VOCATIONAL REHABILITATION, TRAUMATIC BRAIN INJURY AND THE POWER OF NETWORKING

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People who have experienced a traumatic brain injury (TBI) present a complexity of needs that often formidably challenge traditional service systems. As more people are becoming better informed about TBI and its possible ramifications, service systems are beginning to shift their long-established patterns of service delivery to fit the needs of this population. More non-traditional approaches are being tapped — many of which draw on the power of networking — to provide the linkages and partnerships necessary for the reentry of individuals with TBI into productive roles within home and community.

We developed this publication to aid in this shift toward networking. At the core of this book are the experiences of many individuals working over decades with people who have experienced brain trauma. Several innovative ideas crystallized during the four-year period of funding of TBI-NET (Comprehensive Regional Traumatic Brain Injury Rehabilitation and Prevention Center). Particularly active in developing the ideas and undertaking the research described herein were Rosalind Zuger, Hannah Amitai and Robert Stack (grand rounds model); John O’Neill, Beth Murphy and Susan Mello (vocational rehabilitation follow-up study); Rosalind Zuger (business advisory committee); and Beth Mount (Personal Futures Planning). All associated with TBI-NET are very grateful for their solid contributions to advancing the cause of vocational rehabilitation of individuals who have experienced a brain injury.

TBI-NET linked the resources of ten organizations in New York, New Jersey and Connecticut. In addition to The Mount Sinai Medical Center, these included Kessler Institute for Rehabilitation (NJ), Hunter College of the City University of New York, International Center for the Disabled (NY), Norwalk Hospital (CT), New York State Department of Health, Human Resources Center (NY), New Jersey Head Injury Association, Connecticut Traumatic Brain Injury Association, New York Head Injury Association and the VR agencies of each respective State. This linking of resources allowed a very creative group of people to develop and carry out activities that would otherwise have been impossible, some of which we describe herein. Both a spirit of great cooperation and the networking of ideas and efforts made these activities possible.

It is the hope of all participants in TBI-NET that people involved in aiding the vocational rehabilitation of individuals with TBI — whether they are employees of state VR agencies, of independent living centers, of inpatient rehabilitation settings or of other organizations, or whether they are nonprofessionals (consumers, family members, friends) — will find these ideas motivating and energizing. Because of the complex set of challenges faced by people with TBI in ‘getting a job,’ helping them can be tiring and daunting if taken on by only one person or a few. TBI-NET’s experience has been that drawing on a network of community resources constitutes a powerful tool. It allows a sharing of responsibility and encourages better outcomes, as it draws on a larger pool of possibilities and knowledge.

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or from side to side, causing the brain to collide at high velocity with the bony skull in which it is housed. This jarring bruises brain tissue and tears blood vessels, particularly where the inside surface of the skull is rough and uneven; damage occurs at (and sometimes opposite) the point of impact. Thus, specific areas of the brain — most often the frontal and temporal lobes — are damaged because of this harsh shaking/rotating of the gelatinous brain tissue within its jagged casing. This localized damage often can be detected through MRI and CAT scans.

The rapid movement of the brain can also stretch and injure neuronal axons — the long threadlike arms of nerve cells in the brain that link cells to one another and that link various parts of the brain to each other. This diffuse axonal injury interrupts functional communication within and between various brain regions. However, this type of diffuse damage cannot be detected through currently available imaging technology.

In sum, after a closed head injury, damage can occur either in specific brain areas (due to bruising and bleeding) and/or can be diffused throughout the brain (due to stretched or destroyed axons).

Open head injuries, the second type of TBI, occur when the skull is penetrated, for example by a bullet. Damage following open head injuries usually is focal, not diffuse. The effects on the individual's functioning (see page 2) are likely to be more limited because damage is not spread throughout the brain.

Typically with TBI, loss of consciousness (LOC) occurs — for anywhere from a few minutes to several months. Sometimes LOC does not occur at all, and only a sense of confusion, dizziness or the like signifies the brain’s immediate reaction to trauma.
WHAT ARE THE EFFECTS OF TBI ON THE PERSON’S LIFE?

A wide range of cognitive, physical and behavioral impairments may follow TBI. Basic sensory and motor functions can be affected, as well as the functioning of hormonal, endocrine and other body systems. Cognitively, individuals with TBI may have very subtle to major impairments in their perception, language, attention, concentration, learning and memory. They may also have difficulty in thinking abstractly and in planning/organizing themselves and their worlds. The injury can modify their affective behavior and overt behavioral patterns. In sum, the direct effects of TBI can be complex and diverse within any one individual and will vary greatly from one injured person to the next.

Some individuals who have experienced a TBI are highly aware of these effects; others may be surprisingly unaware, despite feedback from others.

Also, for any specific person the severity of the injury and the resulting direct effects may in no way predict the amount of disruption in his/her life. This follows because each of us draws differentially on differing parts of our brains. A severe frontal injury may have less impact on an agricultural worker’s job performance than a so-called ‘mild’ frontal injury would have on a physicist’s work.

An example will be used here to illustrate several of these points:

Joan, a senior in college, was struck by a car and suffered a head injury. Following a few hours LOC and a two-week hospitalization, she was discharged as “recovered.” Returning to college, she found that she had to spend an inordinate amount of time studying to complete her class assignments. After graduation, she attended law school and passed the bar examination. A bright student before injury, afterward Joan succeeded academically by devoting many more hours than most students to studying. She attributed the need for so much homework to her continuing anxiety following the accident.

When she began to work as an attorney, the sequelae of Joan’s TBI further manifested themselves, although she did not connect her problems to the injury. She reported that she was having trouble organizing, reading briefs and following conversations; she felt irritable, was hypersensitive to noise and took too much time completing work assignments. She felt her work was too stressful. Her law firm asked her to resign. Joan similarly failed in several subsequent positions with law firms and finally decided to pursue a lower level position outside law while deciding a future course of action. However, during her interviews for positions below her educational qualifications, she reported that she would argue with interviewers — to justify her application. She eventually found a job that she could handle, as a part-time receptionist in a doctor’s office.

Realizing, finally, that something was wrong, Joan sought help. Through a series of referrals, she found a neuropsychologist, who discovered that, although her intellectual abilities were intact and her conceptual skills were excellent, she had “cognitive deficits that included decreased speed of visual information processing, visual scanning and impaired verbal memory. These were not severe, but taken together these deficits significantly impeded her career progress.” Based on commonly used criteria, her brain injury was considered “mild,” camouflaging significant sequelae. She was now reporting that she was feeling constantly angry and out of control; she was having trouble...
coping with travel, with crowds and with daily tasks. Cognitive remediation, counseling and vocational rehabilitation were introduced.

While continuing to succeed in her part-time position, she considered this only a short-term plan. It was a dilemma for her to work at a nonprofessional level, which was at odds with her sense of self. This motivated her to explore vocational options. Working with a vocational rehabilitation counselor, she reviewed her areas of interest, and, where additional training was needed, she examined training curricula to decide if they suited her abilities and willingness to commit to course work. She decided, at that point — seven years post-injury — to postpone a career change: to allow her time to receive cognitive remediation and to achieve some successes in a behavioral management program.

Joan continued her remediation over the course of the next two years, but has now stopped. She is still employed in her part-time job, and now has decided to resume her vocational pursuit, with occupational therapy as her chosen profession. She feels she can handle the training, and, if she succeeds, she will find the status and job opportunities she seeks.

This example illustrates points previously made and demonstrates some considerations that are important in vocational rehabilitation of people with TBI:

- Services are likely to be needed over lengthy periods. People with TBI are commonly not quickly ‘in and out’.
- The need of each consumer of VR services to be empowered to make choices that will become his or her customized rehabilitation plan is multiplied in importance for the person with TBI.

**HOW COMMON IS TBI, AND WHO IS THE TYPICAL PERSON WITH TBI?**

The incidence of TBI is high, but just how high is not known, primarily for two reasons: (1) many head injuries are not included in official statistics, and (2) definitions of TBI and of disability vary across the respective groups and agencies that track TBI incidence. Estimates have been made as high as three million injuries a year, with 750,000 persons being hospitalized, 100,000 dying and 90,000 left permanently disabled. However, what is clear from any of the estimates of incidence is that many people with injuries do not enter the health care system, because many such injuries are labeled incorrectly or are ignored. We can understand this if we consider that if LOC does not occur or is very brief, the injured person may never go to a hospital or see a doctor. And, with this type of TBI, called ‘minor’ TBI, often the injured person does not tie the dysfunctional consequences of TBI to the injury. No one had told them what to expect even if they did get medical attention. Thus, the individual may have all the symptoms of TBI and not know the cause of his or her symptoms.

The typical person with TBI historically has been depicted as a young male, under the age of 24. The ratio of males to females has been estimated at 4:1. These data may adequately describe people with head injuries who have been hospitalized. How-
ever, newer data based on interviewing people with head injuries living in the community suggest that the ratio of head injured males to females in this group is closer to 3:2. This may be the case partly because females are more likely to receive blows to the head, for example because of domestic violence, that are not viewed as serious enough to send them to the hospital, but the cumulative effects lead eventually to serious consequences in day-to-day functioning.

The significance of this is that many people have experienced a TBI, but they do not necessarily tie problems in living to LOC or TBI. However, where difficulties are found to occur in cognitive, behavioral, affective and social functioning, TBI should be suspected. And, remember that TBI is not rare, it may never have been diagnosed, it may be very debilitating, but it can be diagnosed and worked with. Also to be kept in mind is that myths about the ‘typical’ brain-injured person may prevent us from recognizing actual brain injury when we see it in front of us.

**WHAT ARE THE MAJOR BARRIERS TO SUCCESSFUL VOCATIONAL OUTCOME?**

For the person with TBI, four types of barriers to vocational success need to be considered: (1) the complexities and characteristics of the injury itself, (2) services — not available or inappropriate if available, (3) restraints within the community and society, and (4) potential loss of benefits associated with vocational placement.

**Characteristics of the Injury.** Essentially, the challenge for vocational rehabilitation rests with individuals with mild and moderate injuries; those with severe injuries are often unable to pursue a vocational course at all after injury. The complexities of injury can only be briefly outlined here, but the import for the VR counselor is that, with the person with TBI, a ‘cookbook’ approach will seldom be useful, as it assumes that individuals with TBI are more or less alike. In fact, no two individuals with a brain injury will have had the same history, interests and abilities before injury and will not display the same post-injury deficits or implications for daily living.

For many individuals with moderate TBI, the brain injury leads to reduced functioning; however, areas of strength and interests also define the person, as does his or her social context. In evaluation, goal setting and treatment, the counselor must creatively attend to these complexities. Artistry, as much as experience, will aid the counselor, as will some of the innovative tools and adaptations described herein.

For the person with a mild injury, deficits may be less than with a moderate injury. However, significant difficulties may arise because of the often lengthy lag between injury and the point when the individual recognizes that the injury is the cause of functional problems. Months, sometimes years, go by before the problem is correctly diagnosed and appropriate treatment introduced. By then, a “psychological overlay” may have emerged, as the individual’s difficulties in daily life weave their effects throughout his or her social and vocational worlds.

**Services.** People with disabilities rely upon the state-federal VR system to help them become employed. Aspects of this system, along with the lack of other services and programs, may inhibit successful vocational outcomes for people with TBI. More specifically:

- The VR system is a time-limited service
provider that does not meet the long-term needs of many individuals with TBI.

- Large case loads prevent concentrated delivery of services and discourage the pursuit and adoption of innovative approaches to service.

- Counselors are not specifically trained to be ‘experts’ in traumatic brain injury and effective approaches to rehabilitation.

- Delayed referral to VR results in delayed services, but too early a referral may result in a determination of ineligibility for services. Timeliness of referral is fundamental with this disability group.

- Vocational programs adapted to the special needs of people with TBI are rare. Long-term supported employment programs are also absent within many geographic regions.

**Community and Society.** Within the individual’s immediate and societal worlds, many barriers to successful vocational outcomes exist, for example, inadequate housing, inaccessible transportation and lack of social supports. Within the service system, no coordinated system of care for community reentry exists. The absence of community resource linkages to provide pre- and post-vocational support is also clearly problematic.

**Loss of Benefits.** Because some benefits will be withdrawn under certain circumstances when the individual with TBI earns money, the risk of losing benefits can inhibit vocational progress. To minimize this disincentive, the individual must evaluate his or her ‘portfolio’ of benefits to determine what will be affected and what protected, and under what circumstances. For example, Social Security Work Incentive Programs, particularly PASS (Plan to Achieve Self Support) and IRWE (Impairment-Related Work Expenses), have the potential to assist people with disabilities secure a variety of necessary supports to obtain and maintain employment (e.g., job coaches, transportation, equipment, work-site modifications, training). Knowledge of these incentives and how to help in applying for them is part of the essential arsenal of VR counselors (see Appendix I). Also, in New York State, funds have become available through a TBI-Medicaid waiver to help severely disabled individuals with TBI to receive services in the community, avoiding placement in nursing facilities (see Appendix II).

**WHAT DOES THE RECORD SAY ABOUT VOCATIONAL SUCCESS WITH THIS GROUP?**

**What do we know about the impact of TBI on return to work?** Generally, studies have shown that TBI compromises post-injury employment status on many dimensions: Fewer people work post-injury, and those who do work do so for fewer hours, earn less money and enjoy fewer employee benefits.1-7

**How can one tell if an individual with TBI is a good risk for vocational rehabilitation services?** Research cannot tell us who definitely will or will not reach their vocational goals. However, we do know some variables associated with success (but certainly do not guarantee it). For example, many studies1-3,6  have found that those with a more substantial career path or higher employment status pre-injury have a greater likelihood of returning to work after injury. However, a study done by O’Neill and colleagues5  found the opposite. This inconsistency is probably due to varying subgroups of people with TBI being sampled into respective studies: Because the O’Neill study5  selected participants solely from those who had had contact with a
VR agency, they eliminated individuals with TBI who had returned to work post-injury without requiring any formal VR assistance.

Follow-up studies have also shown consistently that severity of injury (based on indicators such as time unconscious or numbers of days hospitalized) and severity of impairment (in terms of mobility, cognitive functioning and behavioral/emotional performance) are inversely related to level of involvement in the labor market. Those ‘hardest hit’ are least likely to work. One fact that ‘softens’ this finding is that the amount of time since injury has been found correlated positively with attachment to the labor market; thus, time promotes healing, recovery of psychosocial strengths and consequent return to work — for individuals at all levels of severity.

Two other factors have been consistently shown to be associated with return to work: age and education. Those who are younger and have more education have a greater likelihood of returning to work post injury. One of the better studies used all of the variables discussed above (e.g., time since injury, education, severity of impairment) in predicting return to work. Administrators may find the formula they developed useful in helping allocate limited resources and services.

What must be kept in mind is that data such as these tell us about tendencies within groups of people. None of this can predict what will happen to any single member of that group. For example, in the study by O’Neill and his colleagues provided some sense of “who” the VR system serves. In looking at VR populations in the New York and Connecticut state agencies over three years (1991-1993), this study revealed that people with TBI constitute 1.2% and 3.1% of the average caseload in the respective states. Is this good? The rates of acceptance for people with TBI show that, although they were a small percentage of the caseload, they were accepted at a slightly higher rate than the general population of all applicants for VR services. Thus, for example, in New York, 77% of all VR applicants were accepted for services, while 83% of those with TBI were accepted.

In terms of numbers rehabilitated, VR agencies are succeeding with only a few people with TBI. Thus, 413 individuals with TBI were closed “rehabilitated” in New York over the three years, with 137 “26 closures” in Connecticut. This is a small number, given estimates of the TBI populations in these states. However, the rate of rehabilitation (successful closures vs. all closures) was about the same for individuals with TBI as for all clients. Thus, in New York 57% of individuals with TBI were 26 closures vs. 55% of all clients, while the respective percentages were 44% vs. 40% in Connecticut.

Whether one looks at numbers of people with TBI in the total caseload or numbers rehabilitated, VR agencies in these two states are doing about the same for this disability group as for their total caseloads. Services may not be reaching sufficient numbers, but the data suggest that this is not a matter of discrimination. Instead, it is more likely that insufficient resources within these agencies are at the root of the problem.

How well does the state-federal VR system address the vocational rehabilitation needs of people with TBI? The study by O’Neill and his colleagues provides some sense of “who” the VR system serves. In looking at VR populations in the New York and Connecticut state agencies over three years (1991-1993), this study revealed that people with TBI constitute 1.2% and 3.1% of the average caseload in the respective states. Is this good? The rates of acceptance for people with TBI show that, although they were a small percentage of the caseload, they were accepted at a slightly higher rate than the general population of all applicants for VR services. Thus, for example, in New York, 77% of all VR applicants were accepted for services, while 83% of those with TBI were accepted.

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When one looks at the impact of VR services on hours worked per week and average earnings, the O'Neill study shows that both of these important indicators increased dramatically for individuals with TBI who were successfully 'closed.' In New York, individuals with TBI who were closed rehabilitated increased their working hours from 3 at referral to 30 at closure. Their earnings increased from $16 per week to $174. In Connecticut, hours worked increased from 5 to 30 at closure, with earnings increasing from $27 to $201.

In looking at the jobs obtained by individuals with TBI in the VR system, O'Neill found that a large portion of the 26 closures were in clerical/sales or service positions, which reflects employment opportunities in the region. Specifically, 44% of consumers with TBI finding jobs in New York went into these two employment categories, with 60% in Connecticut. Professional/technical/managerial positions also drew large numbers -- 12% of clients with TBI in each state. The study also found that New York State VR counselors more often used sheltered workshops for placements, compared to those in Connecticut (23% vs. 3%). These proportions remained relatively constant over the three years surveyed. However, in both states a trend toward increasing homemaker closures was found. Again, New York had more of this type of closure (8% vs. 3%), but the percentage was increasing in both states from 1991 to 1993.

What specific methods or techniques produce better outcomes within the VR context? Studies show that both the VR planning process itself and the mix of services provided to individuals with TBI can affect outcome. For example, the O'Neill study shows that those individuals with TBI who were more aware of steps in the VR process, particularly being aware of the Individualized Written Rehabilitation Plan, were more likely to be employed after discharge. Thus, the quality of the individual’s involvement with a state VR agency made a difference to the vocational outcome (participants in this part of the study were 77 individuals with TBI who had applied to or availed themselves of VR services in New York or Connecticut in 1992-1993 and were willing to be interviewed). This underscores the need for consumer empowerment through active participation in the VR process, a service direction strengthened in the 1994 Amendments to the Rehabilitation Act of 1973.

Studies have also raised the question of the services or mix of services that work. In sum, vocational interventions (i.e., supported employment, enhanced vocational placement services) were more successful in helping individuals with TBI return to work than was neuropsychological treatment; the latter may be necessary for some but is likely to be insufficient on its own. Also, in the O’Neill study, those who reported receiving services for productivity while clients of a VR agency were more likely to be engaged in the labor market after being 'closed'.

Section II (pp. 8 - 12) recommends adaptations of traditional approaches used within vocational rehabilitation, to best benefit the population of individuals with TBI. Section III (pp. 12 - 20) describes innovative methods, all of which draw upon resources within community networks and speak to the power of networking in helping people with TBI achieve vocational goals.
II. OPTIMIZING TRADITIONAL APPROACHES TO TBI

WHERE SHOULD ASSESSMENT START?

Assessment begins with the vocational intake interview. The detailed information gathering essential to plan development requires one or more sessions with the injured person and family members. This process provides an opportunity to begin establishing rapport with the injured individual and those who play key roles in his or her life.

As people with TBI do remember ‘who they were’ pre-injury, information about their life before injury is as important as knowing their current status. Probing questions covering the following aspects of the individual, both pre-injury and post-injury, will provide the beginning of an information base upon which plan development will rest:

- Cultural background
- Personality
- Interests
- Vocational status
- Awareness of the effects of injury
- Emotional strengths/problems
- Behavioral strengths/problems
- Expectations
- Alcohol/drug use.

Family members provide information complementing that obtained from the individual with TBI. In interviewing family members, the following topics

Characteristics of situations (e.g., the person’s home, workplace and neighborhood) affect the individual’s functioning and are typically crucial factors that can ‘make or break’ any attempts to reach vocational goals. These ‘truths’ about people with TBI lead to the primary recommendations about assessment discussed below.
The neuropsychological assessment serves as a key building block in developing a plan for an individual with TBI. It provides information regarding the person’s abilities in the following areas:

- Sensory and motor function
- Language
- Memory and learning
- Speed of thinking
- Perception
- Planning and organization
- Attention and concentration
- General intellectual functioning

Besides administering standardized tests, the neuropsychologist gathers information on the individual’s background and interviews the person and family to learn how each views the current situation and their goals/hopes for the future. This knowledge is essential in building a vocational plan that will motivate the person with TBI and enlist adequate family support.

Ideally the assessment should take place over more than one session, to allow observations at different times of day and on different days. Multiple observations expose characteristic changes in fatigue and mood; they also suggest implications about the individual’s application of strategies to cope with cognitive or other difficulties, outside the structured testing environment.

How does neuropsychological assessment fit into vocational rehabilitation?

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The neuropsychologist analyzes performance and function based on actual tasks performed and reports the cognitive, meta-cognitive and behavioral patterns observed. In this analysis, the neuropsychologist avoids a focus on summed scores, such as intelligence and memory quotients, but instead emphasizes function. The neuropsychologist also provides descriptions of the individual’s behavioral characteristics, insight and adjustment.

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The vocational counselor must play a key role in insuring that the neuropsychological assessment process provides information that is relevant. In seeking such an assessment, the counselor should not assume that the psychologist will provide a report that ‘fits the bill.’ All too often such reports focus on documentation of what has been lost or retained, but without tying this to daily life functioning. The vocational counselor cannot assume a reactive stance, but must actively pose a series of vocationally relevant questions for the neuropsychologist to address within the assessment. For example, the following questions might be explicitly posed:

- How well does the person learn and remember?
- Under what circumstances is information best learned?
- How well does the person concentrate?
- Is performance maintained consistently?
- If not, what factors seem to affect performance?
- Are environmental modifications recommended — to compensate for sensory or motor
losses or for cognitive or affective problems?
- Is it likely that this person will form cooperative working and social relationships? Communicate effectively? Accurately perceive the intentions of others? Manage behavior?
- Will modifications be needed in work/study schedules to alleviate fatigue?
- Is the person able to carry out strategies?
- Does the person accurately monitor his or her performance? Does she or he spontaneously use compensatory strategies?

As often as needed, the neuropsychologist and counselor should consult each other about compensatory strategies, problem solving and supports.

Appendix III provides a checklist aimed at helping neuropsychologists write reports in functional terms. Appendix IV suggests tests for inclusion in the neuropsychological assessment of persons with TBI.

**HOW DOES SITUATIONAL ASSESSMENT FIT INTO THE PICTURE?**

A situational assessment is one in which the person being assessed is placed within a work setting to evaluate his or her ability to carry out a job in which he or she has expressed interest. For example, if one is trying to assess the individual’s ability to wait tables or to be a bank teller, a situational assessment would evaluate the person’s comprehensive performance in an appropriate setting.

The traditional approach to assessment measures aptitude and achievement but, being removed from real life situations, does not evaluate the ability to apply skills in real work situations. Traditional approaches are lacking in the potential for measuring behavioral and cognitive abilities, self-awareness, capacity for adapting to novel situations and the generalizability of skills. On the other hand, situational assessments are preferred for individuals with TBI because they occur in actual work settings and allow more accurate observation of many traits especially important to successful vocational outcomes:
- Ability to perform job-related tasks
- Consistency in carry-over and follow-through
- Interpersonal skills
- Response to supervision
- Impulsivity/distractionability
- Irritability and its etiology
- Efficacy of strategies and interventions introduced to help with functional performance and/or to alleviate problems
- Environmental issues, e.g., noise levels, density of staffing in the work area.

As with all assessments, the emphasis in situational assessments should be placed on the individual’s strengths, abilities and problem-solving skills. A well-formulated assessment will generate a meaningful ‘by-product,’ i.e., the chances are optimized for the individual to experience success, more self-awareness and even the enhancement of self-confidence, while coping positively with a series of situational assessment experiences.

Such assessment should be made as relevant as possible for the individual with TBI, in terms of work setting, tasks tested and the general environment. Usually more than one assessment is necessary to achieve a comprehensive evaluation. As an ongoing process, situational assessments can be used to monitor the continuing effectiveness of strategies and the emergence of new problems, and also encourage proactive problem solving.
HOW SHOULD PLAN DEVELOPMENT/IMPLEMENTATION BE ADAPTED FOR PEOPLE WITH TBI?

Three ideas are key: (1) empowerment, (2) inclusion and (3) redefinition.

By “empowerment” we mean that the individual with TBI gains more by using, and being encouraged to use, his or her power — to choose, to act and to set goals. For example, TBI survivors sometimes have a mind-set that, from the counselor’s point of view, impedes the process of vocational rehabilitation and turns what should be a cooperative partnership between counselor and consumer into an adversarial relationship. This consumer views his or her post-injury world as not being very different from that prior to injury: “My functioning will soon go back to what it was like before, and few, if any, problems will occur upon return to work.” These beliefs may suggest to the counselor an inability to perceive the present situation clearly and may lead the person with the brain injury to resist suggestions from the counselor who challenges them.

We advise counselors in this situation to acknowledge what the individual is experiencing and give the person power to pursue a goal, even one that the counselor may feel is unrealistic. Yielding the right to veto what seems out-of-bounds, the counselor will encourage the growth of the individual. Choice and empowerment allow movement forward and encourage the consumer to develop new self-perceptions based on post-injury realities.

By “inclusion” we refer here to the family, whose support is crucially important for the vocational rehabilitation success of their family member — achieving it and maintaining it. Therefore, the counselor should make sure not only that the family understands the whole process, but also concurs with the individual rehabilitation plan to be carried out.

Most important in encouraging their sustained involvement is keeping the family informed, in both face-to-face meetings and in writing. The counselor should provide regular updates on progress and problems via conferences that include the consumer, family members, the counselor and others essential to plan implementation. Further, when written reports are shared with the consumer and family members, they are better able to absorb information, which they can review at their leisure. Such information also provides a written ‘history’ of the consumer’s progress.

Having said this, we should also add that, at times, counselors may experience family involvement as intrusive. Nevertheless, it is essential for the counselor and other team members to understand and acknowledge the stress on the family. Regular communication, explanation and negotiation are essential to the process and encourage the family to play strong and positive roles in the consumer’s attempts to seek a meaningful vocational role.

By “redefinition” we refer to the need to modify expectations. For example, redefining expectations regarding rates of progress and time frames for reaching goals is responsive to the decreased level of tolerance, fatigue and inconsistent pacing found in many individuals with TBI. For many people with TBI, “progress” must be redefined so that smaller increments are integrated into the measurement scheme, which allows positive reinforcements to be given more often. This redefinition of “gain” allows the person with TBI a positive experience as
III. INNOVATIONS: THE POWER OF NETWORKS AND NETWORKING

In the previous section, many suggestions were made about adapting techniques within the current framework to assist individuals with TBI achieve vocational success. This section focuses on adopting new techniques — looking beyond the consumer-counselor-family triad. All of the innovative techniques discussed below have in common their drawing on community networks — to better address the complex issues of vocational rehabilitation for individuals with TBI.

WHY ARE NETWORKS IMPORTANT?

A person with TBI who is reentering the community usually has highly complex needs (e.g., housing, transportation, benefits, socialization, as well as vocational planning) that must be identified and addressed. Because the vocational rehabilitation counselor is often the sole professional remaining in the picture when the physician and therapists are no longer constants for the consumer, the counselor often takes on both the role of “constant” and the job of plan coordination, putting all the pieces in place...
to activate and advance vocational plans.

This is where networks and networking comes in. A network can be defined as an open fabric or structure joined at regular intervals. Unlike a pile of loose unconnected threads, a network forms a strong tool because of its connectedness. The counselor/coordinator obviously will benefit from making use of such a tool to address the complex demands of the coordinator’s role. Networking promotes the sharing and rotation of responsibilities, as needs dictate, thereby preventing counselor ‘overload’.

The goal of the plan must be to empower the person. To maximize power, the consumer must maximize his or her resources. “Empowering” requires, therefore, tapping into community networks, helping the consumer connect with resources that will aid him or her in reaching goals. The word “empowerment” includes within it “me,” “we,” and “power”: Power lies in both the individual “me” and in connecting to the “we” that can provide tools for achieving vocational success. Networks maximally empower, as they are the antithesis of fragmented, uncoordinated efforts, which many individuals with TBI find debilitating.

WHAT ROLE DOES THE COUNSELOR PLAY VIS-À-VIS NETWORKS?

The counselor’s role is to analyze and identify existing community supportive networks and settings that will serve a specific purpose — helping create and nurture a network that is suitable as a specific tool. Because a network is made of specific interconnected elements, the counselor’s job is to identify the elements essential to the task at hand, which may be a specific consumer or a group.

This is a very creative and challenging job. However, when achieved, creation of a network will make the counselor’s job much easier: the burden no longer sits squarely on the counselor’s shoulders. By bringing a variety of agencies and groups into the “we” of empowerment, the counselor distributes responsibility to those who can help directly. The counselor is still the coordinator, but now has developed a valuable tool — a “circle of friends” with whom to work.

The vocational counselor is the person with the overall view of the fabric or network. Various people or programs will assume dominant roles at different times, while the counselor monitors progress and facilitates movement toward independence. As one part of the network nears completion of its task, the counselor should be assembling resources to address the next phase.

In the development of a network, it is important to include non-traditional resources. True community reentry means getting away from ‘special’ programs and segregated facilities. Generic community resources can provide specific training and support, with the additional benefit of peer interaction. For example, one innovative counselor was working with a woman who needed assistance with budgeting and banking. The counselor reached out to the community and found a YWCA that offered a money management course for female heads of households. The woman with TBI not only received the skills training she needed, but also had the opportunity to meet and learn from other women engaged in enhancing personal empowerment.

Networks sometimes form easily, building on the commitment of family or friends. The vocational rehabilitation counselor can maintain the enthusiasm of the members by continually asking what the person needs and the tasks necessary to meet that
Rehabilitation counselors need strong linkages specifically with community business leaders who can help them find appropriate employment for consumers. One approach to establishing this network is through developing a business advisory committee. The use of these committees has become popular and effective when properly established and employed, enhancing the vocational and placement components of the rehabilitation process. Comprised of local business representatives, a committee can make inroads into community arenas that are not directly available to agency personnel. That is, the committee members have access to decision-makers in local corporations, and to business clubs and organizations.

They can assume many roles — as advisors, advocates and educators, thereby helping the agency and individuals with TBI, as well as informing and educating employers about people with disabilities. Some committees, in addition to the efforts of individual members, produce a newsletter to publicize the existence of the committee to the business community, conveying information and introducing qualified candidates for employment. Whatever the path taken, the results are threefold: jobs, jobs and jobs.

WHAT ARE SOME INNOVATIVE WAYS OF USING/CREATING NETWORKS?

We discuss three innovations at length below: (1) business advisory committees, (2) grand rounds and (3) Personal Futures Planning. Each innovation requires the counselor (and agency administrators) to make a commitment to building network structures that will exist long after the needs of one individual with TBI have been met. Once the structure is in place, it obviously can be used to address the needs of large groups of persons with TBI (and persons with other disabilities who also have complex needs best addressed through networking).
The first step in forming a committee is to select a chairperson who can attract and motivate members. All members should be at a decision-making level in their companies. The chairperson and members should be recruited from diverse sources, each of which has potential for offering employment, e.g., manufacturers, universities, hotels and other local businesses with moderate to large working forces.

Initially, working under the guidance of the chairperson, it is advisable to assemble only a few business executives to form the core of the committee. Over time the membership can be increased gradually, but with membership limitations — so that the committee stays manageable and every member has an important role to play.

At the outset, the core committee should establish the frequency and time of meetings (e.g., breakfast meetings once a month). Then it should develop a mission statement and action plan that addresses its priorities. For example, since members need suitable ‘tools’ to do their job, the first order of business may focus on assessing the needs of respective members for information, e.g., information about TBI and its impact, knowledge of how vocational rehabilitation works and profiles of program ‘graduates’ whom the committee will assist. The action plan should define how this information is to be imparted to committee members. The plan also should state how the committee will expand awareness within the business community about its goals and its work. Finally, a process for planning the committee’s program needs to be established, as does the agenda for the first few meetings of the full committee.

Active and meaningful participation by each member of the committee is crucial to its success. Concrete projects in which members can be involved include:

- Identifying and contacting employers in a defined geographic region,
- Recruiting corporate personnel to develop a mock interview team,
- Developing situational assessment sites as the need arises, and
- Becoming directly involved with vocational rehabilitation staff and job candidates to help with job preparation and placement.

Because of the busy schedules of members, an additional key to a successful committee is to keep meetings short and focused, which requires fostering both concise discussions and presentations of job candidates.

Within the medical model, physicians and other professionals use grand rounds for teaching and problem solving. Although formats vary, typically a grand rounds is a gathering that focuses discussion on unique and problematic cases, in which the opinions of experts across a spectrum of medical specialties are invited, as part of a debate on reaching a definitive diagnosis and/or prescribing a course of treatment.

This model, with modifications, ideally suits the challenges of vocational rehabilitation of people.
TBI-NET pioneered the use of the grand rounds model in vocational rehabilitation, primarily serving as consultants to designated VR offices. For each grand rounds undertaken, a VR office selected one or more current cases -- individuals with TBI who were problematic to the counselors coordinating vocational rehabilitation efforts. The date and time of each grand rounds session were set to optimize the number of counselors and supervisors able to attend, and to maximize the participation of invited representatives of community-based organizations. A typical mix of invitees might represent the local police, Social Security office, psychiatric outpatient program, school, college, local ‘Y’ and other community resources and agencies.

A few weeks before the scheduled grand rounds, the VR office sent all case documentation to the TBI-NET’s technical assistance team, which included a neuropsychologist, a vocational rehabilitation specialist and a community resource consultant. The team reviewed the demographics, education, work history, pre- and post-injury life style, circumstances of the injury, neuropsychological report, the VR plan, actions taken and their outcomes, and the presumed external and personal barriers to further progress.

Each grand rounds meeting began with the VR counselor and the technical assistance team’s VR specialist presenting the background of the selected case. Then the neuropsychologist reviewed the neuropsychological report that had been part of the case file, explained the tests administered and inter-

What has been the experience of TBI-NET in implementing grand rounds?

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With the aim of advancing the vocational rehabilitation of one or more specific individuals with TBI on the counselor’s/agency’s caseload, the vocational counselor/administrator initiates a grand rounds by: (1) shaping the format to meet specific needs, (2) selecting cases that are particularly challenging, and (3) inviting participants from the agency and community-based resources, who may contribute to rehabilitation planning or who may benefit from the information shared. Resource teams with expertise in the vocational rehabilitation of people with TBI (e.g., neuropsychologists, VR specialists) may be useful to include in the initial grand rounds sessions, to help build ‘TBI expertise’ within the community and within the agency.

As a dynamic approach to outreach and education, the grand rounds model provides an opportunity to strengthen already existing partnerships between counselors and organizations. It also helps initiate and develop long-term relationships among community-based resources whose understanding and support of individuals with TBI are essential for successful community reentry. We recommend this forum: (1) to focus the efforts of counselors, facilitate problem solving and define plans of action; and (2) to provide entree to the community, providing a focused arena for informing people about TBI and providing a novel method of network-building.

With TBI. The vocational counselor or agency administrator can adopt the grand rounds model as a means to brainstorm with colleagues, build community understanding of and involvement with specific individuals with TBI, update knowledge and creatively focus rehabilitation efforts drawing on community resources.
interpreted the results. Functional meaning of the results was emphasized whenever this had been neglected. The neuropsychologist recommended additional testing if the evaluation fell short of optimal. The VR specialist then reviewed the treatment plan, identifying the steps taken and probing reasons for these actions. In exploring the process, the VR specialist discussed options, raised questions, validated actions taken and made further recommendations. Throughout these sessions, all attendees were encouraged to participate and the adaptations of ‘usual’ VR procedures to fit individuals with TBI (described on pp. 8 - 12) were reviewed.

Examples of grand rounds presentations may help exemplify this approach to networking:

Len experienced a TBI as a result of a motor vehicle accident while driving intoxicated. This occurred shortly after his starting college as an accounting major. The accident left him with weakness on the left side of his body and slow labored speech. He uses a wheelchair to get around. Following discharge from a rehabilitation program, he attempted to return to school with support from VR. Len attended a liberal arts program for three semesters, but experienced difficulties keeping up with the course work, leading to his withdrawal from the school. After relocating to another state, he attended a computer training program for people with disabilities and again had difficulties with the material and had to drop out. He then found a routine job sorting clothes with a nonprofit organization and stayed with that job for two years.

When he returned to New York, he reopened his case with the State VR agency and expressed interest in accounting or bookkeeping. A neuropsychological assessment was recommended. The report was comprehensive and functionally oriented, revealing, for example, his ability to organize material, excellent attention and concentration, good arithmetic skills, good overall verbal ability (though reading skills were impaired), average abstract reasoning skills, deficits in visual motor functioning, slowed visual motor speed, some social inappropriateness and poor judgment. The neuropsychologist concluded that “Len’s expressed interest in bookkeeping coincides with the results of the testing; this choice is well suited to his general verbal strengths and particularly his facility in manipulating numbers. However, time pressure should be minimized.”

This neuropsychological report was very helpful, providing vocationally relevant, functional information, which the counselor could easily use. (This contrasts sharply with a report by a neuropsychologist on another individual, Liz, a young woman with severe TBI, in which the psychologist suggested that, because of the woman’s interests in social issues and the outdoors, “employment such as redeveloping Kuwait or providing relief to weather-torn Ethiopia would be appropriate.”) Although he had already failed a computer course, the counselor decided to place Len in another such course rather than a bookkeeping training program. He similarly failed this one, and unfortunately was retained in the program long after staff had concluded that computer programming would not be a feasible goal.

At the grand rounds, participants raised questions about this course of action — Why this type of training, when a similar program had been tried already? The discussion revealed that Len had even offered to work extra time, to meet the demands of the bookkeeping training. The suggestion was made that he might originally have benefitted, and still would, from a ‘place-and-train’ situation in bookkeeping.
In another grand rounds, the young woman mentioned above—Liz—was discussed. The counselor said that he and others had urged Liz repeatedly (to no effect) to explore benefits at her local Social Security office. This discussion led one community agency present at the meeting to offer to accompany her to the local Social Security office to help her with SSA procedures. Representatives of another agency recommended a variety of social and recreational programs available in the community. Here, networking through grand rounds enabled counselors to reach out for and obtain support, to share responsibility with others and to obtain up-to-date information on community resources available to this and to other consumers.

Another grand rounds focused on Henry, a young married man who had a motor cycle accident as a result of which he experienced a TBI. Shortly thereafter his wife divorced him; and he obtained rights to visit his daughter. His high level of anxiety, both before and after visiting days, about whether he could entertain his daughter led to a loss of concentration and began interfering with his vocational rehabilitation. During the grand rounds session, a community participant suggested his joining the local chapter of Parents Without Partners, to provide him a social program and a network for both him and his child. He subsequently pursued this suggestion, to good effect.

What is PFP? It is an approach to planning for the future that avoids treating the person with a head injury as a “case,” to assess and fix. It avoids fragmenting further the individual whose life may have already been fragmented by injury. What PFP does do is encourage the counselor and person with TBI to focus on creating a vision and an action plan to address all areas of life important to the individual with TBI: work, education, community work, recreation, relationships, health and well-being.

PFP begins by developing an in-depth description of the interests, gifts, personal preferences and hopes of the focal person. The profile also identifies strengths and opportunities in the social network of...
the individual with TBI. The profile is developed through interviews with the focal person and others who know the person well. A central element of PFP is the building of a “circle of support” — friends, family members, community residents and others interested in the welfare of the focal individual. The circle of support and the individual with TBI work together to develop not only the profile of capacities and hopes but also, in the next step, a vision for the future — a vision of how the focal person can contribute positively in diverse areas of his life. Both the opportunities within the neighborhood/community and the focal person’s profile of preferences and strengths are primary contributors to the vision.

From the vision, a specific action plan is developed, the application of which depends not only on the focal person’s activities but also on the continuing support and problem-solving of the circle of support. An example of PFP in action will help convey the potential of this approach for the vocational counselor:

Charles is an eloquent, bright and compassionate man who has been seeking a focus for his life since his head injury, which occurred over 20 years ago. Before his accident, he was in college, headed for graduate or law school. An ambitious person, Charles was interested in economics, politics, social justice and teaching.

Following his accident and a long recovery process, his periods of unemployment were punctuated with a variety of jobs that fell into two extremes: they were either menial and unchallenging or they required very high-level information processing and organizational skills. At either end of the spectrum, these jobs ended, leaving Charles with a sense of failure and disappointment. Throughout this period, Charles assumed a central role in managing his home, raising his children and supporting his wife in her work. He was active in his church, and in the TBI self-advocacy community, where he discovered and participated in Personal Futures Planning.

A support circle was developed, including his wife and several friends/colleagues from the TBI network. Working with a skilled facilitator and his support circle, Charles examined his past and present interests and dreams, his job successes and failures, and his personal and community-oriented interests and involvements. Through this process, which involved several individual and support circle meetings, Charles developed a vision and action plan. His ideas and the responses from his group were recorded on large sheets of chart paper, which helped clarify the themes in his life and his ideas about the future. The results of this process incorporated his strong interests in helping and teaching others and his commitment to pursue higher education.

Charles began working as a personal assistant in a large human service agency, providing both personal care and life skills instruction to people with developmental disabilities. He has been promoted once and received an award for his commitment to the people served within this agency. He plans to continue his education by enrolling in an MSW program. Charles is also planning to apply for other jobs within this agency that will further his interests in teaching and leading others.

In his own words, he reports, “Following my accident, society seemed to say to me, ‘Drop out of life, take your medication and maybe we can find you a job in a file room somewhere.’ PFP helped clear the psychosocial logjam that inhibited the flow of my personal development.”
The principles of PFP can be learned in a variety of ways. *Person-Centered Planning: Finding Directions for Change Using Personal Futures Planning* provides a basic introduction to PFP. A variety of other publications, including one being developed that modifies the general PFP approach for use with people with TBI (see Appendix VI), are also available.
APPENDIX I: SOCIAL SECURITY WORK INCENTIVES

“Work incentives” refer to a variety of programs that provide strong encouragement for people who are receiving public funds to enter the labor market for the first time or return to work after being out of the labor market due to disability. The work incentives developed within the Social Security Administration (SSA) are those often most important for people with disabilities. Many SSA work incentive programs are designed to help individuals with TBI or other disabilities to make the transition to full- or part-time employment. Work incentive programs accomplish this by providing short-term financial support enabling the individual to work, in order to reduce his/her long-term draw on public funds. We describe two of the most important programs below.

PASS: PLAN FOR ACHIEVING SELF-SUPPORT

Mike, a person with a head injury, receives $200 monthly in SSDI and $227 in SSI benefits. He would like to learn a skill so that he can get a job, but the training program he has in mind costs $150 per month, which he cannot afford and still meet his living expenses. To overcome this ‘impossible’ situation, he makes use of a Social Security work incentive, known as Plan for Achieving Self-Support, or PASS. The impossible becomes possible for Mike because through PASS, the $150 a month from SSDI he uses for tuition no longer ‘counts’ in determining the amount of his SSI benefit, and, thus, this latter benefit increases substantially under PASS. Mike’s benefits with the PASS allow him to meet his basic needs and he has funds to pay for job training.

PASS, in essence, is a ‘deal’ Social Security makes with the individual with a disability. The deal is that the person will use some of his or her funds (e.g., SSDI, earnings, Workers’ Compensation benefits, insurance benefits, lawsuit settlements, inheritance, gifts) to reach a vocational goal, and Social Security will exclude these funds in deciding the person’s eligibility for SSI and in calculating the amount of his or her monthly SSI benefits.

PASS is extremely flexible and useful. PASS funds may be used in acquiring new skills to get a job or in starting a business. PASS is useful in many types of situations. For example, it will allow an individual like Mike, who already is on SSI, to use his funds to pay for expenses necessary in getting back to work and simultaneously increase SSI benefits to make up the shortfall from paying tuition. It will allow another person initially applying for SSI to hold onto savings or other funds (rather than having to spend them down) as long as they are used as part of a PASS plan to get back to work. PASS is also useful for the individual on SSDI who cannot get SSI. She or he can file a PASS plan that invests all or part of SSDI benefits in work-related expenses, making him or her then eligible for applying for SSI benefits to live on. This also makes the person Medicaid eligible — often the most important benefit to a person with a disability.

The individual with a disability must develop the
This work incentive program, known as IRWE, is potentially useful to those receiving SSI and/or SSDI benefits. IRWE is the most flexible and longest-lasting of the work incentive programs of the Social Security Administration: IRWE benefits can be claimed for the individual’s entire working life.

Impairment-related work expenses refer to costs that an individual with a disability incurs in order to work. In calculating how much of the SSI or SSDI benefit payment the individual will retain after return to work, these costs are deducted from the person’s earned income. If, for example, the person is entering the work force, the IRWE deductions allow more SSI and SSDI benefits to be retained — as long as the individual does not exceed the Substantial Gainful Activity Level defined by SSA.

Impairment-related work expenses must meet strict criteria: only those expenses that the individual pays (and will not be reimbursed for), that are work related and that are directly impairment-related. Examples include adaptive equipment, mobility aids, personal care costs, medical costs related to disability, and transportation costs related to disability. Personal care costs provide an example of the complex principles that define whether an expense is an IRWE: Personal
The individual receiving SSDI or SSI who is planning to return to work applies for the IRWE work incentive by notifying the SSA’s local office of his or her intent to work and attaching an itemized list of IRWE expenses with the letter. Receipts and other documentation may be required by SSA to verify any or all of the expenses being claimed.

**Additional Resources:** Call the local field office of SSA and request the *Red Book on Work Incentives*, also known as SSA Publication No. 64-030. This is the official SSA guide, intended for public distribution, and includes detailed information on PASS, IRWE and several other SSA work incentive programs. *Working While Disabled*, SSA Publication No. 05-11017, is also very useful.

This text is adapted from: (1) *The ACCESS Guide to Federal Work Incentives*, written by John Woodward of the CIL of North Florida, in Tallahassee; the *Guide* was published by the CIL and sponsored by the Division of Vocational Rehabilitation of Florida; and, (2) *Working While Disabled*, SSA Publication No. 05-11017, August 1991, Social Security Administration. We also want to thank consumer advocate Alayne Kuffner for her helpful suggestions and editorial review.
The Home and Community-Based Services (HCBS) waiver for individuals with TBI is a program sponsored in New York by the Department of Health (DOH). The purpose of this waiver is to fund the services and supports that individuals with TBI need to live in the community rather than in a nursing facility. Historically, the Medicaid system funded only institutional care, but with the arrival of the HCBS waiver, an individual is now able to use Medicaid funding to live in the community of choice, in a situation of choice.

All existing services provided under the regular Medicaid program and under other publicly funded services (e.g., VESID) are available to the recipient of a waiver. It is expected that with the waiver services, the participant will be able to maintain his/her health and welfare, remain in the community and increase his/her independence and self-reliance. Waiver services include:

- Service coordination
- Structured day programs
- Training in independent living skills
- Substance abuse programs
- Home and community support services
- Community integration counseling
- Environmental modifications
- Vehicle modifications
- Intensive behavioral programs
- Respite care
- Medical equipment and supplies
- Transportation

Who is eligible? All of the following criteria must be met:

- The individual with TBI must have been injured after the age of 18 and before age 65.
- The individual with TBI must currently be in a nursing facility or have been evaluated as needing a nursing facility level of care.
- The residence must be identified in which the waiver participant will be living when receiving services; the residence must meet the individual’s safety and health needs.
- The waiver applicant must have an approved service plan that fits within regional HCBS waiver budgetary caps. (The fact that the cap is regional allows more flexibility than if individual caps were mandated; however, as the number of service plans within a region increases, the flexibility decreases.)

What is the process for applying for the waiver? In the first step, the individual with TBI must decide to live in the community, not in a nursing facility. The individual then will meet with his/her Regional Resource Development Specialist (RRDS), who is
contracted to provide this service by the DOH, and who will explain the waiver program and provide a list of approved service coordinators. The individual with TBI must then choose a service coordinator (see below) to help in developing the documentation needed as part of the waiver application. The individual with TBI, the service coordinator and other individuals, as needed, then develop the service plan, which is submitted to the RRDS for review. Notification of the decision about the application will then be sent to the applicant and service coordinator.

A provider manual describing services available and processes for accessing services may be obtained by contacting the NYS DOH (518) 474-6580.
APPENDIX III: CHECKLIST FOR WRITING NEUROPSYCHOLOGICAL REPORTS IN FUNCTIONAL TERMS FOR VOCATIONAL REHABILITATION

A neuropsychological report describing the strengths and limitations of the individual with TBI, in functional and vocationally relevant terms, is often a key item in developing a vocational rehabilitation plan. The Checklist for Writing Neuropsychological Reports in Functional Terms for Vocational Rehabilitation is a procedure designed to facilitate communication between counselors and psychologists. It was developed at the Southwest Regional Brain Injury Rehabilitation and Prevention Center in Houston, and was authored by Mary Ellen Young, Joyce Eisner-Leverenz, Linda Ewing-Cobbs and Walter High.

I. COGNITIVE OBSERVATIONS

A. Attention and Concentration
1. How long can the individual focus on a task?
   __ < 5 min. __ 5-30 min. __ 30-60 min. __ longer (specify # of hours)
2. Does the individual need breaks?
   __ usually __ sometimes __ rarely
3. Does the individual make impulsive errors?
   __ usually __ sometimes __ rarely
4. Is the individual distractable?
   __ usually __ sometimes __ rarely
   If usually or sometimes distractable, is the source of the distraction:
   __ external __ internal __ both?
5. Is the individual at increased risk in jobs involving specific hazardous conditions such as:
   MOVING EQUIPMENT? __ yes __ no
   ELECTRICAL SHOCK? __ yes __ no
   HEIGHTS? __ yes __ no
   HAZARDOUS MATERIALS? __ yes __ no
   SECURITY / POLICE DUTY? __ yes __ no

B. Approach to Task and Problem-Solving Skills
1. Can the individual use an organized approach to tasks?
   __ usually __ sometimes __ rarely
   __ with prompts __ without prompts
2. Can the individual recognize errors?
   __ usually __ sometimes __ rarely
   __ with prompts __ without prompts
3. **Can the individual correct errors?**
   - usually __ sometimes __ rarely
   - with prompts __ without prompts

4. **Can the individual accept and use feedback?**
   - usually __ sometimes __ rarely

5. **Can the individual generate problem-solving strategies?**
   - usually __ sometimes __ rarely
   - with prompts __ without prompts

6. **Can the individual change his or her approach when ineffective?**
   - usually __ sometimes __ rarely
   - with prompts __ without prompts

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C. **Memory**

1. **Does the individual have any problems remembering events that occurred or persons whom they knew prior to injury?**
   - yes __ no
   If yes, indicate if the individual has problems remembering:
   - minutes before injury? __ yes __ no
   - hours before injury? __ yes __ no
   - the day before injury? __ yes __ no
   - the week before injury? __ yes __ no
   - the month before injury? __ yes __ no

2. **... Any problems remembering current events/persons?**
   - yes __ no
   If yes, indicate if the individual has problems remembering:
   - in the last minute? __ yes __ no
   - in the last hour? __ yes __ no
   - in the last day? __ yes __ no
   - in the last week? __ yes __ no
   - in the last month? __ yes __ no

3. **... Any problems remembering one- or two-step directions?**
   - yes __ no
   If yes, indicate if the individual has problems remembering:
   - for a minute? __ yes __ no
   - for an hour? __ yes __ no
   - for a day? __ yes __ no
   - for a week? __ yes __ no
   - for a month? __ yes __ no

4. **... Any problems remembering more complicated directions?**
   - yes __ no
   If yes, indicate if the individual has problems remembering:
   - for a minute? __ yes __ no
   - for an hour? __ yes __ no
   - for a day? __ yes __ no
   - for a week? __ yes __ no
   - for a month? __ yes __ no

5. **Are the individual’s memory problems:**
   - (check all that apply):
     - global? __ visual? __ verbal?

6. **Does the individual use memory aids?**
   - usually __ sometimes __ rarely
   - with prompts __ without prompts

7. **Does the individual ask for clarification and repetition of directions?**
   - usually __ sometimes __ rarely

8. **Does the individual have more subtle problems remembering new information that affect his or her ability to do more complex jobs or tasks?**
   - yes __ no
**D. Insight**

1. **Does the individual overestimate his or her physical capacities?**
   - __ usually __ sometimes __ rarely
   - **6** Applies logical or scientific thinking to solve a wide range of abstract problems, may involve formulas and equations

2. **Does the individual overestimate his or her memory abilities?**
   - __ usually __ sometimes __ rarely

3. **Does the individual overestimate other cognitive abilities?**
   - __ usually __ sometimes __ rarely

4. **Does the individual underestimate behavioral changes?**
   - __ usually __ sometimes __ rarely

**B. Physical Capacities / Sensory Modalities**

1. **Status of motor system? (check all that apply)**
   - __ hemiparesis __ right __ left
   - __ hemiplegia __ right __ left
   - __ paraplegia __
   - __ quadriplegia __
   - __ ataxia __
   - __ apraxia __

2. **Problems noted in visual acuity?**
   - __ yes __ no

3. **Problems noted in perception?**
   - **Visual scanning?** __ yes __ no
   - **Form perception?** __ yes __ no
   - **Clerical perception?** __ yes __ no

4. **Visual fields intact?**
   - __ yes __ no
   - **If no, specify:**

5. **Does individual have inattention to visual field (visual neglect)?**
   - __ yes __ no
   - **If yes, right __ left**
   - **subtle __ apparent**

6. **Problems with hearing?**
   - __ yes __ no

7. **Problems with sensation/touch?**
   - __ yes __ no

**II. Worker Trait Factors**

**A. Functional Reasoning Level (check one)**

- **0** Does not use common sense, cannot follow simple instructions
- **1** Uses common sense, follows 1-2 step instructions in tasks with no variability
- **2** Uses common sense, follows simple written and oral instructions, minimal variability in tasks
- **3** Uses common sense, interprets instructions in written or diagram form, deals with several concrete variables
- **4** Solves practical problems within preexisting structures, deals with several concrete variables with limited standardization, interprets directions in all modalities
- **5** Defines problems, collects data, establishes facts, draws valid conclusions, interprets extensive instructions in any format, deals with both abstract and concrete variables
8. Problems with sense of smell or taste?  
  __ yes   __ no

C. Language Skills
1. Receptive: Understands simple 1-2 step verbal instructions?  
   __ usually   __ sometimes   __ rarely

2. Expressive:
   Expresses basic needs (e.g., food, water, toileting)?  
   __ usually   __ sometimes   __ rarely

   Expresses more complex ideas (e.g., social relationships, abstract concepts)?  
   __ usually   __ sometimes   __ rarely

FOR THE NEXT SECTIONS (C-3 through E-3), CIRCLE THE APPLICABLE RATING BASED ON THE FOLLOWING SCALE, WHERE APPROPRIATE:

1 = TOP 10% OF GENERAL POPULATION
2 = TOP THIRD OF GENERAL POPULATION (EXCLUSIVE OF TOP 10%)
3 = MIDDLE THIRD OF GENERAL POPULATION
4 = BOTTOM THIRD OF GENERAL POPULATION (EXCLUSIVE OF BOTTOM 10%)
5 = BOTTOM 10% OF GENERAL POPULATION

C. Language Skills, continued
3. Reading recognition  1 2 3 4 5

4. Reading comprehension  1 2 3 4 5

5. Written spelling  1 2 3 4 5

D. Math Skills
1. Calculation  1 2 3 4 5

2. Numerical reasoning  1 2 3 4 5

E. Motor Execution
1. Eye-hand coordination  1 2 3 4 5

2. Finger dexterity:
   LEFT HAND  1 2 3 4 5
   RIGHT HAND  1 2 3 4 5
   BOTH  1 2 3 4 5

3. Manual dexterity:
   LEFT HAND  1 2 3 4 5
   RIGHT HAND  1 2 3 4 5
   BOTH  1 2 3 4 5

4. IF THE ABOVE RATINGS ARE BELOW AVERAGE, IS THIS DUE TO:
   SLOWNESS?  __ yes   __ no
   INACCURACY?  __ yes   __ no

5. Reaction time: upper extremities  
   __ impaired   __ not impaired

III. BEHAVIORAL OBSERVATIONS

A. Appropriate social interactions?  
   __ usually   __ sometimes   __ rarely

B. Appropriate frustration tolerance?  
   __ usually   __ sometimes   __ rarely

C. Appropriate dress?  
   __ usually   __ sometimes   __ rarely

D. Appropriate hygiene?  
   __ usually   __ sometimes   __ rarely

E. Punctual (appointments/returning from breaks)?  
   __ usually   __ sometimes   __ rarely
F. Dependable, e.g., appointments scheduled/kept?
   __ usually __ sometimes __ rarely

G. Annoying habits?
   __ usually __ sometimes __ rarely

H. Disinhibition?
   **Verbal?**
   __ usually __ sometimes __ rarely

   **Physical?**
   __ usually __ sometimes __ rarely

   **Sexual?**
   __ usually __ sometimes __ rarely

IV. RECOMMENDATIONS

A. Recommend return to pre-injury job?
   __ yes __ no __ unable to judge __ NA
   If yes, estimate time to return to work:

B. Is further recovery expected?
   __ yes __ no
   If yes, over what time period?

C. Is further rehabilitation recommended?
   __ yes __ no
   If yes, check all that are recommended:
   __ medical consultation
   __ occupational therapy consultation
   __ physical therapy consultation
   __ psychological services
   __ psychiatric services
   __ case management / social services
   __ independent living evaluation
   __ speech / language therapy
   __ educational services
   __ driving evaluation
   __ vocational assessment
   __ vocational counseling
   __ cognitive training
   __ behavioral training
   __ work adjustment services
   __ therapeutic recreation services
   __ supported employment / job coaching services
   __ substance abuse screening / treatment

D. Is counseling recommended?
   __ yes __ no
   If yes, check type:
   __ individual
   __ marital
   __ family

E. Supervision needed in competitive job for:
   **Behavior problems?** __ yes __ no
   **Cognitive difficulties?** __ yes __ no
   **Physical limitations?** __ yes __ no
   **Other?** __ yes __ no
APPENDIX IV: SUGGESTED NEUROPSYCHOLOGICAL TESTS FOR EACH AREA OF FUNCTIONING

This list was developed at the Southwest Regional Brain Injury Rehabilitation and Prevention Center in Houston, by M. E. Young, J. Eisner-Leverenz, L. Ewing-Cobbs and W. High. Modifications and additions were made by the staff of TBI-NET.

ATTENTION / CONCENTRATION / PROCESSING SPEED
1. Behavioral observations
2. Immediate Auditory Attention Span, of the Wechsler Memory Scale-Revised (WMS-R): measures immediate memory for verbal material
3. Visual Attention Span (WMS-R): measures immediate memory for nonverbal material
4. Attention Concentration Index Score (WMS-R): overall performance in this domain
5. Paced Auditory Serial Addition Test (PASAT): measures sustained attention
6. Digit Cancellation: measures speed and accuracy of visual scanning as well as impulsivity
7. Visual and Auditory Vigilance Tasks:

8. Trails A: attention and processing speed
10. GFW Test of Auditory Selective Attention

PROBLEM SOLVING
1. Wisconsin Card Sorting Test (WCS): measures abstraction abilities
2. Category Test: similar to WCS
3. Similarities, of the Wechsler Adult Intelligence Scale-Revised (WAIS-R): measures simple verbal abstract reasoning
4. Proverb Interpretation (WAIS-R, Comprehension): measures verbal abstraction/comprehension
5. Block Design and Object Assembly (WAIS-R): measures visual/spatial problem solving or construction
6. Comprehension and Picture Arrangement (WAIS-R): measures social judgment

MEMORY
1. Wechsler Memory Scale-Revised (WMS-R): measures verbal and nonverbal memory/learning
2. Buschke Memory Scale - Revised: measures verbal learning
3. Rey-Auditory Verbal Learning: similar to Test 2
4. California Verbal Learning Test: similar to Test 2
5. Rey-Osterieth Complex Figure: measures visual memory
7. Warrington Recognition Memory Test: measures verbal and nonverbal encoding
8. Kimura Figures: measures visual memory
9. Rivermead Test: measures memory in
context of functional activities
10. Visual Memory, Sentence Repetition, and Auditory-Visual Learning (W-JTCA)

INSIGHT
1. Behavioral observations
2. Interview
3. Neurobehavioral Rating Scale: quantifies observations of behavior and emotion

FUNCTIONAL REASONING
1. WAIS-R: measures verbal and nonverbal performance
2. Shipley: measures abstraction
3. Raven’s Progressive Matrices: measures nonverbal reasoning
4. Test of Non-Verbal Intelligence: measures nonverbal reasoning
5. Mini Mental Status Examination (MMSE): measures basic cognitive functioning (appropriate for individuals more impaired)
6. Peabody Picture Vocabulary Test: verbal intelligence

SENSORY
1. Visual Acuity Screen: part of a neurological examination, as are Tests 2, 3 and 8
2. Visual Fields Screen
3. Visual Hemispatial Extinction Screen
4. Line Bisection: tests visual perception, as do Tests 5 - 7
5. Benton Form Discrimination
6. Benton Facial Recognition
7. Benton Judgement of Line Orientation
8. Hearing Screen
9. Tactile Form Perception: tests somatosensory perception, as do Tests 10 - 12
10. Finger Localization
11. Graphasthesia
12. Stereognosis
13. Visual Cancellation

LANGUAGE
1. Multilingual Aphasia Examination: Tests 1-4 constitute a comprehensive battery for aphasia
2. Boston Diagnostic Aphasia Examination
3. Western Aphasia Battery
4. Neurosensory Center Examination for Aphasia

WRITTEN LANGUAGE
1. WRAT-R (Reading and Spelling)
2. Reading Comprehension (PIAT): individual achievement test
3. Reading Comprehension (W-JTCA)
4. Gray Oral Reading Test

MATH
1. Arithmetic subtest (WRAT-R)
2. Arithmetic subtest (WAIS-R): measures mental computation abilities
3. Math subtest (W-JTCA): measures comprehension of math concepts

EXECUTIVE FUNCTIONS
1. Digit-Symbol: measures executive skills and the ability to shift set
2. Symbol-Digit Modalities Test (SDMT): similar to Digit-Symbol
3. Trails B: rapid alternating set shifting
4. Category Test and WCS: set shifting and inference
5. Reading comprehension (many tests are available): inference
7. Tower of Hanoi and Tinker Toy Test: trial-and-error thinking, generalization of learning, inductive reasoning
8. Concept Formation (W-JTCA)
# APPENDIX V: RESOURCES

1. **Independent Living Centers**  
   A directory of ILCs in New York State is available from:  
   - New York State Independent Living Council  
     111 Washington Avenue, Suite 101  
     Albany, NY 12210  
     888 4NYSLIC, 518 427-1060  
     www.nysilc.org
   - Norwalk Hospital, Norwalk, CT  
     203 852-2038
   - Gaylord Hospital, Wallingford, CT  
     203 284-2800

2. **State and National Head Injury Associations**  
   - Brain Injury Association of America  
     703 236-6000  
     www.biausa.org
   - Connecticut Brain Injury Association  
     860 721-8111
   - New Jersey Head Injury Association  
     732 738-1002  
     800 669-4323
   - Brain Injury Association of New York State  
     518 459-7911

3. **Hospital-Based Traumatic Brain Injury Programs**  
   - Mount Sinai School of Medicine, NY, NY  
     212 659-9372
   - Kessler Institute for Rehabilitation, West Orange, NJ  
     973 414-4723

4. **Vocational Rehabilitation Agencies**  
   - New York State Vocational and Educational Services for Individuals with Disabilities  
     518 473-7213
   - New Jersey Division of Vocational Services  
     609 292-5987
   - Connecticut Bureau of Rehabilitation Services  
     800 537-2549

5. **Other Programs**  
   - National Center for Disability Services, Albertson, Long Island, NY  
     516 747-5400
   - Transitions of Long Island, Inc., Manhasset, Long Island, NY  
     631 365-4335

6. **Publications on Work Incentives**  
   Call SSA (800 772-1213) and request the Red Book on Work Incentives, also known as SSA Publication No. 64-030. Working While Disabled, SSA Publication No. 05-10095, is also useful.
APPENDIX VI: REFERENCES, BIBLIOGRAPHY AND PFP PUBLICATIONS

REFERENCES


BIBLIOGRAPHY


Handler, B.S., & Sample, P.L. (undated). Beyond brain injury: A manual for supported employment providers. Denver, CO: Rocky Mountain Regional Brain Injury Center. [Available from Elliott and Fitzpatrick, P.O. Box 1945, Athens, GA; 800 843-4977; $16.95 plus shipping and handling ($3.75 minimum)]

Hodis, S.K., & Burns, P.G. (undated). Tools for community living. New York: Comprehensive Regional Traumatic Brain Injury Rehabilitation and Prevention Center (TBI-NET). [Available from Dr. Wayne A. Gordon, Mount Sinai Medical Center, Box 1240, One Gustave L. Levy Place, NY NY 10029; 212 241-7917]


Young, M.E., Cash, A., Dunlap, L., Kobayashi, R., Handler, B., & Zuger, R. (1994). Vocational rehabilitation service coordination for persons with traumatic brain injury. [Available from Dr. M.E. Young, Southwest Regional Brain Injury Rehabilitation and Prevention Center, 4007 Bellaire Blvd., Suite EE, Houston, TX 77025; 713 666-9550; fax 713 668-5210; e mail: myoung@bcm.tmc.edu]

PFP PUBLICATIONS


Mount, B., & Riggs, D. (in press). Maps to the future: A Personal Futures Planning workbook for people with TBI. [Available when published from the Research and Training Center on Community Integration of Individuals with TBI, Box 1240, Mount Sinai Medical Center, New York, NY 10029.]