■ Introducing a Speech-Language Pathology Outcomes Measure in Manitoba

■ Introduction à la Mesure des résultats en orthophonie du Manitoba

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Abstract

The Manitoba Speech-Language Pathology Outcomes Measure is a standardized severity and priority rating scale contained on a centralized database. The purpose of the database is to catalogue and store information on individuals aged 0-21 years who receive intervention services by participating speech-language pathologists (S-LPs) in the province of Manitoba. The measure was developed and piloted by a team of clinicians to aid in caseload management, to document the prevalence and severity of specific communication disorders, and to facilitate communication across different programs and regions offering services in speech-language pathology in Manitoba. Information regarding the severity level of an individual's functional communication, variables affecting priority for intervention, service provider(s), and other demographic information is entered onto a secure website. The information and resulting treatment outcome(s) for the goal area(s) of each individual is calculated and displayed on the website. Aggregate information is available on caseloads for individual speech-language pathologists, for school divisions or health regions, and at a provincial level for participating clinicians.

The Manitoba Speech-Language Pathology outcomes measure was piloted in 1999/2000 with the caseloads of three regional groups of speech-language pathologists. It was expanded in the 2000/2001 academic school year to include most speech-language pathologists in Manitoba. The database is used currently by approximately 141 clinicians and contains outcome information for over 9,300 individuals from across the province. The purpose of this field report is to describe the process of developing the measure in Manitoba. This paper has implications for other jurisdictions developing and implementing other outcomes measures.

Abrégé

La Mesure des résultats en orthophonie du Manitoba définit une échelle normalisée de classement de la gravité et de la priorité des cas et s'appuie sur une base de données. La base de données a pour but de classer et de stocker des renseignements sur des personnes de la naissance à 21 ans qui ont été suivies par un orthophoniste participant dans la province du Manitoba. Une équipe de cliniciens a élaboré et vérifié la mesure afin d'aider la prise en charge des cas, de documenter la prévalence et la gravité de troubles de communication précis et de faciliter la communication entre les responsables de programmes et les régions du Manitoba qui offrent des services d'orthophonie. On verse dans un site Web sécurisé les données relatives à la gravité du trouble de communication fonctionnelle, aux variables ayant un effet sur la priorité d'une intervention, aux fournisseurs de services ainsi que d'autres données démographiques. On compile et affiche sur le site Web les données et les résultats du traitement qui s'ensuit en fonction des objectifs fixés pour chaque personne. Il est possible de consulter des données sur l'ensemble des cas d'un orthophoniste clinicien participant, d'une administration scolaire, d'une région sanitaire et d'une province.

La Mesure des résultats en orthophonie du Manitoba a fait l'objet d'un projet pilote en 1999–2000 portant sur les cas de trois groupes régionaux d'orthophonistes. L'essai s'est étendu à la plupart des orthophonistes du Manitoba durant l'année scolaire 2000–2001. Environ 141 cliniciens utilisent actuellement la base de données, qui contient les résultats du suivi de plus de 9 300 personnes dans toute la province. Ce rapport d'utilisation a pour but de décrire le processus d'élaboration de la mesure au Manitoba. Ce travail aura des répercussions sur l'élaboration et la mise en application de mesures des résultats dans d'autres provinces ou territoires.

Key Words: outcome, database, severity, priority, functional communication measure

Introducing a Speech-Language Pathology Outcomes Measure in Manitoba

Given the increased demand for clinical and therapeutic support services in various public jurisdictions (e.g., Proactive Information Services, 1998), clinicians are feeling pressure to provide high-quality services for children and their families in an efficient manner. Complicating clinicians' responses to increased demands are factors such as service overload, recruitment and retention, and funding. In many cases, resource-limited funding models (Weber, 1994) prevent optimal service delivery for those who require it. Consequently, waiting lists for most publicly-delivered and some privately-delivered clinical services are long. Direct assessment and intervention by a specialist, such as a speech-language pathologist (S-LP), are limited, and therapy becomes focused more on intervention than prevention strategies, all of which raises concern over the effectiveness of current service delivery models. As a result, clinicians have been involved in the process of finding solutions to these problems to alleviate workload and caseload stress, and ultimately to enhance service delivery (Schooling, 2000).

Research indicates that in addition to concerns over working conditions, due in part to increased caseloads, clinicians are feeling increased pressures to be accountable for the services they provide (Schooling, 2000). This pressure to ensure accountability has been highlighted recently in the field of special education. Accountability is necessary to ensure that individualized programming efforts are effective, to justify the high cost of special needs programming, and to combat the growing number of students referred for service in a resource-limited model (Proactive Information Services, 1998). Furthermore, since specialized educational services in areas such as speech-language pathology are often housed in separate, periphery departments in school divisions, the large budgets needed to sustain these specialized services can become a target for cutbacks in times of fiscal restraint (Weber, 1994).

The policies and procedures in place to ensure accountability of teachers, principals, and schools are clear. Curricular documents are available (e.g., Manitoba Education and Training, 1997a, 1998; Western Canadian Protocol, 1996, 1998) and academic standards are documented within them to ensure that students are exposed to certain materials and topics in school. There also are guidelines established for reporting on student progress and achievement (Manitoba Education and Training, 1997b). In most Canadian provincial and territorial jurisdictions, students also complete a locally developed standardized exam at various grade levels (Skwarchuk, 2004) to ensure they are meeting academic expectations (Manitoba Education and Training, 1999). Descriptions of effective teaching strategies are available from provincial education departments such as Manitoba Education and Training (1996). Guidelines for appropriate professional practice are available from professional teaching organizations such as the Manitoba Teachers' Society (2003).

Perhaps due to the specialty and individualized nature of the service provided, there are few publicly documented guidelines and expectations set for the delivery of special education and clinical services, such as the profession of speech-language pathology. Consequently, clinicians are left to their own wisdom and professional expertise to act in the best interest of the individuals they serve. Furthermore, since most of the work in speech-language pathology is conducted at the individual level, S-LPs work to assess and provide programming on a case-by-case basis. The optimal distribution of such services to individuals and the efficient delivery of those services in the most cost-effective manner is yet to be determined. However, in a recent review of the Special Education services in Manitoba conducted by an independent research firm, a recommendation was put forth that the province develop a mechanism for tracking students receiving special services in general, including speech-language pathology, and documenting the services provided (Proactive Information Services, 1998). The provincial outcomes measure was not mentioned in the review because it had not yet been developed.

One method of addressing increasing concerns over accountability is to document caseload size and measure intervention success by tracking pre- and post-intervention data, and then measuring the outcome(s) or amount of change after a period of intervention (Swigert, 1997). In these designs, it is preferable to have a control group (Cozby, 1993), but in applied research settings, a suitable control group is not always available. This information often has been tabulated in databases developed by professional organizations or governing agencies worldwide that are interested in the caseload makeup of an entire region, the collective effectiveness of the various interventions used in the field, the equitable prioritization of individuals, and the overall job satisfaction and well-being of the service providers (Gallagher, Swigert, & Baum, 1998). For example, the United Kingdom has developed the Therapy Outcome Measure (Enderby, 1997) to provide S-LPs with a "practical tool to measure outcomes of care by providing a quick and simple measure which can be used over time" (John & Enderby, 2000, p. 287). Similarly, the American Speech-Language-Hearing Association has endorsed the National Outcomes Measurement System (American Speech-Language-Hearing Association, 1996, 1997) "to assist its members in the collection of outcome data" (Schooling, 2000, p. 4). Canadian efforts include the Priority Rating Scale (PRS), developed by clinicians in New Brunswick in 1997 (Eval-Plan Consulting, 1998), and a document written in 1993 by Alberta Health, outlining structural standards (i.e., serving the target population effectively), process standards (i.e., competent and acceptable delivery of services) and outcomes standards (i.e., ensuring that program objectives are met, using a priority rating scale) of professional practice.

In addition to providing data for accountability purposes, a system for keeping track of pre- and post-intervention data would be helpful for clinicians. The data can serve to identify the size of individual caseloads, including the prevalence of frequently and infrequently occurring speech- and language-related disorders within the province for participating clinicians, and as a function of each school

or region. Data entered would also reveal the percentage of time devoted to direct versus indirect service delivery or group versus individual intervention, and the related effectiveness of the intervention. Furthermore, these data would be helpful in improving clinicians' understanding of interventions and simplifying report writing. Communication across regions and jurisdictions of S-LPs could be improved if all clinicians used the same data record-keeping and data-tracking system. Finally, the data collection would be meaningful in terms of explaining the goals and outcomes of programs and the time required to deliver programs effectively, thus globally substantiating the importance of the speech-language pathology profession to the general public.

The success of implementing these programs is highly dependent upon marketing the tool effectively. Stakeholders will support outcomes programs because, among other reasons, they address increasing concerns over accountability, they determine best educational practices in speech-language intervention, and they ensure cost-efficient service delivery models (Gallagher, Swigert, & Baum, 1998). Clinicians can be encouraged to support outcomes programs if they are user-friendly, save time and minimize paperwork, provide reliable and valid information, and more globally, can be used in discussions concerning the overall worth of the speech-language pathology profession. These outcome programs also must sustain durability due to changes in political priorities, government cutbacks, and coordination between ministries and/or departments of education and health (Law, Lindsay, Peacey, Gascoigne, Soloff, Radford, & Band, 2001). Consequently, despite their strengths and educational potential, the aforementioned Canadian outcomes projects in both Alberta and New Brunswick were not considered to be educational priorities and have since been discontinued.

The reasons for the development of an outcomes measure in several countries and regions are similar to the reasons for developing a measure in Manitoba. Global pressures concerning accountability in education (e.g., Reeves, 2002) and health-related fields, in combination with the increasing demand for services and the associated increase in costs of these perceived ancillary costs to the general public, provide a rationale for the development of such measures. The Manitoba project, however, was not a product of a professional organization or government mandate. The project was unique in that it was initiated by a group of practicing clinicians who were interested in understanding and improving their individual and collective service delivery. The fact that the project met several of the global concerns contributed to its appeal and provided time and resources for the measure to be developed further. The future success of its implementation is dependent upon continuing to establish consensus within the field to design and implement a measure, ensuring that the measure actually aids in alleviating caseload stress, endorsement of the measure from an overarching agency or agencies, strong collaboration among team players to ensure face validity, and establishing procedures to ensure reliability. The purpose of this paper

is to describe the process through which the measure was developed.

The Manitoba Project

The Manitoba Speech-Language Pathology Outcomes Measure project evolved over three phases as a grassroots endeavor. Initial meetings were held to develop a tool for measuring treatment outcomes with a group of S-LPs practicing in the Interlake region of the province. The Interlake region is a rural geographical area north of Winnipeg, between Lake Winnipeg and Lake Manitoba. These meetings were then expanded to include the South Central regional group of S-LPs, another rural group of clinicians practicing south west of Winnipeg, and to provide further expertise and diversity to the working group. In the second phase of the project, S-LPs in the South East region of the province were invited to participate and review the initial draft of the measure. The final phase involved expanding the project to all geographical regions in Manitoba. The process of developing the project with respect to these three phases is described in detail below.

Phase 1 — Developing Ideas

Given the reported importance of implementing outcomes measures in other provincial and international jurisdictions and the perceived benefits of using such measures, two regional groups of S-LPs met along with Manitoba Education, Citizenship and Youth personnel to develop a measure for use in Manitoba. The working group represented a diverse range of S-LPs working in the education, family services and health care professions. Initial meetings focused on researching available outcomes measures used in Canada and the United States. The group discussed the relative merits of each measurement scale as it would apply to service delivery in Manitoba. Each scale was evaluated in terms of ease of use, comprehensiveness with regard to diverse work settings, populations served, assumptions regarding service delivery models, face validity, and the inherent ability to capture change. Based on this review and clinicians' field experiences, the working group decided to draft a new measure that: 1) incorporated the combined strengths of the ASHA NOMs, New Brunswick Priority Rating Scale, and the outcomes prescribed by Alberta Health (1993); and 2) focused more positively on functional status rather than impairment.

The portions of the reviewed outcome measures that accurately described Manitoba caseloads were incorporated into the outcomes measure. Portions that needed to describe current caseloads more accurately than text that was already available were written by subcommittees, reviewed by the group, and then incorporated into the Manitoba measure. For example, the team felt that the prioritization system used in the Alberta measure was innovative and seemed to capture the variables required in prioritizing individuals receiving speech-language pathology services. Consequently, members combined the Alberta prioritization system with Prognosis and Related Factors elements from the New Brunswick system into a working model for prioritizing caseloads and treatment

in Manitoba. The team members also felt the severity ratings of the functional communication measures from the ASHA NOMs were user friendly, had broad applicability, and were relatively concise. Thus, permission was sought from ASHA to adapt the severity ratings for the functional communication measures as described in the ASHA NOMs. However, since the Manitoba team valued a unified system of data entry, coding, and analysis, the ASHA school-aged and preschool NOMs descriptors (which are separate in their outcomes model) were combined to provide the same severity rating scale of the functional communication measures for all individuals aged 0 to 21 years. Manitoba clinicians also incorporated some unique features (i.e., addressing concerns related to augmentative communication, expanding on the description of all severity levels to ensure reliable coding, and incorporating recent developments in the areas of phonological awareness and word finding into the severity rating scale) to capture the essence of a case. Finally, the team reviewed descriptions of each functional communication measure to ensure that each specific level in each of the scales was functionally-based and would be sensitive enough to capture improvements in an individual's ability to function at home, school, work, or play.

Broadly stated, the provincial outcomes measure was designed:

· to document the prevalence and severity of specific communication disorders, treatment priorities, and outcomes from the interventions for individuals serviced by S-LPs up to and including the age of 21 years across the province of Manitoba;

· to summarize information on caseloads and treatment provisions for individuals receiving speech-language intervention across the province in schools, health regions, and family service and housing regions; and

· to facilitate communication across different programs and regions offering services in Manitoba, and to improve consistency in description of service delivery.

The working group developed a manual for implementation and a standard form for reporting caseload summaries. This manual has since been revised and a current version is available on the Manitoba Education, Citizenship and Youth (2003a) website: www.edu.gov.mb.ca/ks4/specedu/slp/manual.html. The current version of *The Manitoba Speech-Language Pathology Implementation Manual* (2003a) contains information on the developmental history and purposes of the project, instructions on completing the treatment summary form on an individual, descriptions of the 12 functional communication measures (FCMs) used in the outcomes measure, information on scoring the four levels of the severity variable, and the four categories (severity, urgency, related factors, and prognosis) associated with the priority variable. The manual also contains several case study examples, a list of concomitant factors affecting S-LP intervention (e.g., spina bifida), a set of variables that can affect treatment outcomes (e.g., level of support), and a glossary.

In the next phase of the project, the same group of regional clinicians evaluated the preliminary measure by piloting it with case studies. Disagreements in coding and ambiguities in the measures were resolved through discussion. Discussions continued until consensus was reached. In some cases, the discussions led to development of new terminology with a standard definition to eliminate individual interpretations of previously used terms. For example, although some clinicians used the terminology "consultative collaborative" to indicate a broad range of S-LP involvement, the term was redefined provincially to refer to cases where the S-LP was involved in the assessment and recommendations of treatment and periodic follow-ups to review program and carry-over goals. Several practice sessions focused on applying the outcomes measure to individuals receiving treatment from actual caseloads in the field and trouble shooting problems.

Phase 2 -- Piloting the Project in the Interlake, South Central, and South East Regions of Manitoba

Efforts were made to expand the project into another region of Manitoba after a working copy of the manual was completed. The development team wanted to ensure adequate content validity and applicability in the field. The South East region of S-LPs was chosen because it represented another geographically distinct region in Manitoba, the S-LPs in the region were within driving distance of the other group for ease of facilitating meetings, the S-LPs represented a diverse group comprised of both new and experienced clinicians, and the demographics of the individuals receiving the S-LP services were diverse. The new region expanded on the range of ages served and the cultural demographics of individuals served, and represented a variety of service delivery models.

The three groups of S-LPs met and the manual was revised to eliminate any concerns. Specifically, several functional communication measures were collapsed or moved to concomitant factors. The revisions were made to ensure that the communication measures were as functional as possible (i.e., they focused on clear descriptions of the individual's current performance capabilities), they were hierarchical in nature, and they represented areas that were sensitive to change. Several changes were introduced. For example, the functional communication measure for Hearing Sensitivity was removed because it was determined that a functional communication measure based on severity of hearing loss would not be remediated by treatment but would be a significant concomitant factor affecting outcome. As a result, hearing sensitivity was removed as a functional communication measure and Deaf/Hard of Hearing was added as a concomitant factor. The functional communication measure of Central Auditory Processing was also changed to a concomitant factor. Functional communication measures in the areas of Cognitive Orientation, Pragmatics, Language Comprehension, Language Production, and Fluency/Rate/Rhythm were adapted significantly through group input and consensus to make the individual scales easier than the original version for understanding, interpreting, and capturing functional change.

Clinician data was initially collected on a Treatment Outcome Summary Form and submitted to central support personnel. The computer software program Excel was used to generate caseload outcomes and reports. Due to a perceived increase in the availability of computer services and constant technological upgrades in internet access, the working group decided to mount the outcomes database on a secure website. A website would ensure that the information could be entered and accessed in almost any location and would facilitate data entry. The website was designed to be user friendly and included flip-down windows with options to select required information, thereby minimizing the amount of information to be entered individually. A database developer was hired to develop the website and organize it in ways that would be beneficial to S-LPs, their regional directors, and other governing agencies. Clinicians were asked to access the website and enter data for each individual on their caseload, including identifying information, severity level of functional communication and a rating of variables affecting priority. Support personnel were available to help clinicians with the initial stage of data entry if required. Each clinician entered a password and received access only to his or her own individual caseload. Clinicians assigned each individual a unique identification code to prevent the duplication of individual entries. In this respect, they could access individual case files at the times of assessment and reassessment. The website provided opportunity to review and edit all data, enabling any errors in data entry to be easily changed. Some provisions were created within the database to ensure that only certain characters and certain numbers of characters could be entered to the various data fields, limiting the number of data entry errors. School student service coordinators and regional program directors also could obtain a password to access aggregate data on their school division/facility, including the types of services provided and the treatment outcomes. The website was also organized so that this aggregate information was available on the caseloads of participating clinicians for the purpose of creating summaries of prevalence rates, priority ratings, and treatment outcomes.

Phase 3 — Expanding the Project into All Areas of the Province

To expand the use of the measure to all areas of the province, the project was described at regional workshops conducted by the provincial S-LP consultant. S-LP participants received a copy of the implementation manual before the session. The workshops focused on accessing and using the website, examining cases to establish reliability in using the codes, and practicing using the manual and website with an actual case. The same government representative presented the measure to all S-LPs to ensure the delivery of consistent information.

Addressing Reliability and Validity Issues from an Action-Based Research Model

In developing a measurement scale, researchers and educators often are concerned with establishing acceptable levels of reliability and validity (Gay & Airasian, 1996; John & Enderby, 2000). The reliability of a measure is concerned with establishing consistency in data measurement, and good reliability represents less error in data interpretation. The reliability of a measure may be established by obtaining the same score for an individual by using different testing instruments, using different raters or establishing the same rating over a period of time. Validity, on the other hand, is concerned with whether the score measures what it is intended to measure, and whether the assessment is appropriate and meaningful to its users (Gronlund & Cameron, 2004). There are different types of reliability and validity described in the testing literature and formal measures for assessing them.

Since the project started at a grassroots level with S-LPs participating from all areas of the province to develop a system of classification that would work for them, there was no initial intent to gather information formally on reliability and validity. A rigorous developmental process was implemented to ensure that reliability and validity issues were established in a general and informal sense. The project operated from a qualitative, action research perspective. Thus, the reliability and validity of the measure was grounded in the clinical expertise of its developers.

Under the assumptions of a qualitative research paradigm (e.g., Johnson & Christensen, 2000), the following factors were considered in the discussions of reliability and validity. First, the data were collected over a long period of time (one year of pilot testing and two subsequent years of provincial data collection), involving a large number of individuals (i.e., currently 9,300 individuals) from across the province. Developers made the assumption that any inherent and obvious problems associated with the validity and reliability of the measure would be identified by its users during this pilot phase of the project.

Consensus also was established on the terminology to be used, even if it meant redefining certain phrases and keywords to establish continuity within the provincial field. Findings were triangulated by cross-checking information and conclusions through a number of sources (e.g., the working group of clinicians, case examples, and comparisons of scores with those obtained in other outcomes measures). Discussions also were held to review disparate cases and resolve any tentative explanations in the data. These discussions incorporated the perspectives of multiple S-LPs from rural and urban areas who were employed in a variety of settings to ensure that the findings were representative and that the tool made sense to clinicians working in the field. Regular meetings and peer review sessions were held with the initial developmental team and other clinicians across the province to conduct critical reflections and eliminate potential biases that may have affected the developmental process of the tool.

Finally, presentation, review, and support for S-LPs using the measure was completed by the same consultant. To ensure ongoing development of the measure, a committee of practicing S-LPs from across the province has been formed. The committee, in response to S-LP input, reviews, revises and expands the current applicability and utility of the measure.

In summary, concerns over reliability were minimized informally by having a large number of S-LPs score clinical interpretations from a large number of diverse cases. These clinicians worked with one provincial consultant who then trained all additional S-LPs, to ensure that the training was consistent for SLPs using the measure. In terms of establishing validity, a wide range of S-LPs representing diverse background experiences and working environments were involved in developing the measure and scoring resulting cases. A rigorous review process was used to ensure that scales were meaningful and reflected the collective experiences of S-LPs working in the province. This rigorous developmental process would ensure that future formal studies of reliability and validity would not lead to disappointing results.

Positive and Negative Experiences in the Development and Implementation Process

The process of developing, organizing, and implementing an outcomes measure for use at a provincial level has been rewarding and challenging. The next section will focus on the positive and negative aspects of developing the measure with grassroots clinicians.

Positive Experiences

Important for the development of such a measure is the mandate and support from a governing body or institution to facilitate change. The goals and focus of the project aligned with recommendations to improve service delivery in a recent review of Special Education services in Manitoba (Proactive Information Services, 1998). Consequently, it received strong governmental approval and support. In fact, the project was highlighted as an area of priority in a governmental discussion paper released in March of 2001, and it was cited as an area of best educational research practice by Manitoba Education, Citizenship and Youth.

From the onset, the project was coordinated by one consultant. This person completed the background research for the project, networked with personnel in other jurisdictions to obtain information on other initiatives, and served as a contact person and supporter for clinicians using the measure. This same contact person was responsible for providing supervisory support to all new school clinicians. The consultant has developed close working relationships with most new clinicians in the province over the last six years. The development of these relationships was beneficial in terms of gaining compliance to try the measure and providing ongoing on-site support, especially for clinicians practicing in remote rural communities and settings.

The Manitoba outcomes project was strongly supported by a grassroots effort of clinicians. The project was initiated by a front line S-LP concerned with the need to describe caseloads and intervention outcomes in a functional way for S-LPs and administrators. During the developmental stages, collaboration was required from three governmental department jurisdictions responsible for S-LP intervention. Despite discrepancies in service delivery models and issues that could ensue in times of limited resources, the team worked collaboratively to develop a system that would work

for them. Lengthy discussions resulted in group consensus on issues of content, terminology and implementation. Clinicians held discussion groups after hours, tested the various outcomes scales on individuals on their caseload, and assisted in any way possible to facilitate the development of the measure. The appeal to use the measure came from the fact that clinicians could use the results from the database to make decisions, instead of relying on gut feelings.

Finally, for the first time ever, an attempt has been made to obtain aggregate data at a regional and provincial level on prevalence rates, service delivery and outcomes based on gender, age, grade, priority variables and severity levels of communication disorders (Manitoba Education and Youth, 2003b). The aggregate data collected to date have been used to plan for some current and future service delivery in speech-language pathology.

Challenges

The developmental team worked to address concerns in three general areas: technological difficulties, clinician acceptance and support, and end-result test score interpretation. These three areas of concern are discussed in more detail below, both in terms of how they were viewed as problems and how they were addressed.

When the project was first initiated, clinicians commented that they wanted a user-friendly, easily accessible system. Program developers were hired to design the interface, allowing for the efficient storage and retrieval of the data on the internet. However, due to technological difficulties associated with internet access, speed, and system incompatibility, some clinicians experienced difficulties with this set-up. To preserve confidentiality and anonymity for individuals on their caseload, S-LPs had to be careful when working on a computer system with multiple users such as in a school computer lab. Furthermore, since many people were involved in entering data on the website, incompatible conventions in data entry occurred. Finally, technical difficulties with the database required assistance from the system developer.

Although clinicians support the outcomes measure, concerns have been raised over time commitments and associated benefits of a new data collection system. To address these concerns, government personnel have promoted the tool by offering follow-up sessions on data entry short-cuts, profile interpretation, and ways of marketing the measure to employers. Discussions have been held to circumvent any problems that have occurred with on-line data entry. In addition, some changes have been made to improve the storage and retrieval of information contained on the database in order to enhance access to the database for the purposes of conducting additional statistical analyses. It is important to have support consultants available to focus on naturally occurring glitches as soon they are identified.

Finally, in the development and use of the Manitoba Speech-Language Pathology Outcomes Measure, clinicians expressed concern over using different standardized tests, making conclusions from those test score results, and then using the outcomes measure to summarize results (e. g., two

different S-LPs could obtain the same score for an individual based on the administration and interpretation of different tests). To address this problem, some clinicians felt that S-LPs should use the same assessment tools to establish consistency in scoring. Discussions were held and it was decided that these concerns were related to the entire speech-language pathology profession as opposed to the Manitoba SLP Outcomes Measure per se. The developmental team decided not to mandate certain assessments as this inflexibility would undermine the clinical training and expertise of those persons using the measure.

In the initial stages of the project, clinician concerns over the potential data to be used in evaluating the individual performance of clinicians was identified and acknowledged by the group as a risk factor in the implementation of the Manitoba measure. The group agreed that comparisons and evaluations of individual clinicians currently occur without the benefit of formal standardized data. It was agreed that clinicians would be empowered by bringing standardized data on the nature of their caseloads and services provided, to the administration and to the general public. Overall, the group felt that the benefits of standardized data and informed decision making outweighed any risk involved.

Recommendations and Conclusions

During times of budgetary restrictions, clinician shortages, and overextended caseloads, service providers are searching for efficient ways of delivering speech-language pathology services. The Manitoba Speech-Language Pathology Outcomes Measure enables clinicians to document the size and severity level of their caseload, assess the treatment priority of their individuals, and determine the kinds of interventions provided. For the most part, the implementation of the measure has been perceived positively in the field and it is currently being used voluntarily by most pediatric S-LPs in the province. Some agencies mandated to provide evaluation of their programs have chosen to use the Manitoba measure. Despite its success, the project experienced growing pains. Based on our experiences in developing and implementing the measure, we suggest the following recommendations for others involved in creating similar measures:

Establishing Connections in the Field. Establishing personal connections with clinicians in the field was essential to facilitating communication about the project. The close connection between the provincial consultant and individual clinicians implementing the measure ensured that problems could be detected early and circumvented. Frequently held regional team meetings also improved the morale and commitment of clinicians to the project by giving them a sense that they were working on a new, innovative project together, and by providing opportunities for problem solving to further develop the measure.

Marketing the Tool. Discussions regarding the benefits of developing and implementing an outcomes measure should be held with all stakeholders (i.e., clinicians, regional directors, government staff, and provincial and national

professional organizations). For the Manitoba project, these discussions were facilitated by the provincial consultant who traveled to different regions, held dialogues with the involved parties, drafted reports on the progress of the measure, and in general, served as an advocate for the outcomes measure. Developers of the ASHA NOMs scale have made similar recommendations with respect to marketing their measure (Goldberg, 1997).

Working with Technological Difficulties. The software for the database should be chosen carefully, considering not only the ease of inputting data and the storage and retrieval of information at different hierarchical levels (i.e., clinician, region, province), but also the set-up of the data in terms of conducting statistical analyses. The organization of the database should only permit data to be entered in one format. Furthermore, considerations should be made for ensuring individual/clinician confidentiality. Finally, although mounting the database on the internet had accessibility appeal, many clinicians became frustrated with the speed of the dial up internet system that resulted in slow data entry.

Providing Training and Ongoing Professional Development. It is important that all users receive consistent training on using the measure. For the Manitoba project, this training initially included sessions on how to access the database, enter individual information, and print reports. Subsequent sessions outlined shortcuts for data entry, reviewed methods for understanding and presenting results to employers, and identified methods to interpret results.

The development of a provincial speech-language pathology outcomes measure has been an exciting challenge for many stakeholders who have sought to improve service delivery. It is anticipated that the measure will be developed further as formalized studies are conducted on the reliability, validity, and sensitivity of detecting change associated with the measure. Some of these studies are already in progress and the results are encouraging (Skwarchuk, Robertson, & Devlin, 2004; C. Johnson, personal communication, 2004). Furthermore, although the project has been locally endorsed, future work is needed to determine the broad applicability of the pediatric measure to other populations (e.g., adults), other regions in Canada and other parts of the world. National endorsement, followed by national statistics on prevalence rates and treatment effects, will contribute to the ultimate success of this project. Future studies could describe the prevalence and severity rates of the functional communication measures on a longitudinal basis as a function of many demographic variables. Knowledge about the composition of a very large caseload from across the province will aid in providing appropriate treatment options and ensure the overall viability of the profession.

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