resources require by this approach in terms of time, financial, and human resource costs (which seems to contradict the second advantage).

3.3 Tool Analysis According to Selected Criteria

In order to assist the decision making to select or develop an appropriate Tool for caseload management in OT, PT and S-LP in Canada, the tools outlined in previous sections will be assessed according to a number of criteria identified in the literature.

3.3.1 Tool Consideration Criteria

The evidence suggests that an effective Tool for OT, PT, and S-LP caseload management in Canada should adhere to the following criteria:

1. Be flexible and adaptable as the context changes
2. Consider client complexity
3. Address services from a population health perspective
4. Consider provider experience and competency
5. Be simple to use
6. Include an interprofessional approach
7. Adopt a client classification system to standardize clients/ population categories (e.g. World Health Organization International Classification of Functioning, Disability and Health)
8. Use evidence and clinical practice guidelines for care
9. Consider the organization's resources and service delivery model

Each model is now assessed according to the above criteria.

Table 1. OT, PT, S-LP Model Evaluation

Criteria	TOOLS				
	1.ASHA, (2002)	2.Physiotherapy levels in critical care (2003)	3.Workload measurement for OT health needs (1994)	4.OT Caseload management based on quality (1996)	5.Workforce strategy in community rehabilitation (2006)
1. Flexibility	Yes	Institution based but can be applied in other situations	Yes	Yes	Yes
2.Client complexity	Yes, but not specific	Yes, but not specific	Yes, but not outlined specifically	Yes	Yes, not outlined specifically
3.Population health perspective	No	Yes	Possible	No	Possible
4.Provider experience, competence	No	No	No	Yes	Yes
5.Simple to use	Relatively simple to apply	Data gathering and calculations required, relatively simple to apply	Data gathering and calculations required, relatively simple to apply	Data gathering and calculations required, relatively simple to apply	Complex, requires extensive data collection, needs computer application
6.Interprofessional approach	No	No	Could be adapted	Could be adapted, not specified	Yes
7.Client classification system	No	No	No	Yes-simple classification	ICF framework
8.Evidence-based	No	Not specified	Not specified	Yes	Possible
9.Organization resources, service model	Could be applied but not specified	Institution based but could be applied to other contexts	Not specified	Not specified	Yes

Table 2. Other Health Profession Model Evaluation

Criteria	TOOLS			
	6.Easley-Storfjell Caseload/Workload analysis instrument (1997)	7.RAFAELA system (1999)	8.Caseload management model for social services (2008)	9.Workforce determination in chronic disease management (2008)
1.Flexibility	Designed to home care setting, could be applied to other contexts	Designed for institution based care	Yes	Yes – very comprehensive, mostly applicable to a regional service delivery system
2.Client complexity	Yes	Yes	Yes, according to risk elements and complexity of care	Yes
3.Population health perspective	No	No	No	Yes
4.Provider experience, competence	No but could be applied	Not specifically	Yes, considers provider experience	Not stated specifically but incorporated into calculations
5.Simple to use	Fairly intensive data collection required, but relatively easy to apply	Complex, requires extensive data gathering, synthesis and analysis	Data gathering and calculations required, relatively simple to apply	Very comprehensive, requires extensive data collection and analysis
6.Interprofessional approach	Yes	No	No – could be adapted	Yes
7.Client classification system	Yes – according to care required	Yes – according to care received	Yes according to risk elements, complexity of care and travel involved	Yes
8.Evidence-based	No	Yes, according to nurses' evaluation	Possible but not specifically outlined	Yes
9.Organization resources, service model	Not specified but could be applied	Institution based	Community oriented	Yes

An overall analysis of the nine selected models, in keeping with the evidence, reveals there is no one ideal tool that incorporates all identified elements. Generally and understandably, the more comprehensive and inclusive tools involve multiple variables and intensive data collection and analysis. While the Human Capital Alliance report recommends the procedures-base methodology for workforce planning for rehabilitation professions, this approach is too simplistic and does not meet a sufficient number of the criteria outlined in the evidence for the needs of the Tool in this project.

The caseload guideline management Tool for OTs, PTs, and S-LPs must be flexible to multiple service environments and simple to apply otherwise its utility will be limited. As a significant proportion of individuals in these three provider groups are employed in the private sector and/or community practice it is of utmost importance that the Tool be easily understood by all and not require extensive time or other resources to produce meaningful information. As no one model from the literature appears to provide the most meaningful combination of criteria, it is therefore the conclusion of the authors of this report that a hybrid Tool is the most appropriate for consideration in this project.

3.4 Proposed Tool

The proposed caseload management Tool for OT, PT, and S-LP in Canada consists of a seven step process which combines elements from several of the models previously presented. The steps are summarized as follows:

1. Classify Client Group

Identify the client group(s) and classify according to the World Health Organization International Classification of Functioning Disability and Health (ICF) to permit comparison and benchmarking of findings.

2. Rate Complexity of Client Interventions

Rate client interventions to provide an estimate of the intensity and complexity required.

3. Estimate Intervention Times Required

Provide an estimate of the total intervention time required for each client group identified in Step 2 for planning purposes.

4. Determine Human Resources Time Available

Calculate the amount of human resources time available for client care.

5. Match Client Intervention Time to Human Resources Time

Apply the client intervention time requirements determined in Step 3 to the available human resource time calculated in Step 4.

6. Evaluate Process and Data

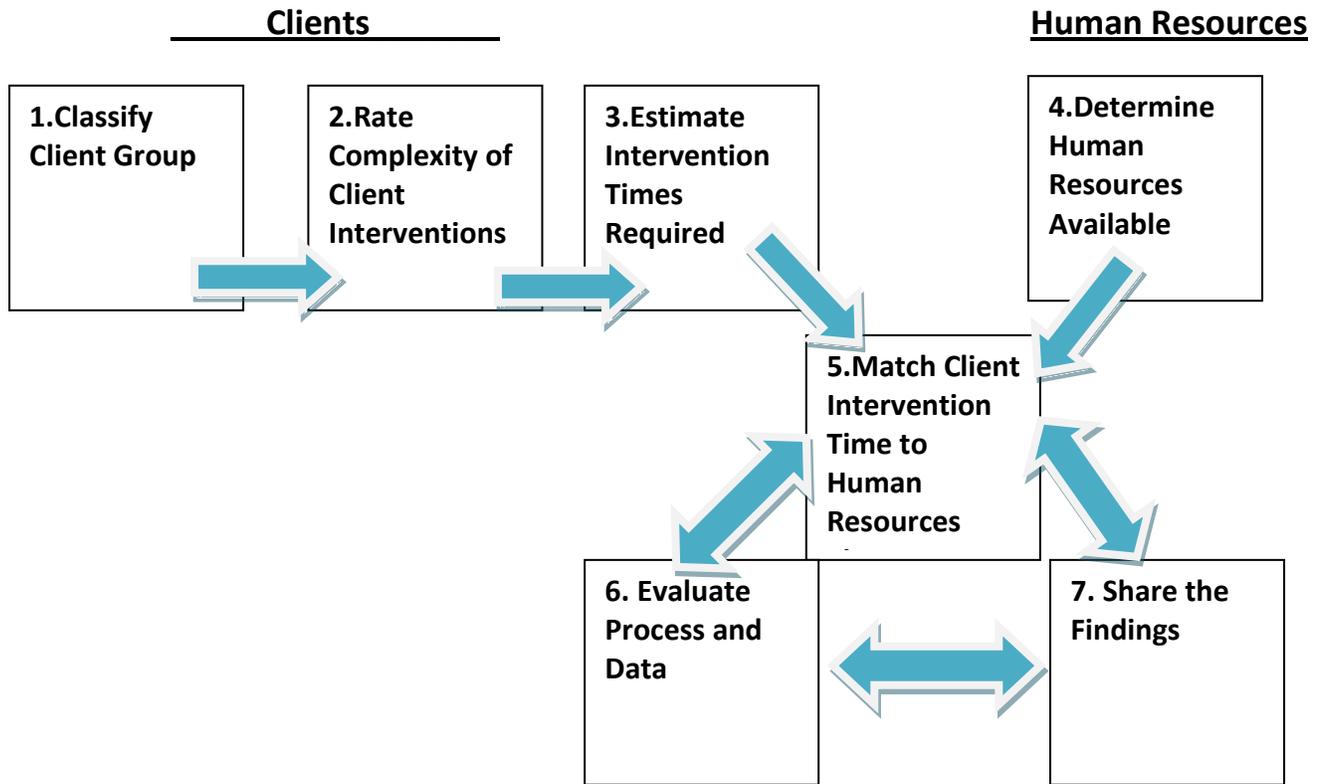
Evaluate the data collection processes and results ensuring the information captured is appropriate and reflects positive client and provider outcomes.

7. Share the Findings

Report the findings to promote information sharing and benchmarking processes.

The seven steps of the proposed Tool are illustrated below. It is suggested that all seven steps of the Tool are applied when the goal is to promote benchmarking and sharing of information. Individual steps can be applied as needed for internal evaluation, review or, development.

Tool Diagram



Now that the evidence has highlighted the critical components of the proposed Tool, the next steps in Tool development process include:

- Development of a Tool document that describes the application of the seven steps.
- Review of the Tool document by the project Advisory Committee.
- Validation of the Tool elements through a broad stakeholder survey.
- Piloting the Tool in the three professions and in a variety of service contexts.

More information and regular updates related to the Tool and its application is posted on the CAOT website at www.caot.ca.

4. Summary and Conclusions

This paper is the first step in the Interprofessional Caseload Management Planning Tool project in OT, PT, and S-LP in Canada. It provides an analysis and synthesis of the academic and gray literature related to caseload management to identify the critical issues which must be considered when developing an appropriate caseload management tool. A wide variety of approaches have been reported in OT, PT, S-LP and other health professions to effectively match provider time to clients' needs. It is very clear from the literature however, that there is no one superior caseload management model that suits all service contexts and delivery systems. Effective caseload management remains a highly complex process which must consider multiple provider and client variables.

Using an evaluation framework suggested by the Human Capital Alliance, nine potential caseload management models were evaluated to measure their compliance with selected criteria, their strengths and limitations. Based on this analysis, the authors of this report recommend that a hybrid caseload management tool which combines elements from several models seems the most promising and appropriate for the OT, PT and S-LP professions in Canada. A seven-step Tool is proposed to promote benchmarking and sharing of information which will lead to caseload guideline development. The next phase of this project includes validation and application of this Tool in a variety of working contexts of OTs, PTs, and S-LPs to determine the relevance, appropriateness and effectiveness of this proposed caseload management Tool.

Appendix A. Glossary

Glossary of Definitions for the Interprofessional Caseload Management Planning Tool for OT, PT and S-LP Project

CAOT: Canadian Association of Occupational Therapists

Caseload Management (for this project): the productive and efficient use of time and resources to maximize and achieve successful client outcomes. The systematic synthesis of client and service information should assist to design effective and efficient service delivery. Such a delivery system should accomplish positive outcomes within available health agency resources and professional guidelines.

CASLPA: Canadian Association of Speech-Language Pathologists and Audiologists

Categories of care-based methodology for caseload management: determination of client group care needs and complexity with assignment of client to worker ratios based on this classification system.

CPA: Canadian Physiotherapy Association

Diagnostic or casemix-based methodology for caseload management: workloads are assigned based on clients' clinical grouping categories.

Procedure-based methodology for caseload management: examination of work activities to characterize the services delivered and therefore required.

Ratio-based methodology for caseload management: utilization of straight ratios of workers to clients.

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