



T o r o n t o

**Acquired
Brain Injury**
N e t w o r k

**Development of a
Comprehensive
Best Practice
Brain Injury Model**

Phase II

**Outcome Measurement
In the Toronto ABI
Network**

May 2002

Development of a Comprehensive Best Practice Brain Injury Model

Phase II

Outcome Measurement in the Toronto ABI Network

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Member Organizations of the Toronto ABI Network

Baycrest Centre for Geriatric Care
Bloorview MacMillan Children's Centre
Brain Injury Association of Toronto (BIAT)
Community Head Injury Resource Services (CHIRS)
COTA - Comprehensive Rehabilitation & Mental Health Services
Etobicoke Community Care Access Centre, ABI Program
McLeod House/Collegeview
St. Michael's Hospital
Sunnybrook & Women's College Health Science Centre
The Hospital for Sick Children
The Riverdale Hospital
Toronto Community Care Access Centre, ABI Program
Toronto Rehabilitation Institute
University Health Network
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Executive Summary

A continuing priority of the Toronto Acquired Brain Injury Network (the Network) is the identification and promotion of the use of "best practices" for individuals living with the effects of a brain injury (BI). This priority was initially identified in 1998 during the Network's strategic planning committee meeting, and resulted in Phase I of what has become known as the Best Practice Initiative. The long-term objective of this initiative was defined as the identification, implementation, and validation of empirically based best practice guidelines to be used by treating professionals for individuals with BI from the time of the individual's hospital admission to his/her re-integration into the community. Phase I of the initiative was funded by the Ontario Neurotrauma Foundation. From this phase, eleven (11) recommendations were outlined as part of a Comprehensive Best Practice Brain Injury Model.

In 2000, further funding was granted by the Ontario Neurotrauma Foundation for Phase II of the Best Practice Initiative, entitled "Brain Injury Best Practices Phase II: Outcome Measurement in the Toronto ABI Network". This Phase was designed to promote the implementation of best practices across the Network by focusing on the fifth recommendation from the Phase I Final Report:

A coordinated system of outcome measurement should be selected by agencies and implemented across the continuum of care.

The implementation of consistent outcome measures across the Network was seen as first and important step in the Network's ability to evaluate the impact of best practices.

The objectives of the Phase II Project were to:

- Select outcome measures to be used by agencies in the Toronto ABI Network
- Obtain consensus across the Network agency membership on the outcome measures to be used
- Pilot the outcome measures at one member agency
- Design a system for data collection and storage to ultimately assist with analysis of the outcome measures used, and test their efficacy
- Develop a practical manual for the implementation and utilization of outcome measures

Activities in Phase II involved:

- Decision to use a consensus panel approach to the selection of outcome measures
- Formation of a Consensus Panel (CP). The report discusses the CP process in more detail, including the selection of members, goals of the meetings and members of the CP. Panel membership is listed on pages iii and 57 of the Phase II Final Report. Inclusion of CP members was based on clinical practice, research knowledge and experience of individuals who represented a wide spectrum of professional disciplines and health care organizations from throughout the Toronto ABI Network

- Completion of the following tasks by the CP with the assistance of the Best Practice Working Group:
 - Reviewed outcome measures already in use in the Toronto ABI Network
 - Devised a method (using consistent criteria) of assessing outcome measures
 - Identified practical issues related to the use of the measures in the Network
 - **Selected and recommended a core set outcome measures for use in the Toronto ABI Network**
- Planning for piloting the recommended outcome measures.
- Implementation of the recommended outcome measures at one agency in the Network: Community Head Injury Resource Services
- Preparation of an Outcome Measurement Manual to assist with the implementation of the outcome measures across the Toronto ABI Network
- Development of a template and guide for the implementation of the measures
- Development of a framework for a database

The recommended Preliminary Core Outcome Measures are:

- **Functional Independence Measure (FIM ®) (adult) and (WeeFIM ®) (pediatric)** - acute care and inpatient rehab
- **Disability Rating Scale (DRS) (adult and pediatric)** - all phases of care
- **Mayo-Portland Adaptability Inventory (MPAI) (adult and pediatric)** - inpatient, outpatient, and community and long-term services phases of care
- **Measure of Process of Care (MPOC-20) (children up to 12 years old); (MPOC-A) (adolescents 13 to 21 years of age); Wascana Client Centered Care Survey (Wascana-CCS) (adults 21 years and older)** - all phases of care

The report, in the Outcome Measurement Manual section, provides normative methods and instructions for the collection of outcome measures data. Also included are descriptive information, rationale for selection, psychometric properties and training information for those outcome measures that are not proprietary tools. A database outline and information regarding formalized feedback from clients, families and clinicians as to the usefulness of the outcome measures is also included.

The final sections of the report discuss the pilot implementation of the recommended outcome measures at a community agency, Community Head Injury Resource Service (CHIRS).

Future Work

Phase II of the Best Practice Initiative has set the stage for further work. In the spring of 2001, the Ontario Neurotrauma Foundation provided funding for Phase III of the Best Practice Initiative, entitled: "Pilot and Implementation of Outcome Measurement in the Toronto ABI Network". This phase of the initiative is expected to run until late 2002. The focus of this phase of the initiative is to implement the recommended outcome measures at each agency in the Toronto ABI Network, collect and analyze the data from these measures, and examine the feasibility of collecting Network-wide outcome measures data. A key focus is to evaluate the outcome measures from both a provider and client/family perspective.

Three purposes have guided the Toronto ABI Network Best Practice Initiative:

- 1) The creation of an infrastructure and culture within Network agencies that supports the implementation of recommended best practices
- 2) The development of a coherent model of service delivery that can be introduced in phases
- 3) The introduction of best practices that integrate the collection of outcome measurement data in the course of service delivery.

We hope that these purposes will be realized as the initiative continues.

PART I

Purpose of the Toronto ABI Network and History of the Best Practice Project

The Toronto Acquired Brain Injury Network

The Toronto Acquired Brain Injury (ABI) Network was established in July 1995 with funding from the Ministry of Health. The goals of the Network were to improve coordination and enhance services for persons living with the effects of an acquired brain injury. The Network consists of facilities and agencies providing service and support - from early acute stages, through early and later rehabilitation, and on to community reintegration.

The *Mission* of the Toronto ABI Network is to influence excellence in publicly funded services and support for persons living with the effects of an acquired brain injury. The *Vision* of the Toronto ABI Network is to provide leadership in furthering equitable, accessible, responsive and quality publicly funded services and support for persons living with the effects of an acquired brain injury in the Greater Toronto Area. The *Values* of the Toronto ABI Network include quality of life, social responsibility, responsiveness to individuals and their families, knowledge-based services and support, partnerships, research, and education.

Two of the strategic directions outlined by the Network are the development of best practice guidelines and system coordination. These directions are partially being addressed through the Best Practice Project.

History of the Best Practice Project

In 1998, the Toronto ABI Network Advisory Committee identified consistent quality programming as a key priority in the work of the Network and thus the Best Practice Working Group (Working Group) was established. Representation includes members from acute care, inpatient and outpatient rehabilitation services, and community-based services across a variety of professional disciplines (see Appendix A for a listing of current members of the Best Practice Project Working Group).

As its first activity, in December, 1998, the Working Group brought together practitioners from across the Network for a forum to survey current processes at each phase in the continuum. This meeting resulted in a snapshot of the pathway from an individual's first encounter with the system in the emergency room into formal rehabilitation programs and into community reintegration.

The Working Group has struggled with the complexity of "best practice" and the aims of a best practice brain injury project for several years now. We considered various ideas, including recommendations of specific services to be added or modified, endorsement of a specific model

of brain injury service delivery, and whether we were focused at the individual client or the systems level or both. We consistently agreed that best practices for clients with brain injuries should include both their perspectives and those of their family members and that our task was not to re-design local brain injury services or to be prescriptive, but rather to build on excellent practices already in existence or being developed.

Thus, several members of the original best practices group (Brandys, Vander Laan & Walsh) submitted a proposal to the Ontario Neurotrauma Foundation (ONF) in January, 1999 to fund a survey of current research, local practices in brain injury, and client and family perspectives. We also proposed to build consensus across Network agencies regarding brain injury practices to be adopted or modified. This project was funded in June, 1999 by the Ontario Neurotrauma Foundation as a one-year pilot to “provide useful information/data” on the Toronto ABI Network practices and client and family views regarding the services and practices in existence.

The specific focus of the first (Phase I) Project was to study practices related to the assessment and treatment of adults with traumatic brain injury. Comments from the ONF in funding this project cautioned that consensus about brain injury practices across agencies is difficult to achieve and the scope of the project seemed too ambitious.

A search and review of literature helped to narrow our focus and to steer the first phase of the development of a best practice model toward assessment practices and, particularly, toward outcome measurement across the continuum. Further, we began work toward building consensus through an extensive communication strategy, including regular distribution of a Best Practice Newsletter throughout the Toronto ABI Network (see Appendix B for the most recent issues of the BP Project Newsletters).

Given the one-year time frame for the Phase I Project, excellent work was drawn on in the development of recommendations. Sources included:

- the vision and mission of the Toronto ABI Network
- extensive work on best practice guidelines that have already been developed or are in process, such as the 1998 U.S. National Institute of Health consensus conference on Management and Rehabilitation of TBI and the 1998 project by the Oregon Health Sciences group on the state of evidence-based research in the field of TBI;
- individual practice guidelines fashioned by professional groups (e.g., *Guidelines for the Management of Severe Head Injury*, 1995); (*Occupational therapy practice guidelines for adults with traumatic brain injury*, 1997); and in specific areas of endeavor such as cognitive rehabilitation (Giacino et al, 1997).
- New Zealand’s joint collaboration from its health and insurance committees in the development of TBI rehabilitation guidelines for providers (*New Zealand Guidelines Group*, 1997).

Rationale for the Best Practice Project

Our goal through all the Phases of the Project has been to develop a realistic Best Practice Model of service delivery for BI clients in Toronto. Best practice guidelines are essential to the quality of any rehabilitation (Hayes, 1998). Many excellent brain injury (BI) practices exist in Network

agencies but these have not always been known by others and require documentation and dissemination for wider implementation.

An already existing ABI Network in Toronto has allowed for a large-scale survey of many acute care hospitals, rehabilitation hospitals and community-based agencies that provide service to the full spectrum of BI clients. It is hoped that this will allow for large-scale implementation or trial of certain practices believed to be effective. Often there appears to be a tendency for outcome measures and goals to be professionally driven rather than client driven. A stronger emphasis on the meaningfulness of outcomes used by treating professionals is being sought (Fleminger & Powell, 1999) in hopes to ensure that BI interventions can be designed which are optimally beneficial to the intended consumer.

The benefit to future consumers of all Phases of the Best Practice Project includes a more consistent and externally validated model of timely and useful assessment and intervention. The aim of Phase I of the BP Project was to provide **recommendations**, which may form the basis in the future for Practice Guidelines, which may be developed throughout the Network. Based on the literature review and surveys conducted, the Best Practice Project Phase I Final Report outlined 11 recommendations for the development of a comprehensive best practice brain injury model in the Greater Toronto Area. These recommendations cover the following areas:

- Assessment
- Outcome Measurement
- Client/Family Involvement
- Program Development

Best Practice Project Phase I Final Report - Outcome Measurement

Recommendation # 5 of the Phase I report was:

"A coordinated system of outcome measurement should be selected by agencies and implemented across the continuum of care.

The Best Practice Project Team decided that this was the most logical recommendation to address in the implementation of Best Practices across the Toronto ABI Network because the collection of outcome measures and the development of a database is required before the implementation of best practices can be assessed for impact.

Issues to be addressed:

- a) constructs relevant to individuals and in each phase in recovery, should be measured (any or all of those listed below based on setting, etc.):
 - Impairment (of structure and/or function)
 - Disability (activities)
 - Participation
 - Mood
 - Coping Style

- Vocational Status
 - Supervision Needs
 - Goal Attainment
 - Family/Social support
 - Quality of life/life satisfaction
 - Satisfaction with treatment
 - Measures of service delivery
 - Cost of Care
- b) measurement should occur in the domain of the intervention to best illustrate changes; however outcome measures should be selected to clarify the relationship between progress in treatment and personally and environmentally relevant goals;
- c) goal attainment scaling (a method of summing progress of individuals toward their goals to assess the outcomes of a program as a whole) should be used in treatment programs with individualized goals".

In June 2000, funding was granted through the Ontario Neurotrauma Foundation for Phase II of the project entitled: Outcome Measurement in the Toronto ABI Network. The primary goals of the Phase II Project were to (a) develop consensus on some common outcome measures for consistent use across the Toronto ABI Network agencies; (b) attempt to implement the use of these measures at a few agencies as a small pilot project and; (c) begin setting up a database of information based on the information collected from the outcome measures. Some of these goals have been met through a Consensus Panel, which was convened to examine, evaluate, and recommend the use of specific outcome measures throughout the Toronto ABI Network.

PART II

Best Practice Project Phase II: The Consensus Panel Process

Why a Consensus Panel?

Through consultation with the Best Practice Project Working Group, a Consensus Panel approach was chosen as a useful strategy for the selection and recommendation of outcome measures throughout the Toronto ABI Network for several reasons. One relates to the very basis of the Toronto ABI Network as a means of collaboration and communication among health professionals involved in the treatment of individuals who have suffered a brain injury. In the spirit of the Toronto ABI Network mandate, it is essential that input concerning the use of outcome measures throughout the Network be obtained from a broad spectrum of health care professionals and researchers from a variety of member organizations throughout the Toronto ABI Network. A second reason for the use of a Consensus Panel was the requirement that expert advice be obtained from throughout the Toronto ABI Network concerning the use of outcome measures. The BP Project Team wanted to ensure that the advice of an acceptable number of brain injury health care professionals was obtained concerning the selection and use of a core set of outcome measures throughout the Network. It was decided that a very efficient way to obtain the advice of these professionals would be to bring them together and discuss outcome measures as a group.

As such, and with input from the Best Practice Project Working Group, the Consensus Panel was convened to have open discussions and set about the task of evaluating and recommending outcome measures. The Consensus Panel met from March to June 2001. The first task was to discuss the goals of the panel, receive some background information on the Best Practice Project, and discuss the concept of outcome measurement.

Goal of the Consensus Panel

The general goal of the Consensus Panel was presented to the members of the panel during the first meeting in March 2001. Several aspects of the larger goal were discussed. The Panel agreed that they would: ***"Choose outcome measures to assess levels of functioning in an effort to understand the disease of brain injury, how treatment and practice takes place in the Toronto ABI Network, facilitate communication and understanding between members of the Network, provide infrastructure for research, and ultimately serve clients better"***.

Consensus Panel Members

Various individuals from Toronto ABI Network member agencies agreed to assist with this project from a larger list of professionals who were contacted (see appendix A for a list of the Consensus Panel members). Consideration for inclusion in the Consensus Panel was based on the clinical practice, research knowledge and experience of individuals; as well, an effort was made

to represent a wide spectrum of professional disciplines and health care organizations from throughout the Toronto ABI Network. A chair from within the Panel was chosen with the assistance of the Best Practice Working Group, in order to ensure a fair process and well organized meeting procedures. Ms. Mary Ann Neary of The University Health Network (Toronto Western Hospital) agreed to take on this role. During the Consensus Panel Process, the Best Practice Working Group remained the "sounding board" for the Panel, providing support and reviewing Panel recommendations.

Purpose of Outcome Measures

There can be several purposes behind the collection of outcome measures information, as was discussed during the first Consensus Panel meeting. Outcome measures can (a) aid in consumer decision making; (b) relate to external accountability to clientele and funding sources; and (c) "add to scientific knowledge", or improve practice and knowledge in treatment.

Simultaneously, there are several types of outcome measures in the brain injury health care and service provision area. These include: (a) clinical/objective measures that can be obtained by a machine (e.g. EKG) or human interviewer (e.g. administering psychometrically sound measures); (b) patient/client/subjective measures that are obtained from the client and are designed to measure their perspective on topics such as level of satisfaction; and (c) other relevant factors, which can include demographics data and treatment factors. Outcome measures can also be divided into those that focus on global versus specific impairment.

Two suggestions were put forward during the course of the first Consensus Panel meeting relating to the selection of outcome measures. One was to divide the selection of outcome measures by phases in the continuum of care (from acute to inpatient, outpatient, and community-based), and the other was to divide the selection of measures by functional area. During the first meeting, the Panel agreed that the selection of measures should be divided by various functional areas. It was decided that the 6 following functional areas would be examined: 1) Physical/Medical, 2) Cognitive/Cognitive-Communicative, 3) Emotional/Behavioural, 4) Client/Family Satisfaction, 5) Community Involvement, 6) Family Functional Interaction. By the third meeting, the Panel concluded that the large number of measures in each functional area and the complexity of issues within each area were significant, and that time constraints would not allow for examination and selection of measures in each of these functional areas. As a result, it was agreed that only "general" or "global" outcome measures would be recommended at the present time. The Panel referred to "global" measures as those that quantify levels of functioning impairment across several domains of interest. The Panel also recognized that independent groups could be convened during later phases of the Best Practice Project to examine outcome measures in each of the specific functional areas (e.g. a cognitive-communicative outcome measures panel) that were defined during the first Panel meeting.

Outcome Measure Selection - Identified Issues

The following is a comprehensive list of the issues and concerns raised by the Consensus Panel and Best Practice Working Group regarding the selection and recommendation of outcome measures for use across the phases of care in the Toronto ABI Network. Some of these issues were initially raised by the Consensus Panel members during a brainstorming session during the first meeting. Following this, the Best Practice Working Group and Panel members were asked during each of the following meetings if further issues had become apparent. In this way, a "working list" of outcome measurement selection issues was maintained (letters in parentheses refer to comments following the list):

- There may be some resistance to the collection of data on outcome measures by front-line staff at some agencies
- The clinical utility of the outcome measures should be considered
- The reliability and validity of the measures should be considered
- Should the measures be applicable throughout the lifespan from pediatrics through geriatrics? (*A*)
- The purpose of the outcome measurement should be considered (*B*)
- The time required to administer the measure should be considered (*C*)
- What about funding the implementation of the measures throughout the Network?
- How many outcome measures should the Panel be recommending? (*D*)
- The burden of completing outcome measures on the client and family should be considered
- Responsiveness and sensitivity should also be included in the criteria for the selection of measures
- There should be system where by treatment teams can receive feedback on the measures that they are administering
- Outcomes measurement is not specific - these tools are "screeners"
- Outcomes measurement only provides probability statements
- Inter-rater reliability and training is extremely important, but an added expense
- There should be a plan for bringing together facilities and clinicians to discuss implementation
- Responsiveness of different clients to the outcome measure should be considered
- Is the selected measure for administrative, research, or clinical purposes? Is it possible to select a measure that covers all three of these areas?
- Will individuals with a brain injury want to complete the measure?
- Should the cost of the recommended outcome measure be considered?
- A variety of professionals should be able to administer the measure
- The time required to administer the measurement tool is important
- The nursing profession is often left out of this type of project, an effort should be made to include this group
- The measurement of client and family satisfaction is important, especially readiness for transition from one treatment centre to another
- What severity of injury should be included in the spectrum of the outcome measures? Mild only? Mild to severe? (*E*)

- Checklist measures are often adequate for describing function, but may not reflect best practices
- The Panel should be focusing on best practices in the largest sense, not a minimum data set for the Toronto ABI Network
- An administration manual for the recommended outcome measures should be developed and distributed throughout the network along with the measures (*F*)

The following responses to some of the concerns (indicated in parentheses) related to outcome measures were raised during the Consensus Panel meetings:

- (*A*) The Project Team made it clear that one goal of the Project was to examine outcome measures throughout the lifespan. The Panel agreed that too much trend analysis data would be lost by not including pediatrics in the project. It is desirable to follow pediatric clients with BI as they grow up, and they often continue to receive care related to their brain injury.
- (*B*) The purpose of the outcome measures is to track changes and describe the process of care across the Toronto ABI Network.
- (*C*) During the Consensus Panel process, the Best Practice Project Team learned that funding had been granted by the Ontario Neurotrauma Foundation for Phase III of the Project, the goal of which is the implementation of the recommended outcome measures throughout the Toronto ABI Network. The Panel was informed of this during the final meeting.
- (*D*) As noted, during the third meeting, the Panel decided to recommend "global" outcome measures, and also concluded that the recommendation of approximately five measures was appropriate at the present time.
- (*E*) The entire spectrum of injury severity (mild to severe) should be covered by the recommended outcome measures, and the sensitivity of each of the measures was discussed as part of the criteria for recommendation by the Panel.
- (*F*) This concern is addressed by the present document.

Methods Used in Recommending Outcome Measures

After discussing the issues related to the selection and use of outcome measures, the Panel discussed the actual process for objectively evaluating the many outcome measures that would be discussed. A rating sheet for the evaluation of outcome measures was developed and used by the Panel throughout the selection process (see Appendix C for a list of the selection criteria/rating form).

As noted, initially the selection of outcome measures into functional areas was attempted: 1) Physical/Medical, 2) Cognition / Cognitive-Communication, 3) Emotional/Behavioural, 4) Client/Family Satisfaction with Care, 5) Community Involvement, 6) Family Functional Interaction. A list of outcome measures was then generated and recommended for review by the Panel members, obtained by the project team, and brought to the Panel meetings for evaluation based on the rating list (see Appendix D for a total list of outcome measurement tools examined by the Panel).

By the second meeting, the goal of the Consensus Panel was altered to the selection of widely applicable "global" outcome measures that would act as a first step in "moving the ABI Network toward best practice gradually" (see appendix C for a list of the global measures examined). As the Panel moved in a more general direction, it was recommended that the selection of functional specific outcome measures be completed by subcommittees that could be convened for each functional area during a future phase of the project.

Global Measures Recommended

One purpose of convening the Consensus Panel was to obtain the advice of a variety of experts in the field of acquired brain injury regarding the use of outcome measures. Over the course of discussion, Panel members made several recommendations. All recommendations were achieved via consensus; all Panel members were explicitly asked if they agreed with the recommendations being tabled. The Panel recommended three "Global" outcome measures generally designed to measure a variety of functional abilities. The selection of a fourth set of outcome measures related to Client Satisfaction with Care was deferred to the Best Practice Project Working Group, as more information was required following the final Panel meeting before a decision could be made.

1.) Consensus Panel Recommendations (June 2001):

- Functional Independence Measure (FIM®) - adult (WeeFIM®) - pediatric
- Disability Rating Scale (DRS) - adult and pediatric
- Mayo-Portland Adaptability Inventory (MPAI) - adult and pediatric

2.) Best Practice Project Working Group Recommendations (client satisfaction with care) (June 2001):

- Measure of Process of Care - short version (MPOC-20) - children to 12 years old
- Measure of Process of Care - adolescent version (MPOC-A) - adolescents 13-21 years
- WASCANA Client Centered Care Survey (WASCANA-CCS) - adults 21 years up

PART III

**OUTCOME MEASURES MANUAL
VERSION 3.0**

MAY 2002

Part III - the Outcomes Measurement Manual - has not been included in the electronic copy of this report as it is intended to be provided to, and used by, member organizations of the Toronto ABI Network.

PART IV

DATABASE OF OUTCOME MEASURES

The database itself will be a simple relational database in Microsoft Access and will be housed at the Toronto ABI Network and managed by the Best Practices Project Coordinator.

The database for the project includes data points related to:

- client demographics
- scores for individual clients on each of the relevant outcome measures
- ratings by service providers, clients, and families about the utility of the tools and their satisfaction with the tools

Data Analysis will include:

- tracking of aggregate outcome measure scores at the various points of the continuum
- comparison of outcome measure scores as the client moves from one phase of the continuum to another
- utility of each relevant outcome measure as a component of decision making at time of referral to a new level of care
- determination of the clinical utility of the various tools, the ease of administration, and the resource intensity required to administer the tools

Once the project is completed, the data from the project database will be integrated into the Toronto ABI Network Client Tracking system. The intent is that outcome measures will become part of the regular collection of data on all clients referred through the system. The data can then be used for client-specific purposes as well as for system-level purposes as aggregate data.

The following pages outline some of the data points that will be collected during the implementation of the outcome measures.

Development of a Comprehensive Best Practice Brain Injury Model - Phase II

Toronto ABI Network Best Practice Project: Data points Phase III September 17, 2001				
		Scoring		Scoring
<i>Demographic Data Points</i>	Name		<i>Client/Family and Clinician</i>	
	Gender		<i>Assessment of Outcome Measures Scores</i>	
	Age			
	Health #			
	Injury Date			
	Date administration			
FIM®: (18 items)	Eating	1-7	Time to complete measure	# min
	Grooming	1-7	Ease of administration with client	1-5
	Bathing	1-7	Usefulness of measure	1-4
	Dress-up	1-7	Ease of administration and accuracy	1-4
	Dress-do	1-7	Overall satisfaction	1-5
	Toiletin	1-7		
	Bladder	1-7		
	Bowel	1-7		
	Chair	1-7		
	Toilet	1-7		
	Shower	1-7		
	Walk	1-7		
	Stairs	1-7		
	Compreh	1-7		
	Express	1-7		
	Interact	1-7		
	Problems	1-7		
	Memory	1-7		
Self-care total (items 1-8)		8-56		
Mobility total (items 9-13)		5-35		
Cognition total (items 14-18)		5-35		
FIM® Total		18-126		

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Toronto ABI Network Best Practice Project: Data points Phase III September 17, 2001				
DRS: (8 items)	1Eye open	0-3	Time to complete measure	# min
	2Communi	0-4	Ease of administration with client	1-5
	3Motr res	0-5	Usefulness of measure	1-4
	4Feeding	0.0-3.0	Ease of administration and accuracy	1-4
	5Toileti	0.0-3.0	Overall satisfaction	1-5
	6Groomin	0.0-3.0		
	7Function	0.0-5.0		
	8Employ	0.0-3.0		
Arousal, Aware, Resp total (items 1-3)		0-12		
Cognitive ability self care total (items 4-6)		0.0-9.0		
Dependence on others total (items 7-8)		0.0-8.0		
DRS total score		0.0-29.0		
MPAI-3: (34 items)	1Mobilit	0-4	Time to complete measure	# min
	2Use hand	0-4	Ease of administration with client	1-5
	3Vision	0-4	Usefulness of measure	1-4
	4Auditio	0-4	Ease of administration and accuracy	1-4
	5MotSpee	0-4	Overall satisfaction	1-5
	6Communi	0-4		
	7Att/con	0-4		
	8Memory	0-4		
	9Fund inf	0-4		
	10Nov pr	0-4		
	11Visuos	0-4		
	12Anxie	0-4		
	13Depre	0-4		
	14Anger	0-4		
	15Pain/h	0-4		
	16Initia	0-4		
	17Soc in	0-4		
	18Self a	0-4		
	19Relati	0-4		
	20Soc ct	0-4		

Development of a Comprehensive Best Practice Brain Injury Model - Phase II

Toronto ABI Network Best Practice Project: Data points Phase III September 17, 2001				
	21Recrea	0-4		
	22Self c	0-4		
	23Reside	0-4		
	24Transp	0-4		
	25Worksc	0-4		
	26Financ	0-4		
	27Child	0-4		
	28Alco u	0-4		
	29Drug u	0-4		
	30Psycho	0-4		
	31Lawle	0-4		
	Physical/Cognitive scale (items 1-11)	0-44		
	Pain/Emotion Scale (items 12-15)	0-16		
	Social Participation (items 19-28)	0-40		
	Total Score (34 items)	0-136		
MPOC-20: (20 items)	1Compete	0-7	Time to complete measure	# min
	2Wri Inf	0-7	Applicability of questions	1-4
	3Caring	0-7	Ease of completion	1-4
	4Cho. Inf	0-7	Overall satisfaction	1-5
	5Wholene	0-7		
	6Consist	0-7		
	7Treatme	0-7		
	8TrDeci	0-7		
	9Talking	0-7		
	10Plan	0-7		
	11Equal	0-7		
	12ConInf	0-7		
	13Indivi	0-7		
	14WrInfo	0-7		
	15Result	0-7		
	16Servic	0-7		
	17DisInf	0-7		

Development of a Comprehensive Best Practice Brain Injury Model - Phase II

Toronto ABI Network Best Practice Project: Data points Phase III September 17, 2001				
	18Dissem	0-7		
	19Mulmed	0-7		
	20Connec	0-7		
Enabling and partnership				
Providing general information				
Providing specific information				
Coordinated and comprehensive care				
Respectful, supportive care				
Total score (20 items)		0-140		
<i>MPOC-A: (56 items)</i>	1useinfo	0-7	Time to complete measure	# min
	2flexapp	0-7	Applicability of questions	1-4
	3individ	0-7	Ease of completion	1-4
	4languag	0-7	Overall satisfaction	1-5
	5liveown	0-7		
	6setopic	0-7		
	7explana	0-7		
	8knowyou	0-7		
	9nochild	0-7		
	10talkyo	0-7		
	11future	0-7		
	12alneed	0-7		
	13retrea	0-7		
	14expres	0-7		
	15nechan	0-7		
	16trusem	0-7		
	17connec	0-7		
	18prskil	0-7		
	19getalo	0-7		
	20feelin	0-7		
	21dtreat	0-7		
	22finsay	0-7		
	23humour	0-7		
	24carnew	0-7		
	25transp	0-7		

Development of a Comprehensive Best Practice Brain Injury Model - Phase II

Toronto ABI Network Best Practice Project: Data points Phase III September 17, 2001			
	26detail	0-7	
	27assres	0-7	
	28talkti	0-7	
	29rules	0-7	
	30people	0-7	
	31servic	0-7	
	32learni	0-7	
	33caring	0-7	
	34treatm	0-7	
	35youwan	0-7	
	36listen	0-7	
	37answer	0-7	
	38sureyo	0-7	
	39honest	0-7	
	40doing	0-7	
	41qualif	0-7	
	42time	0-7	
	43detail	0-7	
	44smile	0-7	
	45progre	0-7	
	46ontime	0-7	
	47late	0-7	
	48calls	0-7	
	49social	0-7	
	50organi	0-7	
	51groups	0-7	
	52activiy	0-7	
	53volunt	0-7	
	54speake	0-7	
	55area	0-7	
	56long	0-7	
	Supportive / respect relations (items)		
	Information Sharing (items)		
	Supporting Independence (items)		
	Teen Centered Services (items)		
	MPOC-A total score (56 items)	0-392	

Development of a Comprehensive Best Practice Brain Injury Model - Phase II

**Toronto ABI Network
Best Practice Project: Data points Phase III
September 17, 2001**

<i>Wascana Neurosciences: (40 items)</i>				# min
<i>(This is one example of the five versions Of the Wascana outcome measure)</i>	1dignity	1-5	Time to complete measure	
	2caring	1-5	Applicability of questions	1-4
	3numprov	1-5	Ease of completion	1-4
	4neuarea	1-5	Overall satisfaction	1-5
	5carissu	1-5		
	6importa	1-5		
	7goals	1-5		
	8setgoal	1-5		
	9teamgoa	1-5		
	10phycon	1-5		
	11waitti	1-5		
	12comfor	1-5		
	13discha	1-5		
	14provid	1-5		
	15dispro	1-5		
	16disinf	1-5		
	17serdis	1-5		
	18inform	1-5		
	19suppor	1-5		
	20questi	1-5		
	21pain	1-5		
	22painco	1-5		
	23LOS	1-5		
	24carein	1-5		
	25family	1-5		
	26active	1-5		
	27tests	1-5		
	28rest	1-5		
	29involv	1-5		
	30respec	1-5		
	31daily	1-5		
	32privac	1-5		
	33worry	1-5		
	34sorrou	1-5		
	35easeca	1-5		
	36comfor	1-5		
	37feelin	1-5		

PART V

PILOT IMPLEMENTATION OF OUTCOME MEASURES AT COMMUNITY HEAD INJURY RESOURCE SERVICES (CHIRS)

The implementation template (included in the outcome measures manual) was based upon the experience of outcome assessment implementation at CHIRS. CHIRS is a community-based residential and outreach programs. Registered health care professionals provide supervision and design services, but the majority of outcomes measurement in this setting is completed by persons without extensive training in assessment. Completing a pilot in this setting identified issues regarding training and implementation of the core set of outcome measures throughout the Toronto ABI Network.

The MPAI and DRS were introduced into the assessment package for persons entering community support services in July 2001. The primary workers of clients already receiving services were asked to review and complete these measures and provide the information to the psychologist prior to regular care review sessions. To date, staff have completed measures with 36 persons receiving community support services at CHIRS. These persons are of varied functional levels (from severe functional impairment to mild functional impairment) and are in the post-acute and community re-entry phase of care. These clients live in community settings, some of which are supervised. Persons living in CHIRS residential settings were not included in this pilot.

In addition to issues addressed by the questions outlined in the implementation template, the following issues were identified through initial use of measures at CHIRS. Review of these issues is helping the Project Team to anticipate issues that may arise in the other agencies participating in the implementation of the core set of outcome measures:

1. A decision needed to be made whether staff should only base reports on direct observation or whether information obtained in interviews should also be included. It was suggested that completion of the forms should be based upon direct observation alone for the MPAI, and all information sources for the DRS.
2. Prior to formal implementation, a method for reliability checks should be in place. Such a check will provide decision rules for conflicts between staff/supervisor and/or psychologist ratings.
3. Given the ongoing nature of services, a decision needed to be made regarding the best timing for the assessments to occur. It was suggested that for new clients, the MPAI be completed at the end of the formal CHIRS assessment period (3 to 6 weeks, including specific functional assessments) by the primary worker. This will enable the workers to have adequate exposure to their clients' functional abilities. Clients and their significant others may be asked to complete the MPAI at admission to the program for comparison. For clients in ongoing service, measures may also be completed yearly, at the time of service planning.

4. The Wascana Client Centered Care Survey was deemed inappropriate for use at CHIRS because of its emphasis on discharge. CHIRS provides long-term care and as a result, there are few discharges. The authors of the Wascana are being consulted concerning the modification of this tool for community-based rehabilitation, which may be appropriate for use at CHIRS.

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Appendix A

Members of the Best Practice Project Working Group - Phase II

- Dr. Clare Brandys (Co-chair) *Research Associate: The Toronto Rehab Institute*
- Ms. Linda Yetman (Co-chair) *The Riverdale Hospital*
- Dr. Carolyn Lemsky *Community Head Injury Resource Services*
- Gail Kirkwood *Bloorview MacMillan Children's Centre*
- Val Lusted *Bloorview MacMillan Children's Centre*
- Irene Sullivan *The Toronto Rehabilitation Institute*
- Sonya Torretier *St. Michael's Hospital*
- Rika Vander Laan *Toronto Acquired Brain Injury Network*
- Randall Waechter *Best Practice Project Coordinator*

Consensus Panel Members

- Ms. Mary Ann Neary (Chair) *University Health Network, Toronto
Western Hospital*
- Dr. Nora Cullen *Toronto Rehabilitation Institute*
- Dr. Deirdre Dawson *University of Toronto*
- Ms. Linda Ferrier *Toronto Community Care Access Centre*
- Ms. Caron Gan *Bloorview MacMillan Children's Centre*
- Dr. Gary Gerber *West Park Health Care Centre*
- Ms. Shari Hughes *Sunnybrook & Women's College
Health Sciences Centre*
- Dr. Peter Rumney *Bloorview MacMillan Children's Centre*
- Ms. Jane Stretton *Toronto Rehabilitation Institute*
- Ms. Virginia Wright *Bloorview MacMillan Children's Centre*
- Ms. Linda Yetman *Sunnybrook & Women's College
Health Sciences Centre*
- Dr. Clare Brandys *Toronto Acquired Brain Injury Network*
- Dr. Carolyn Lemsky *Community Head Injury Resource Services*
- Ms. Rika Vander Laan *Toronto Acquired Brain Injury Network*
- Mr. Randall Waechter *Best Practice Project Coordinator*

Appendix B

Best Practice Project Newsletters



This is the fifth newsletter of the Best Practice Brain Injury Model Project. It has been published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

New Project Coordinator Hired!

The Team would like to announce the appointment of Randall Waechter to the position of Project Coordinator for the Best Practice Project, Phase II. Randy is currently a graduate student in Psychology at York University, and brings significant research, analytical, and organizational skills to this position. This is a one-year, part-time, contract position. Thanks to our outgoing Phase I staff: Ms. I. Sullivan and Dr. C. Lemsky, who remain as members of the Phase II Best Practice Project Working Group.

Project Progress

As a result of the complexity and completion of Phase I of the Best Practice Project in October 2000, the start of Phase II is continuous with this process. The project team has been charging ahead for the past several months, and has continued this momentum with the hiring of a new Best Practice Project coordinator. Randy is now on board and (somewhat) oriented, the project is continuing, and as a result, November has been a busy month indeed:

- The Best Practice Project Team met on November 10 to discuss the immediate direction of the project
- Several members of the Project Team attended the National Conference on Brain Injury in Vancouver from November 16-18, to disseminate project results
- The Best Practice Project Phase I Final Report was finalized, printed, and will soon be distributed to all members of the ABI Network as well as the Ontario Neurotrauma Foundation (ONF)
- The ABI Network Strategic meeting was held on November 24th in which the progress of the Best Practice Project was discussed
- The Best Practice Project Working Group met on November 30 to discuss the next steps of the project

Objectives

With the initiation of Phase II of the ABI Network's Best Practice Project comes the expected project results and outcomes throughout the following year.

1. The Working Group Committee, under advisement and close communication with professionals in their institutions, will design a method of selecting the outcome measures that will be recommended to every member institution of the Toronto Acquired Brain Injury Network. To facilitate this goal and obtain more membership input, the Best Practice Project Team has proposed an increase in the size of the Working Group, or the establishment of a Consensus Group on Outcome Measurement.
2. The Working Group or Consensus Group will then recommend what outcome measures the members believe should be utilized across the Toronto ABI network.
3. The member institutions of the ABI Network will then work towards a consensus on the proposed outcome measures. Member input will be forwarded through the expanded working group committee.
4. The working group will then develop a plan for implementing the outcome measures at several sites involving the range of care across the Toronto ABI network. This will include collaboration with those interested in becoming pilot sites.
5. A system of data collection, storage, and analysis will be designed for the outcome measures being implemented.
6. The Working Group will develop a manual which details the implementation and utilization of outcome measures across the member institutions of the Toronto ABI network, to assist in the implementation of standardized outcome measures.

Outcome Measures

A listing of the outcome measures being used by network programs and those described in the literature are included in the Best Practice Project Phase I Final Report and will be made available to all members of the ABI network. The outcome measures described in the rehab literature and in use at some of the sites visited last year by members of the Best Practice Project are listed below:

Measures of Global Disability:

- Functional Independence Measure (FIM)
- Functional Assessment Measure (FAM)
- Disability Rating Scale (Rappaport et al., 1982)
- Rancho Los Amigos Scale (Hagen et al., 1972)
- Glasgow Outcome Scale (Jennet & Bond, 1975)

Global Measures of Satisfaction with Life:

- The satisfaction with Life Scale (Diener et al., 1985)
- The Life Satisfaction Index (Neugarten et al., 1961)
- The Wisconsin HSS Quality of Life Index (Gallagher-Lepak, 1996)

Resumption of Social Roles Questionnaires:

- Community Integration Questionnaire (CIQ)
- Reporting Technique (CHART / Brief CHART)
- The American Speech-Language-Hearing Association Functional Assessment of Communication Skills for Adults (Frattali et al., 1995)
- Mayo-Portland Adaptability Scale (Malec & Thompson, 1994)
- Sydney Psychosocial Reintegration Scale (Tate, 1999)
- Craig Handicap Assessment (Whiteneck et al., 1992)
- Brain Injury Community Reintegration Outcome Scale

Best Practice Project Team Continues to Spread the Word

Members of the Toronto ABI Network's Best Practice Project Team traveled to the Pacific conference on Acquired Brain Injury from November 15 - 22, 2000 to make a presentation. The title of the presentation was; "Development of a Comprehensive Best Practice Model for Brain Injury: A First Year's Experience". About 90 people attended the presentation, gave positive feedback, and connections were made with a number of groups and individuals, who would like to link around this work.

Search for Best Practices

Are you aware of practices at an agency that is worthy of note? Let us know!

Leave a message on the Best Practice Project phone line at: 416-597-3422 ext. 3923

BP Site Visits - Chedoke ABI Program

This program includes standard measures such as the **FIM** and **FAM** as well as some of the Global Disability Measures listed on the left. Program efficacy is measured via **length of stay data**, a review of **waiting times** for various types of treatment and **occurrence reports**. Client and family satisfaction is measured with the **Client Satisfaction Questionnaire (CSQ)**. Interestingly, **staff satisfaction** is also measured, a construct not typically noted in the outcome literature. Individual client outcomes are measured by assessing **achievement of pre-determined goals**.

The Best Practice Working Group of the Toronto ABI Network continues to meet regularly and offers direction to the Project Team.



Best Practice Working Group

Dr. Clare Brandys	<i>Toronto Rehab - Research Associate/ABI Network (chair)</i>
Dr. Guy Proulx	<i>Baycrest Centre for Geriatric Care</i>
Gail Kirkwood	<i>Bloorview MacMillan Centre</i>
Dr. Carolyn Lemsky	<i>CHIRS</i>
Val Lusted	<i>Bloorview MacMillan Centre</i>
Irene Sullivan	<i>Toronto Rehab Institute</i>
Sonya Torreiter	<i>St. Michael's Hospital</i>
Rika Vander Laan	<i>Toronto Acquired Brain Injury Network</i>
Linda Yetman	<i>Sunnybrook & Women's College Health Science Centre</i>
Randall Waechter	<i>Research Coordinator</i>

Best Practice Project Team

Dr. Clare Brandys	<i>Principal Investigator</i>
Dr. Carolyn Lemsky	<i>Co-investigator</i>
Rika Vander Laan	<i>Co-investigator</i>
Randall Waechter	<i>Research Coordinator</i>

Best Practice Project Contact

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Randall Waechter



This is the sixth newsletter of the Best Practice Brain Injury Model Project. It has been published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

Project Progress

The past several months of work on the Best Practice Project have been very productive. The BP Project Team and BP Project Working Group have met several times to discuss the next steps of the project and to complete a variety of tasks. The following objectives have been completed over the past two months:

- The Best Practice Project Phase I Final Report was widely distributed throughout the ABI Network. A second printing of the report is planned within the next month.
- Members of the Best Practice Project Working Group visited most of the member organizations of the ABI Network to present the recommendations of the Phase I Final Report and obtain feedback on the report from service provision teams. The Best Practice Project Team and Working Group members were encouraged by the enthusiasm and interest in the project that has been demonstrated by many individuals throughout the Network. Several agency visits remain. See the next newsletter for updates on this feedback process.
- A list of outcome measures being used by each ABI Network member institution was mailed to each site. Members were asked to review, update, and validate the list as required and send these changes to the BP Project Coordinator. This revised list will be presented to the consensus panel (see below)
- An abstract on the progress of Phase II of the Best Practice Project was sent to the organizers of the Interurban Conference, being held October 25 & 26, 2001, in London, Ontario.
- Brain Injury experts and professionals from throughout the GTA were contacted and invited to participate in a consensus panel. See below for more information regarding the consensus panel.

- The BP Project Team is applying for funds to continue Phase III of the Best Practice Project for the term October 2001 – October 2002. The focus of Phase III of the project will be the piloting and data collection of recommended outcome measures throughout the ABI Network. The Ontario Neurotrauma Foundation grant proposal was due on March 1, 2001.
- The Best Practice Project Team and Working Group continue to meet on a monthly basis to discuss the direction of the Best Practice Project. Thanks to all those Team and Working Group members who continue to work diligently on the project!

Consensus Panel Formed

The Best Practice Project Team would like to announce the formation of a consensus panel. This panel of experienced professionals will come together and recommend outcome measures based on current literature and experimental / treatment-based evidence, and which are applicable to all phases of acquired brain injury treatment. The consensus panel will meet four times throughout the next several months. As of printing, the consensus panel has met for the first time, and consists of the following participants:

- Virginia Wright - Bloorview MacMillan Centre
- Mary Ann Neary – Toronto Western Hospital
- Dr. Deirdre Dawson – Baycrest Centre for Geriatrics
- Dr. Nora Cullen – Toronto Rehabilitation Institute
- Dr. Peter Rumney – Bloorview MacMillan Centre
- Linda Ferrier – Toronto CCAC
- Linda Yetman – Sunnybrook & Women's College
- Shari Hughes – Sunnybrook & Women's College
- Caron Gan – Bloorview MacMillan Centre (FSS)
- Jane Stretton – Toronto Rehabilitation Institute
- Dr. Gary Gerber – West Park Hospital (Behavioural)

Consensus Panel Mandate

The long-term objective of the Best Practice Project is to identify, implement and validate empirically based best practice guidelines to be used by treating professionals for individuals with an acquired brain injury from the time of the individual's hospital admission to their re-integration into the community.

The mandate of the consensus panel as outlined by the Best Practice Project Working Group is to choose outcome measures for ABI services that facilitate the following:

- Communication across the different phases of care in the Toronto ABI Network: acute hospital care, inpatient rehabilitation care and community services
- Assistance in triaging and referring of clients by providing necessary client information to each phase of treatment in the continuum
- Inclusion of pediatric considerations in the project
- Measurement of efficacy of various programs and their impact on clients and families
- Consideration of outcome measures which are reliable, valid and accepted on a broad level, including within the Toronto ABI Network.



Best Practice Project Team Continues to Spread the Word

Members of the Toronto ABI Network's Best Practice Project Team presented some of the project's findings and recommendations at the GTA Rehab Network's Research Day, which was held on Wednesday, February 7, 2001 at the Moonlight Ballroom in Toronto. Dr. Carolyn Lemsky delivered a podium presentation in the afternoon and the team was available for questions afterwards.

Search for Best Practices

Are you aware of practices at an agency that is worthy of note? Let us know!

Leave a message on the Best Practice Project phone line at: 416-597-3422 ext. 3923

BP Site Visits – Barrows Neurological Institute: Phoenix, Arizona

Adult Day Hospital Program

The program is an intensive daily individual and insight-oriented milieu therapy based on Ben-Yishay and Prigatano's models. Return to work and maximal level of community living are major components of the program. There is strong emphasis on a common approach by all therapists and family members and weekly attendance in all respects of the program is enforced.



Best Practice Working Group

Dr. Clare Brandys	<i>Toronto Rehab - Research Associate/ABI Network (chair)</i>
Dr. Guy Proulx	<i>Baycrest Centre for Geriatric Care</i>
Gail Kirkwood	<i>Bloorview MacMillan Centre</i>
Dr. Carolyn Lemsky	<i>CHIRS</i>
Val Lusted	<i>Bloorview MacMillan Centre</i>
Irene Sullivan	<i>Toronto Rehab Institute</i>
Sonya Torreiter	<i>St. Michael's Hospital</i>
Rika Vander Laan	<i>Toronto Acquired Brain Injury Network</i>
Linda Yetman	<i>Sunnybrook & Women's College Health Science Centre</i>
Randall Waechter	<i>Research Coordinator</i>

Best Practice Project Team

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Dr. Carolyn Lemsky	<i>Co-investigator</i>
Rika Vander Laan	<i>Co-investigator</i>
Randall Waechter	<i>Research Coordinator</i>

Best Practice Project Contact

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Randall Waechter



This is the seventh newsletter of the Best Practice Brain Injury Model Project. It has been published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

Project Progress

The Toronto ABI Network's Best Practice Project has been forging ahead for the past couple of months. Following are highlights of the project during this time:

- Feedback from the Best Practice Phase I Final Report site visits was documented, grouped by themes (much thanks to Sonya Torreiter and Val Lusted) and discussed. See *Presentation Feedback* further outlined in this issue of the Newsletter.
- The BP Project Team will be making several presentations in the next few months: at the NRS Outcome Conference on June 15 in Toronto, at the ONF Annual General Meeting in Toronto on June 26, at the Inter-Urban ABI Conference in London, Ontario on October 25 – 26, 2001, and at the Pacific Coast Brain Injury Conference being held in Vancouver, BC from Oct 12 – 13, 2001.
- The BP Project Working Group continues to discuss and implement the next steps in the project. This includes the formation of a subcommittee to develop a strategic plan for implementing the 11 recommendations from the Phase I Final Report across the ABI Network
- The Consensus Panel continues to meet and recommend outcome measures for use across the ABI Network. See *Consensus Panel* in this issue of the Newsletter.
- The BP Project Team awaits word from the Neurotrauma Foundation concerning funding for Phase III of the Project.

Consensus Panel

The Consensus Panel has met three times as of the date of this Newsletter. The Panel is examining outcome measures categorized by functional area and point along the continuum of care. The functional areas being examined include:

- Physical / Medical
- Cognition / Communication
- Emotional / Behavioural
- Client / Family Satisfaction with outcomes
- Community Involvement
- Family Functioning / Interaction

The stages of care along the continuum are 1.) Acute Care 2.) Inpatient Rehab 3.) Ambulatory care 4.) Community Services.

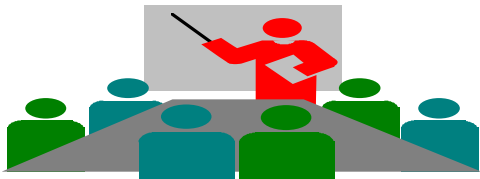
When charted, these ten domains create a matrix with 24 cells. The goal of the Consensus Panel continues to be the selection of a small number of outcome measures that will apply to as many functional areas and stages of care as possible. As a result of the complex nature of this task, the Consensus Panel agreed to hold a fifth meeting in June 2001.

The final recommendations of the Consensus Panel will be published in the July edition of the BP Newsletter as well as in the BP Project Phase II Final Report this fall. The BP Project Team would like to thank the hard work of all the Consensus Panel and Working Group members who have shown incredible dedication to the project.

Presentation Feedback

Members of the Best Practice Project Working Group visited most of the member organizations of the ABI Network earlier in the year to present the 11 recommendations of the Phase I Final Report and obtain feedback on the report from service provision teams. The Working Group members recorded notes during these presentations, and the feedback has been summarized as follows:

- 1.) Systems Coordination – standardizing practices across the agencies and the continuum and coordinating service delivery
 - Coma
 - Cognitive Assessment
 - Behavioural Assessment
 - Physical Assessment
 - Outcome Measurement
 - Identifying agencies scope, philosophy etc.
- 2.) Service Delivery Models
 - Increased community integration from beginning of continuum of care
 - Lifelong service modules
 - Expansion of programs available for difficult to serve clients



- 3.) Client / Family Communication
 - Individual client / family level participation in planning, opportunities for feedback
 - System level feedback to the network that drives program planning, an ombudsman?
- 4.) Funding issues
- 5.) Prevention of Brain Injury
- 6.) Increasing effectiveness of Network communication with all teams

Search for Best Practices

Are you aware of practices at an agency that is worthy of note? Let us know!

Leave a message on the Best Practice Project phone line at: 416-597-3422 ext. 3923

BP PROJECT RECOMMENDATIONS PHASE I FINAL REPORT

Recommendation # 1

A standardized protocol should be used in the assessment of minimally responsive (e.g., in coma) individuals

Issues to be addressed:

- a.) Provision of an empirical basis for predicting outcomes and selecting treatments.
- b.) Further research to identify measures that are the most predictive and cost effective, and yield information relevant to clinical intervention.



Best Practice Working Group

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T o r o n t o

**Acquired
Brain Injury
Network**



Best Practice Model Project Newsletter

July 2001

This is the eighth newsletter of the Best Practice Brain Injury Model Project. It is published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

Consensus Panel Results

The Consensus Panel met for the fifth and last time on June 7, 2001 to complete the task of recommending outcome measures for use throughout the Toronto ABI Network. The Best Practice Project Phase II Final Report, due out this fall, will consist of detailed information concerning the consensus process. In the meantime, the results of the consensus panel process are outlined below:

- The Consensus Panel concluded that only "global" outcome measures should be considered at this time. By global the Panel refers to the fact that the measure quantifies level of functional impairment across several domains of interest. It was decided that the selection of outcome measures for each of the functional areas outlined in the last newsletter would be too large a task;
- The criteria used by the Panel to evaluate each outcome measure included the *reliability* and *validity* of the measure, its *cost*, *availability*, *current use*, *time*, *training and mode of administration*, *responsiveness*, *clinical utility* and its *compatibility with routine practice*.
- The Consensus Panel examined approximately 45 outcome measures in varying degrees. A complete list of the measures examined will be included in the Phase II Final Report.
- The outcome measures listed here can be found on the Centre for Outcome Measurement in Brain Injury website at:
<http://www.tbims.org/combi/list.html>

The following outcome measures have been recommended by the Consensus Panel:

- The Disability Rating Scale (DRS). This measure was chosen because it is helpful as a global outcome scale and is more discriminatory than the GOS.
- The *Functional Independence Measure (FIM)* and (*WeeFIM*) for pediatrics. The FIM was selected mostly because it is being widely used and is currently a minimum data set requirement throughout Ontario.
- The *Mayo-Portland Adaptability Inventory (MPAI)*. This measure has been recommended because of its ease of administration, its psychometric reliability and validity, its ability as a clinical screening tool, and that fact that it is free.
- The BP Project Working Group has tentatively recommended the following client satisfaction measures: The *Measure of Process of Care (MPOC) short version* for children, the *Measure of Process of Care-Adolescent (MPOC-A) full-length version* for adolescents, and the *WASCANA* for the adult population. The details of these measures will be reviewed in the *Preliminary Core Outcome Measures Manual* currently being produced by the Best Practice Project Team.

Funding for Phase III

The Best Practice Project Team learned in early June that the Ontario Neurotrauma Foundation has awarded funding at a reduced rate for Phase III of the BP Project entitled: "Pilot and Implementation of Outcome Measurement in the Toronto ABI Network", which will proceed through August, 2002.

with treatment teams to review the recommendations over the next several months.

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Best Practice Project Working Group Progress

The Best Practice Project Team would like to recognize and thank the Working Group members for their dedicated and tenacious work on the Best Practice Project over the past several months. The Working Group is working on the following projects as they prepare to wrap up Phase II of the Project within the next couple of months and move into Phase III:

- A plan for the implementation of the 11 recommendations outlined in the Phase I Final Report has been drafted and is under review. The Working Group will begin collaborating
- Discussion concerning the rollout and piloting of the Consensus Panel recommended outcome measures at selected sites in the ABI Network is taking place and a plan is being developed.

Out and About.....

The Best Practice Project Team was very busy presenting at conferences and special events during Brain Injury Awareness Month (June). This included a presentation at the Neuro Rehab Services Outcome Measures Conference, the Ontario Neurotrauma Foundation's Annual General Meeting and the Riverdale ABI Awareness Day Networking and Information Session.

BP PROJECT RECOMMENDATIONS PHASE I FINAL REPORT

Recommendation # 2

A core battery of neurocognitive assessments with guidelines for the timing of assessments across agencies should be developed

Issues to be addressed:

- a.) Guidelines should reflect a clear understanding of post traumatic amnesia and
- b.) Its impact on assessment;
- c.) Assessments chosen and the presentation of assessment results should reflect a clear understanding of the purpose of the assessment as diagnostic, descriptive and/or treatment planning;
- d.) Assessment should include evaluation of relevant cognitive domains and functional abilities in both standardized and natural settings as well as evaluate the impacts of cognitive impairment on social interaction;
- e.) Assessment should be functionally based and cross disciplinary;
- f.) Incorporation of the minimum data set for rehab, adding tools, and assessments of relevance to the BI population



Best Practice Working Group

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T o r o n t o

**Acquired
Brain Injury
Network**



Issue # 9

**Best Practice Model
Project Newsletter**



September 2001

This is the ninth newsletter of the Best Practice Brain Injury Model Project. It is published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

Implementation of Outcome Measures

Feeling confused about the rollout and implementation of the outcome measures that were recommended by the Consensus Panel this past summer? Our Project Team and Working Group have heard various questions from staff in agencies throughout the Network about when and how they should be implementing these measures.

As indicated in the previous newsletter and other communications. The following measures were chosen as the Preliminary Core Outcome Measures for the ABI Network:

- Functional Independence Measure (FIM/WeeFIM)
- Disability Rating Scale (DRS)
- Mayo Portland Adaptability Inventory (MPAI)
- Measure of Process of Care (MPOC), and Adolescent version (MPOC-A)
- WASCANA Client Centered Care Survey

The Best Practice Project Team is delighted by the enthusiasm demonstrated by Network staff regarding the current Best Practice Project. It is encouraging to see that service providers throughout the GTA are dedicated to a Network-wide outcome measurement process for clients with an ABI.

The Project Team does not wish to discourage agencies from taking first steps to implement these outcome measures in their day-to-day practice. However, they would like you to know that assistance, in the form of coordination, logistical,

and limited financial support, will be provided during the implementation of these measures throughout Phase III of the Best Practice Project.

Phase III of the Project is just beginning, and the official rollout and implementation of the recommended outcome measures will take place over the course of several months, starting around November. Initially, the Project Team will focus on the pilot implementation of these measures (see below).

In the interim, if you have any questions or concerns about the implementation of the recommended outcome measures at your agency, do not hesitate to contact Randall Waechter, the Best Practice Project Coordinator. Contact information is listed in this newsletter.

Pilot Implementation

As of the release of this newsletter, the BP Project Team is busy collaborating with staff at SMH and CHIRS, two agencies within the Toronto ABI Network. The purpose of this collaboration is to begin collecting pilot data on the chosen outcome measures, and provide information concerning the logistics of collecting this data.

Rehab Reform Pilot Project

The Toronto ABI Network, in conjunction with the GTA Rehab Network, has been selected by the MOH<C to carry out a study examining a rehab

reform model entitled: "The Seamless Model of Care". This project will track gaps in rehab service delivery at transitions in care. The project will include the examination of ABI and MS clients, and given certain overlaps in the projects, the Rehab Reform Project and Phase III of the Best Practice Project will be carried out in tandem over the next year.

Eight of the 17 agencies throughout the ABI Network will be involved in both of these projects. The projects will complement each other in the collection of outcome measures data from these eight agencies. As well, the investigators from the two projects hope to work together to efficiently complete the objectives of each project. More information concerning these projects will be made available to all Network agencies in the coming months.

Conference Presentations

The Best Practice Project Team is preparing to present at two brain injury related conferences during the month of October:

"Development of a Comprehensive Best Practice Model: A Second Phase" on Friday, October 12 at 3:00 pm

- At the Interurban ABI Conference in London, Ontario, the Project Team will give a 45 minute presentation entitled: "Coordinating Outcome Measures Across Agencies: Phase II of the Toronto ABI Network Best Practices Project" on Friday, October 26 at 11:10 am

The BP Project Team hopes to see you there and obtain your feedback on the progress of the project!

- At the Pacific Coast Brain Injury Conference in beautiful Vancouver, British Columbia, the Project Team will give a 1 hour presentation:

Search for Best Practices

Are you aware of practices at an agency that are worthy of note? Let us know! Leave a message on the Best Practice Project phone line at: (416) 597 - 3422 ext. 3923

BP PROJECT RECOMMENDATIONS PHASE I FINAL REPORT

Recommendation # 3: Behavioural assessment should be conducted throughout the continuum

Issues to be addressed:

- a.) Screening for common behavioural difficulties (e.g. initiation and organization) should be part of the assessment of neurobehavioural consequences of BI and psychosocial interaction;
- b.) Behavioural assessment should be descriptive; i.e. clinicians should avoid pathologizing (or judging) behaviour, but rather describing it in the context of the environment, neurocognitive status or psychosocial function of the individual;
- c.) Cultural considerations should be included in assessment procedures;
- d.) Attempts should be made to coordinate between service providers and families to monitor behaviour in natural settings.



Best Practice Working Group

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**Acquired
Brain Injury
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Issue # 10

**Best Practice Model
Project Newsletter**



November 2001

This is the tenth newsletter of the Best Practice Brain Injury Model Project. It is published on a regular basis and distributed to all stakeholders to provide information regarding the current progress and status of the project.

Phase I Recommendation Implementation

The best Practice initiative is currently based on implementing or influencing implementation of recommendations contained in the Phase I Best Practice Report. The implementation of consistent outcome measures across the Network relates to one of these recommendations. As well, the Best Practice Working Group is interested in hearing more from Network members regarding work being done on the other 10 recommendations outlined in the Phase I Final Report. The foundation of the Best Practice Working Group is that participation by as many members as possible in discussion and efforts toward best practices for ABI treatment/care is essential.

The Best Practice Working Group therefore requests that service providers in the field of brain injury throughout the GTA examine these other recommendations and consider work relating to one or more of them at your agency or in collaboration with other Toronto ABI Network agencies. Much of this work may already be in progress. The BP Project Working Group would be pleased to provide consultation and possibly other forms of support for any group who wishes to examine one of the Phase I recommendations in more detail.

If you or a team at your agency would like to discuss one or more of the recommendations from the Phase I Final Report and would like more

information on how to proceed, contact one of the Best Practice Working Group members, who are listed at the end of this newsletter.

Implementation of Outcome Measures

As outlined in the last edition of the Best Practice Project Newsletter, members of the Project Team are at the beginning stages of contacting agencies throughout the ABI Network. Each agency is being asked to nominate one individual who will act as the "key contact" person. The key contact will be working with the Project Team in implementing outcome measures in their agency, helping to collect data, and assisting in addressing issues or barriers to the rollout of the measures.

In an effort to support the key contact personnel in the implementation of these outcome measures, the BP Project Team will be hiring two experienced clinicians for Phase III of the Project. Their assistance with agencies will involve:

1. The distribution and use of the Toronto ABI Network's Core Outcome Measures Manual;
2. A plan for the implementation of the measures at each agency. This plan will include the timing of data collection, goals for outcome measurement, administration of the measures and a plan for data utilization;
3. Training in the use of the outcome measure and data collection;

4. Problem solving and logistical support throughout this initiative;
5. The collection of feedback from both clients and families and clinicians as to the utility of the recommended outcome measures.

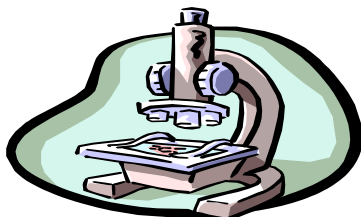
Definition of "Best Practice"

The BP Project Working Group has talked frequently about the term "Best Practice". This is a term that has many definitions that can lead to confusion in dialogue concerning Best Practice. The

and are relevant to clients and their families.

In this context, efforts have been made throughout the Best Practice initiative to present best practice recommendations that are "short, clinician friendly, sensitive to client preferences and needs, almost obvious, and aimed at changing practice clearly yet gradually".

{Hayes, S. (1998). Practice guidelines are coming. Practice guidelines are here. *The Behaviour Therapist*, 14, 153-156.}

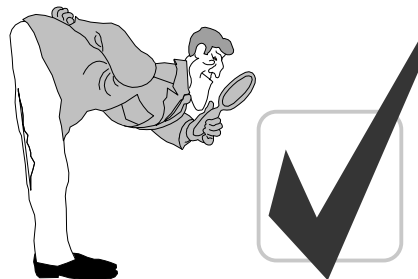


Toronto ABI Network's Best Practice Working Group's definition of Best Practice is:

Best Practice involves the use of excellent treatment and care practices that are validated by sound research

Search for Best Practices

Are you aware of practices at an agency that are worthy of note? Let us know! Contact the Project Team via the Best Practice Project phone line at: (416) 597-3422 ext. 3923



BP PROJECT RECOMMENDATIONS: PHASE I FINAL REPORT

Recommendation # 4:

A common care battery for physical assessments should be developed incorporating relevance to the individual's life activities

Issues to be addressed:

- a.) Functionally based not only on the WHO level of *impairment of structure and function* but also on the level of *activities and participation*;
- b.) Cross disciplinary assessments that clarify the implications of physical impairments;
- c.) Incorporation of the minimum data set for rehabilitation, adding tools, assessments of relevance to the brain injury population.



Best Practice Working Group

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Appendix C

Evaluation of Outcome Measures

Outcome Construct Measured: _____

Measure:	Reference:
Mode of administration Interview Questionnaire Observation Skill test Other:	Time to administer: Number of items:
Training for administration: 1 No manual, minimal training 2 Manual available, less than 2 hrs. training required 3 Formal training required to qualify for administration	Availability (source/cost):

Global Rating

1	2	3	4	5
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Pediatrics					
Adults					
Geriatrics					

1. Excellent measure overall
5. Poor measure overall

Other Considerations

Specific Ratings for Reliability / Validity

2. Empirical evidence in juried journal; Studied by other investigators; Relevant population
3. Empirical evidence in juried journal. Studied only by author; Relevant population
4. Empirical evidence in manual only. Relevant population, but small sample
5. Wide Clinical use without psychometric data
6. Local use only

Reliability

1	2	3	4	5
---	---	---	---	---

ABI population					
Other populations					
Pediatrics					
Adults					
Geriatrics					

Validity

1	2	3	4	5
---	---	---	---	---

ABI population					
Other populations					
Pediatrics					
Adults					
Geriatrics					

Responsiveness

1	2	3	4	5
---	---	---	---	---

ABI population					
Other populations					
Pediatrics					
Adults					
Geriatrics					

Ease of Administration / Compatibility with Routine Practice

1 Very Easy	2	3	4	5 Very Difficult
----------------	---	---	---	---------------------

Pediatrics					
Adults					
Geriatrics					

Key: Time for administration – Training / Qualifications required to administer

1. May be completed in a single session by the therapist
5. Requires special training / qualifications and / or special contact with client

Current Clinical Use

1 Very widely used	2	3	4	5 Very limited use
-----------------------	---	---	---	-----------------------

Pediatrics					
Adults					
Geriatrics					

Key: 1. Internationally accepted
5. Single facility only

Clinical Utility

1 Very High	2	3	4	5 Very Low
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Pediatrics					
Adults					
Geriatrics					

Key: May be used for outcomes assessment and additional assessment as required

1. Useful on many dimensions
5. Limited use on any dimension

Factors involved in clinical utility:

- Treatment planning
- Treatment efficacy
- Referral
- Communication with other clinicians
- Portability across phases of care

Appendix D

Outcome Measures Examined by the Consensus Panel

Physical / Medical Functional Area:

- DRS (Disability Rating Scale)
- GOS (Glasgow Outcome Scale)
- FIM® / WeeFIM® (Functional Independence Measure)
- FAM (Functional Assessment Measure)
- CHART (Craig Handicap Assessment and Reporting Technique)
- GMFM (Gross Motor Function Measure)
- Chedoke / McMaster Staging Measure
- PEDI (Pediatric Evaluation of Disability Inventory)
- BERG (Adult balance measure)
- CBM (Community Balance Measure)
- COVS (Clinical Outcomes Variable Scale)

Cognitive / Communication Measures:

- MPAI (Mayo Portland Adaptability Inventory)
- BICRO-39 (Brain Injury Community Rehabilitation Outcome scale)
- CHART (Craig Handicap Assessment and Reporting Technique)
- HIFI (Head Injury Family Interview)
- PCL (Problem Checklist)
- DEX-Q (Dysexecutive Questionnaire)
- LCFS (Rancho) (Level of Cognitive Functioning Scale)
- PCRS (Patient Competency Rating Scale)
- GOAT (Galveston Orientation and Amnesia Test)
- FIM (Functional Independence Measure)
- FAM (Functional Assessment Measure)
- NFI (Neurobehavioural Functioning Inventory)
- GO-NO-GO (Test of Attention)
- ASHA FACS (American Speech-language Hearing Association Functional Assessment of Communication Skills for Adults)
- CM-CASS (Measure of cognitive-communication)
- RBMT (Rivermeade Behavioural Memory Test)
- S-LSDS (Sperry-Lear Social Disability Scale)

Emotional / Behavioural Measures:

- KAS (Katz Adjustment Scale)
- SIP (Sickness Impact Profile)
- BDI (Beck Depression Inventory)
- SCL-90
- Walmyr Assessment Scale

- FNS (Family Needs Survey)
- LSI (Life Satisfaction Index)
- RHIQ (Rivermeade Head Injury Questionnaire)
- CHIP (Coping with Health Injuries and Problems)
- BERS (Behavioural and Emotional Rating Scale)
- CHQ (Child Health Questionnaire)
- QOLM (Quality of Life Measure)
- CISS (Coping Inventory for Stressful Situations)

Client / Family Satisfaction with Outcomes and Care:

- QOLI (Quality of Life Inventory)
- MPOC / MPOC-A (Measure of Process of Care, Process of Care - Adolescent)
- WASCANA CCCS (Client Centered Care Survey)
- FNQ (Family Needs Questionnaire)
- LFI (Life Satisfaction Index)
- CHQ (Child Health Questionnaire)
- CSQ (Client Satisfaction Questionnaire)
- FSQ (Family Satisfaction Questionnaire)
- Best Practice Working Group Suggested Questions
- OHA CSQ (Ontario Hospital Association Client Satisfaction Questionnaire)

Community Involvement:

- CHART (Craig Handicap and Assessment Reporting Technique)
- BICRO-39 (Brain Injury Community Rehabilitation Outcome scale)
- MPAI (Mayo-Portland Adaptability Inventory)
- CIQ (Community Integration Questionnaire)
- Child CISL (Child Caregiver Information and Support Link Questionnaire)
- CIM (Community Involvement Measure)

Family Functional Interaction:

- FSI (Family Stress Interview)
- IFS (Impact on Family Scale)
- FAM-III General Scale

Quality of Life:

- QOLI (Quality of Life Inventory)
- OQ 45.2

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