Structure and Function of an Interdisciplinary Team for Persons with Acquired Brain Injury

Joint Committee on Interprofessional Relations between the American Speech-Language-Hearing Association and Division 40 (Clinical Neuropsychology) of the American Psychological Association

This document is a joint statement of the American Speech-Language-Hearing Association (ASHA) and Division 40 (Clinical Neuropsychology) of the American Psychological Association (APA), and was produced in consultation with Division 22 (Rehabilitation Psychology) of APA. The document provides guidance on the structure and function of an interdisciplinary team for persons with brain injury. The first joint statement was developed by the Joint Committee on Interprofessional Relations between ASHA and Division 40 (Clinical Neuropsychology) of the APA, and was published in March 1995. Members of the Joint Committee were Malcolm McNeil (ASHA chair), Thomas Campbell (former ASHA chair), Richard Peach, Reg Warren, Susan Ellis Weismer, Diane Paul-Brown (ASHA ex officio), Byron Rourke (APA Division 40 chair), Linas Bieliauskas, and Robert Bornstein. Diane Eger and Crystal Cooper, ASHA’s vice presidents for professional practices in speech-language pathology, served as ASHA’s monitoring officers.

The joint statement was revised by the 2006–2007 members of the Joint Committee: ASHA representatives Anastasia (Stacie) Raymer (ASHA chair), Fofi Constantinidou, Wendy Ellmo, Lyn Turkstra, and Diane R. Paul (ASHA ex officio) as well as APA representatives Angelle Sander (Joint Committee chair), Risa Nakase-Richardson, Mary Kay Pavol, Tresa Roebuck Spencer, and Jeffrey Wertheimer. Brian B. Shulman, ASHA’s 2006–2008 vice president for professional practices in speech-language pathology, served as the ASHA monitoring officer. This document was approved by the Speech-Language Pathology/Speech-Language Science Assembly of ASHA’s Legislative Council on November 17, 2007 and by the Executive Committee of Division 40 (Clinical Neuropsychology) of the APA on XXX. This document replaces the 1995 joint statement, which was referred to as a guideline but was not adopted by APA as policy.

Executive Summary

This document provides general guidance for the structure and function of interdisciplinary teams assembled for the delivery of clinical services to individuals with acquired brain injury arising from a variety of etiologies. Specifically, the document addresses issues concerning team membership, skills required of the team coordinator, and the processes that facilitate the attainment of team goals. These general suggestions are designed to give rehabilitation professionals and health care administrators some guiding principles for interdisciplinary teams involved in the clinical management of individuals with acquired brain injury across rehabilitation settings. Given current constraints in health care reimbursement, these recommendations may promote advocacy for services for patients with acquired brain injury.
Introduction
This document is intended to provide general guidance for interdisciplinary teams engaged in the clinical management of people with acquired brain injury, including but not limited to traumatic brain injury, vascular disease (e.g., stroke), brain tumor, and progressive neurological disease. There is a relatively high incidence of acquired brain injury and/or progressive neurological disease in patients who require rehabilitation services. The complications are multifaceted, requiring knowledge and skills from several different professionals collaborating as a team to maximize outcomes in the individual with acquired brain injury. Joint guidance regarding team membership, team leadership, and the interdisciplinary process can increase the likelihood that people of all ages and levels of disability receive necessary, appropriate care. In this context, the objective of rehabilitation by the interdisciplinary team is to maximize each person’s potential for recovery so that he or she may achieve the highest possible level of functional independence. These recommendations apply to interdisciplinary teams functioning in a variety of settings, including inpatient and outpatient health care and rehabilitation facilities as well as school- and community-based institutions. These are aspirational suggestions that are not intended to be standards.

This document was developed by the Joint Committee on Interprofessional Relations between the American Speech-Language-Hearing Association (ASHA) and Division 40 (Clinical Neuropsychology) of the American Psychological Association (APA) and was produced in consultation with Division 22 (Rehabilitation Psychology) of APA to provide general guidance regarding the structure and function of the interdisciplinary team. The original jointly established document on interdisciplinary teams for persons with brain injury was published by this committee in March 1995. Two primary changes have led to the revision of this document in 2007. The first change pertains to terminology, and the second relates to the framework for viewing disabilities. The essential content of the original document has been retained, with terminology modified throughout to reflect current practice and perspectives.

Terminology and Framework
The 2006–2007 Joint Committee reviewed the original 1995 document and updated it to reflect more contemporary terminology, specifically using acquired brain injury rather than head injury. This change in terminology recognizes that trauma to the head may result in challenges in cognition and communication as well as psychosocial and other sensory and motor impairments because the brain is injured. However, it is the magnitude of the injury to the brain matter that may affect function and not the severity of the head trauma per se that causes the observed neurobehavioral deficits. Furthermore, the term acquired brain injury acknowledges the fact that brain injury may be due to multiple causes (e.g., stroke, disease, tumor) that can impair brain function.

In addition to using new terminology, the statement was updated to reflect the 2001 World Health Organization (WHO, 2001) Model of Functioning, Disability and Health. The WHO model provides a useful framework for understanding acquired brain injury and its impact on the individual. The 2001 WHO International Classification of Functioning, Disability and Health (ICF) framework recognizes two components of functioning: body structure/function and activity/participation (previously two categories—activity and participation). Difficulties with body functions (e.g., word retrieval, auditory comprehension, memory, swallowing) are referred
to as *impairments*. Difficulties with activity/participation tasks (e.g., conversation, using the telephone, eating a meal) are referred to as *activity/participation limitations and restrictions*. Both body structure/function and activity/participation are modified by *qualifiers*, which are codes used to indicate the degree and type of function that is decreased or limited.

Because disability is a function of a person-task-environment interaction, consideration is given to the network of biological, psychological, social, cultural, and physical environments in which the individual exists, and to the means of addressing barriers in these areas. A second part of the WHO (2001) framework involves *contextual factors*, which include both *environmental factors* (e.g., attitudes of individuals in the environment, competence of communication partners, and physical aspects such as noise) and *personal factors* (e.g., age, upbringing, race/ethnicity, lifestyle) that are not part of or a consequence of the person’s health condition. Context-oriented assessment and intervention explore the *facilitators* and *barriers* in the environment and attempt to improve those facilitators and remove barriers, including the support behaviors of significant others in the environment (see Ylvisaker, Hanks, & Johnson-Greene, 2003). The WHO (2001) framework has been incorporated by ASHA into its professional policies and documents, such as the *Scope of Practice in Speech-Language Pathology* (ASHA, 2007) and the *Preferred Practice Patterns for the Profession of Speech-Language Pathology* (ASHA, 2004b).

### Service Delivery Principles

Each member of an interdisciplinary acquired brain injury team is responsible for components of the integrated goals designed to achieve the best functional outcome possible for a person with an activity/participation limitation following acquired brain injury. The team also is responsible for determining the environmental and personal factors to optimize a person’s functioning, such as working directly with communication partners. With an interdisciplinary team model, multiple behavioral, cognitive, communication, and physical issues may be addressed without unnecessary duplication or fragmentation of services. Interdisciplinary teams, characterized by collaboration and communication during assessment and intervention, create time to engage in joint planning, goal setting, strategy selection, and implementation (ASHA, 1991; Malia et al., 2004). The interdisciplinary team works together to advocate for services, given the constraints imposed by reimbursement/funding agencies. The use of interdisciplinary brain injury teams is consistent with the following service delivery principles:

- **The need for increased efficiency and accountability in service delivery necessitates the integration of findings and the reduction of overlap among disciplines.**
- **The assessment and treatment of specific impairments should be provided within an integrated and functional context.**
- **The reduction of activities/participation restrictions that results in functional independence of the person in his or her learning, living, and working environment requires the expertise of professionals in a variety of disciplines.**
- **A framework is needed to avoid the fragmented delivery of specialized services by individual disciplines. It is believed that an interdisciplinary approach can facilitate the acquisition, maintenance, and generalization of skills from the learning environment to the living environment.**

This document is organized around three basic dimensions of an interdisciplinary team: (a) team membership, (b) team coordination, and (c) interdisciplinary team function. The following general
recommendations are not intended to constitute a mandate for a specific delivery model for rehabilitation.

**Interdisciplinary Team Membership**

Consistent with accreditation standards (e.g., CARF: Commission on Accreditation of Rehabilitation Facilities, 2007) and federal regulations (Individuals with Disabilities Education Improvement Act of 2004), an interdisciplinary team includes the person with acquired brain injury (when appropriate), selected members of that person’s family or caregiver network, a coordinator, and those professionals from varied disciplines necessary for a comprehensive assessment process, treatment plan, and discharge plan. Including the person with brain injury and his or her caregivers is necessary to promote individually tailored and meaningful rehabilitation objectives. Besides the patient and caregivers, interdisciplinary teams may include, but are not limited to, the following professionals: speech-language pathologist, clinical neuropsychologist, audiologist, rehabilitation psychologist, behavioral specialist, dietitian, educator, occupational therapist, physical therapist, primary care physician, psychiatrist, physiatrist, rehabilitation nurse, social worker, case manager, therapeutic recreation specialist, vocational rehabilitation counselor, and paraprofessionals. When cognitive, communication, emotional, and psychosocial domains are affected, the team should include at least a clinical neuropsychologist or rehabilitation psychologist, and speech-language pathologist. Team membership will vary with the age of the persons served, the type of impairment, the stage of recovery, and the special training of team members.

**Interdisciplinary Team Coordination**

The team coordinator serves as team administrator and facilitator and is responsible for ensuring interdisciplinary team function. The selection of the best team coordinator is based on the person’s case management skills and clinical and leadership abilities; selection should not be based solely on an individual’s academic degree or professional discipline. More specifically, the ideal team coordinator exhibits the following:

1. Appreciation of and respect for the expertise of team members as they contribute to the overall rehabilitation plan. Such a perspective facilitates negotiation, mediation, and compromise among team members who may not always agree.

2. Specialized knowledge of the various domains of brain–behavior relations and their manifestations following brain injury (e.g., cognitive, communication, medical, neurological, orthopedic, psychosocial, and sensory-motor).

3. Ability to allocate responsibility to appropriate team members, to recognize the team as a decision-making body, and to foster the professional growth and education of team members.

4. Ability to allocate team resources within clinical, financial, and logistical constraints of the rehabilitation setting.

5. Ability to coordinate and communicate treatment goals and to integrate clinical objectives.

6. Knowledge of various measurement systems to determine treatment efficacy,
efficiency, and outcome. *Outcome* is defined here as a measurable improvement in structure/function, activity/participation, and context associated with rehabilitation (WHO, 2001). These changes should result in improvement in the patient’s efficiency or independence in the educational, living, community, and work settings. Assessment should take place in the patient’s primary language or with the help of an interpreter.

7. Ability to integrate assessment results, treatment objectives, and rehabilitation timelines developed by the team and to communicate information to third-party payers in order to maximize the patient’s medical benefits.

8. Ability to educate administrators, third-party payers, colleagues, families, primary caregivers, the community, and other individuals about persons with acquired brain injury and to promote factors that lead to prevention of brain injury and disease.

**Process That Facilitates Interdisciplinary Team Function**

The rehabilitation process incorporates the following basic components:

1. Integration of information known to affect behavior and outcome, such as (a) age and premorbid and current levels of functioning, (b) effects of medications on behavior, (c) potential medical complications and their effect on behavior, (d) sensitivity to linguistic and cultural needs, (e) various service delivery models, (f) length and intensity of rehabilitation, (g) social/caregiver support, and (h) environmental facilitators and barriers.

2. Establishment and integration of specific discipline assessments and plans of care. In this connection, the following are usually thought to be necessary:
   a. Collection of a complete history and interview of patient/caregivers, including a complete medical history provided by an appropriate medical facility, which can serve as a basis for structuring each assessment.
   b. Discipline-specific assessments conducted individually or together in order to construct a set of accurate observations. These assessments should result in appropriate diagnosis and a framework for establishing a plan of care.
   c. Inclusion of the caregiver and person with acquired brain injury in the development of treatment objectives.

3. Determination of differential diagnoses after all observations are analyzed and integrated during clinical discussion. Requisites for this include the following:
   a. An initial assessment meeting to report strengths and needs in a format that focuses on the processes necessary to develop functional skills in daily living, education, leisure, personal relationships, and work. Assessments are designed to address body structure/function, activity/participation, and barriers and facilitators to recovery (WHO, 2001).
   b. Discipline-specific assessments and observations across disciplines that are communicated to help determine the overall reliability and consistency of assessment; this process illustrates the interdisciplinary nature of team decision making (Paul-Brown & Ricker, 2003).
   c. Meetings to integrate clinical findings into a plan of care. Meetings are structured to facilitate an exchange of all opinions—including those of the patient and caregiver—to enhance positive treatment outcomes and avoid negative treatment outcomes.
4. Development of an evidence-based plan of care to provide well-defined, attainable goals with relevant functional outcomes. Such a plan includes the following:
   a. Clearly defined goals in various functional skill areas within a specified time frame. The goals include discipline-specific goals as well as interdisciplinary goals.
   b. Provision for regular review and appropriate alteration of goals.
   c. Discharge planning and a description of functional ability and level of independence/dependence. This process is necessary to ensure that the discharge plan proposed at admission remains consistent with the patient’s skill level at discharge from rehabilitation (e.g., ASHA, 2004a).
   d. The necessary structure and content to comply with the appropriate regulatory agency standards and guidelines.

5. Involvement of the patient and caregivers as integral members of the interdisciplinary team. In this connection, the following points are emphasized:
   a. Differing opinions about diagnosis and treatment planning (including those of the patient and caregivers) are discussed when the team develops a treatment plan.
   b. Open discussion with caregivers and the person with acquired brain injury reinforces their important roles as members of the interdisciplinary team and the mutual responsibility for decision making. Provisions for education, training, support, and counseling for the caregiver and for the person with acquired brain injury are clearly identified in the plan of treatment.

6. An understanding among team members of the relationships among different levels of assessment. Important issues to consider may include, but are not limited to, the following points:
   a. In addition to appropriate assessment conducted by each discipline, the team engages in a discussion of the outcomes from discipline-specific assessments and conducts an overall assessment of functional independence at admission, at discharge, and at a predetermined period after discharge from rehabilitation. A functional assessment demonstrates the impact of the rehabilitation process on the person’s body structure/function and activity/participation (WHO, 2001).
   b. Discussion of observations of patient behavior among various team members to ensure integration of various assessment and intervention findings.
   c. The establishment of appropriate discharge criteria and the adoption of procedures to facilitate necessary modifications of the program as progress is observed.

7. A measurement system for determining treatment outcomes. Certain settings require use of treatment designs that permit the clinician to establish a relationship between the gain experienced during rehabilitation and the treatments rendered (e.g., pre- and
posttreatment designs, single-subject experimental designs).

**Conclusion**

The fundamental purpose of the acquired brain injury team is to provide the most effective services available to maximize the recovery of the person with acquired brain injury. Collaboration as an interdisciplinary brain injury team, under the leadership of a team coordinator, is intended to improve and optimize patient care and outcomes across the continuum of rehabilitation. Although each discipline contributes unique perspectives, together the team can provide optimal integrated services and advocacy for individuals recovering from acquired brain injury.

**References**


Index terms: brain injury, interdisciplinary teams, neuropsychology, speech-language pathology, stroke

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