

New Developments in the Role of Neuropsychological and Psychological Assessments in Rehabilitation, Case Management and Life Care Planning

***Lisa Kohn, Psy.D.; Elizabeth Hooper, Psy.D.; Jessica Ballard, R.N., MBA;
Alan Raphael, Ph.D.; and Charles Golden, Ph.D.***

Abstract

The fields of life care planning and psychology play a significant role together in assisting patients to receive the best care possible after an injury that has drastically changed their life. Neuropsychological and psychological assessments can aid the life care planner in determining the future needs of adult and pediatric patients. Testing assesses areas such as attention, cognitive decline, emotional functioning, intellectual ability, memory, and many other areas of functioning to provide a thorough picture of a person's current abilities, strengths, and weaknesses. It is important that life care planners understand psychological assessments and that psychologists provide useful information in their report that will aid others in knowing what type of care the patient will need. The objective of this article is to inform those in the life care planning field of the new developments in testing that may affect how one plans for the future care and treatment of their patient.

Introduction

Standards of practice for life care planners emphasize objective, reliable and valid data from transdisciplinary specialties upon which to determine future care needs of the catastrophically injured patient (International Academy of Life Care Planners, 2006). Two of the most functionally relevant and objectively accurate sources of information can come from neuropsychological and psychological assessment. In the authors' opinion, neuropsychological and psychological assessments have become an integral element in the diagnosis and treatment planning of adult and pediatric patients following a brain injury or other catastrophic injury or illness. As a result, they have also become an important ingredient to the field of life care planning. In order to appreciate the valuable relationship between neuropsychological and psychological testing and life care planning, one must be familiar with their functions.

Neuropsychological and Psychological Assessment

"Clinical neuropsychology is a specialty profession that focuses on brain functioning. A clinical neuropsychologist is a licensed psychologist with expertise in how behavior and skills are related to brain structures and systems. In clinical neuropsychology, brain function is

evaluated by objectively testing memory and thinking skills. A very detailed assessment of abilities is done, and the pattern of strengths and weaknesses is used in important health care areas, such as diagnosis and treatment planning” (American Psychological Association, 2001, p. 2). Some of the areas that are tested include intellectual functioning, planning and organizational skills, memory, attention and concentration, academic skills, and perceptual and motor abilities.

Personality assessment is a related specialty that illuminates functional causes of motor and cognitive deficits (e.g., anxiety, depression, malingering). According to Groth-Marnat (2003), “Psychological assessment is most useful in the understanding and evaluation of personality and especially of problems in living. These issues involve a particular problem situation having to do with a specific individual. The central role of the clinician performing psychological assessment is that of an expert in human behavior who must deal with complex processes and understand test scores in the context of a person’s life (p. 4).” Contemporary psychological assessment utilizes empirically sound personality tests such as the Minnesota Multiphasic Personality Inventory-Second Edition (MMPI-2) and MMPI-2-RF (restructured form), Millon Clinical Multiaxial Inventory-Third Edition (MCMI-III), Advanced Psychodiagnostic Interpretation (API) of the Bender Gestalt Test-Revised, Personality Assessment Inventory (PAI), and the Personality Inventory for Children (PIC) in order to gain objective insight into the psychological factors that the patient is dealing with. These measures empirically aid in the diagnosis and treatment of the patient.

Overall, neuropsychological and psychological testing are beneficial to life care planning as they are able to assess areas such as attention, cognitive decline, emotional functioning, intellectual ability, planning and organization, dementia, learning styles, motivation, motor functioning, personality disorders, memory, and judgment. By assessing the patient’s functioning in these areas, neuropsychological and psychological testing can provide a comprehensive, objective picture of a person’s current functioning, including personal strengths and weaknesses that should be considered when choosing appropriate types of rehabilitation and therapy programs. A person’s current functioning profile can also be compared with normative data from others with similar strengths, deficits, and emotional and social components and can then be used to aid in the prediction of recovery and permanency of injuries. As illustrated by Weed (2004), neuropsychologists may also have considerable training in many other areas of clinical psychology such as psychiatric diagnosis, counseling, crisis intervention, and family therapy. Weed (2004) further notes that the neuropsychologist can contribute to a life care plan by identifying risk for development of psychological disorders, expert witness testimony, participation in rehabilitation treatment planning, and recommendations for continued neuropsychological and psychological assessments.

Frequently Used Assessment Instruments

Rabin, Barr, and Burton (2004) conducted a study in order to determine the most frequently utilized neuropsychological assessments by the International Neuropsychological Society (INS), National Academy of Neuropsychology (NAN), and American Psychological Association (APA) Division 40 members. Their study revealed that psychologists most frequently assess for attention (97.7%), verbal memory (96.1), executive functions (96.3%), visuospatial skills (94.6%), nonverbal memory (87.8%) and intelligence (89.4%) when performing evaluations. Additionally, it was noted that the Wechsler Adult Intelligence Scale (WAIS-R/WAIS-III), Wechsler Memory Scale (WMS-R/WMS-III), Trail Making Test, California Verbal Learning Test-II (CVLT-II), Wechsler Intelligence Scale for Children

(WISC-III), Halstead Reitan Neuropsychological Battery, Wisconsin Card Sorting Test, Rey Osterith Complex Figure Test (ROCFT), MMPI/MMPI-II, and the Rey Auditory Verbal Learning Test (RAVLT) were the top ten most frequently used neuropsychological assessments. Rabin, et al. (2004) provided the top forty assessments used in assessing memory, attention, executive functions, and ability to return to work. Table 1 includes the top five tests in each category:

Table 1, Top 5 Utilized Assessments by Category

MEMORY	ATTENTION	EXECUTIVE FUNCTIONING	RETURN TO WORK
WMS-R/WMS-III	Trail Making Test	Wisconsin Card Sorting Test	MMPI/MMPI-2
CVLT-CVLT-II	WAIS-III/WMS-III Digit Span	ROCFT	WAIS-R/WAIS-III
ROCFT	Paced Auditory Serial Attention Test	Halstead Category Test	Driving Evaluation
Boston Naming Test	Stroop Test	Trail Making Test	Beck Depression Inventory
WAIS-R/WAIS-III	Conners' Continuous Performance Test (CPT/CPT-II)	Controlled Oral Word Association Test	Clinical Interview

A number of important updates have been made to assessments in the recent past. As more data become available, questions, administration procedures, and normative samples are updated within tests. Using out of date tests lessens the ability of the examiner to provide accurate information about a person's current and future functioning (Groth-Marnat, 2003).

In August 2008, a new version of the Wechsler Adult Intelligence Scale (WAIS) was released. The WAIS-IV will make other earlier versions obsolete over the next several years. This new version, for adults ages 16 to 90, offers updated normative data and "enhanced utility for older adults" according to the test's distributor, Pearson Education, Inc. (Pearson Assessments, 2009a). It also takes less time to administer, is easier to score, and has updated subtests which supports emerging research in the field than does its predecessor.

The child version of this scale, the Wechsler Intelligence Scale for Children (WISC), was recently updated as well. Common practice now dictates that the WISC-IV is the most appropriate test for use when examining children ages 6 to 16 (Pearson Assessments, 2009b). For assessment of younger children, clinicians can use the most up to date version of the Stanford Binet Intelligence Scale, now in its fifth edition, suitable for children and adults aged 2 to 85. They may also choose to utilize the Wechsler Preschool and Primary Scale of Intelligence, third edition (WPPSI-III) for children ages 2½ to 7.

The Vineland Adaptive Behavior Scales also received a recent update which is currently available. The Vineland-2 assesses children from birth to age 18 as well as low functioning adults. This test measures skill crucial to daily functioning and measures a variety of

disabilities such as mental retardation, developmental delay, and other functional impairments including autism spectrum disorders. The Adaptive Behavior Assessment System-Second Edition (ABAS-II) has also been recently released and provides standard measures of adaptive skills for clients ages infant to 89.

Assessment in the area of achievement has also been updated recently in the Wide Range Achievement Test, Fourth Edition (WRAT 4). The WRAT 4 assesses achievement in four basic areas, reading recognition, reading comprehension, spelling, and arithmetic, and can be used as a pre-screening measure to determine if further achievement assessment is warranted.

Lastly, a substantially shortened version of the MMPI-2 has been released, the MMPI-2-RF. This is a 338-item inventory in which all of the items have been derived from the original MMPI-2, and the same normative sample was used with a few modifications. In addition to the nine Restructured Clinical Scales, the test comprises 41 revised and new empirically validated scales. It should be noted that the MMPI-2-RF provides a valuable alternative to the MMPI-2 test and is not considered to be a replacement for the MMPI-2.

There are a number of other test updates each year. The field of assessment psychology is ever evolving and an astute clinician will stay abreast of new developments in assessment and research and can aid in the measurement of a variety of areas of intellectual function including planning and organization, dementia, learning and information processing styles, memory functioning including visual, verbal, working memory, remote and recent memory, and general memory, problem solving skills, reasoning abilities, and cognitive decline. The clinician can also assess brain injury or organic brain damage and correlate these findings with diagnostic radiography. Other areas of function which are commonly assessed include motivation, motor functioning including fine and gross motor coordination, visuomotor function, perceptual motor functioning, attention and concentration, mental, emotional, personality, behavioral, academic, vocational, and language functioning including expressive and receptive language skills.

Ethics Considerations

According to the American Psychological Association (APA) Ethics Code (2002), "Psychologists do not base their assessment or intervention decisions or recommendations on data or test results that are outdated for the current purpose. Psychologists do not base such decisions or recommendations on tests and measures that are obsolete and not useful for the current purpose. Psychologists must have professional justifications for using an earlier version of a test" (Section 9.08). One example of a psychologist using outdated tests was seen recently. The clinician chose to utilize the Wechsler Adult Intelligence Scale-Revised (published in 1981) while the psychological community is currently using the Wechsler Adult Intelligence Scale-Third Edition (published in 1997) with the WAIS-IV just released this past summer in 2008. Due to the fact that some subtests have been omitted between versions, and norms have been updated, it makes it very difficult for another psychologist to compare test results with those from an outdated version. Furthermore, as stated by Vocational Economics Incorporated (2000), "An inappropriate choice in a life care plan could jeopardize the opportunity for a person wrongfully injured to recover what approximates their ability to survive and receive adequate care" (p. 2). Additionally, an inappropriate choice in assessments or clinicians can leave recommendations made in the life care plan wide open to criticism and debate. This can greatly negatively affect the ability of the life care planner to assist the client in obtaining the necessary services and products. The responsible clinician will also approach the selection of tests based on the referral question and needs of the individual patient,

including and omitting tests based on appropriateness.

This lesson is especially relevant for case managers and life care planners. At the core of any life care planner's practice are the integral steps necessary to develop a life care plan. By developing a plan of care based on outdated, incomplete or improper testing data, there is an increased possibility of a detrimental outcome for the patient. This applies across the spectrum, no matter which specialty conducts the testing. For example, when developing a plan of care for an unstable or non-compliant patient with diabetes, the clinician would seek to use the most up to date and comprehensive test data. While results from a log of self monitored blood glucose (SMBG) readings via finger-stick would be useful, an HbA1c test is the most telling and can give a much broader clinical picture. By only evaluating the SMBG results, there is a much greater chance of inaccuracies to occur. By the same token, urine testing for blood glucose, compared to SMBG or an HbA1c, is very outdated and a poor method upon which to base the plan of care. These same principles apply to both psychological and neuropsychological as well as medically based tests.

One of the first steps in the life care planning process is assessment, during which it is the life care planner's responsibility to identify any actual or potential health problems. A second step involves the development of goals and formulating the plan of care with the purpose of assisting the patient to resolve or mitigate the diagnosed problems and achieve the identified goals and outcomes. A final step of evaluation can be the determination as to the extent to which the outcomes have been achieved (Smeltzer & Bare, 2000). When utilizing inaccurate data, whether it is misapplied or outdated, the entire process by which life care plan development occurs may be undermined.

Unique Considerations

An important portion of a neuropsychological or personality assessment can be the use of tests that help determine the patient's motivation level or ability to participate in their own recovery and rehabilitation process. An adequate neuropsychological evaluation will choose from motivational / malingering tests such as the Test of Memory Malingering, Rey 15-Item Memory Test, and the Validity Indicator Profile which were designed to assess for responses that could detect potential malingering behaviors. Additionally, the MMPI-2 and MCMI-III have scales built in to assess for over-reporting and under-reporting of symptoms. It is essential to look for objective tests when reviewing an evaluation. Many tests such as the Beck Depression Inventory, Cognitive Symptoms Checklists, and others of that nature are self-report and subjective, with no built-in indicators for measuring exaggeration or motivation.

One classic misunderstanding is the difference between a neuropsychological or psychological evaluation and a clinical interview. The authors have noted time and time again where a psychologist will title his or her report "psychological evaluation" when, in fact, he or she has only conducted an interview. This is a problem because the report has now been purely based on client self-report and no objective data. Additionally, an evaluation that is comprised of only one test should not be considered an evaluation. For example, a clinician recently conducted an "evaluation" and only administered the Wechsler Memory Scale, Third Edition to determine memory loss. The WMS-III scores are meant to be compared with other test data in order to determine loss of functioning. In these authors' opinions, it is impossible to determine memory loss without any other objective information.

Overall, the information provided in this article may become useful to a life care planner as an aid in understanding the concept of neuropsychological and psychological evaluations in order to adequately apply the information to a client. When comprising questions to be

submitted to a psychologist, it is important to take into consideration the situations mentioned above such as outdated tests and lack of objective assessments. As a life care planner, a comprehensive understanding of these evaluations and assessments may serve as an important guide to more thoroughly understand your client and his or her future needs.

About the Authors

Lisa Kohn, Psy.D. is a Post Doctoral Fellow at International Assessment Systems.

Betsy Hooper, Psy.D. is a Psychologist with the Miami-Dade States Attorney Office and Department of Corrections primarily working with inmates accused of capital murder.

Jessica Ballard, R.N., MBA, is a Pediatric Nursing Supervisor with Family Care and Home Care Services in Shelton, Connecticut.

Senior author, **Alan J. Raphael, Ph.D.**, is the CEO of International Assessment Systems (IAS), Inc. and the President of the American Board of Assessment Psychology. He has published two textbooks and some thirty scientific articles in Assessment Psychology and Rehabilitation.

Charles Golden, Ph.D. is the co-developer of the Luria-Nebraska Neuropsychological battery and the Stroop Color test. He is the Director of Neuropsychology at IAS and Professor of Psychology at Nova South Eastern University.

References

- American Psychological Association, Public Interest Advisory Committee, Division 40 [Clinical Neuropsychology]. (2001). *Clinical neuropsychology: A guide for patients and their families* [Brochure]. Washington, D.C.: Author.
- Groth-Marnat, G. (2003). *Handbook of Psychological Assessment* (4th ed.). Hoboken, New Jersey: John Wiley & Sons.
- International Academy of Life Care Planners. (2006). Standards of practice for life care planners. *Journal of Life Care Planning*, 5(3), 123-129.
- Pearson Assessments. (2009a). *Wechsler Adult Intelligence Scale-IV*. Retrieved June 19, 2009, from <http://pearsonassess.com/HAIWEB/Cultures/en-us/Productdetail.htm>
- Pearson Assessments. (2009b). The cutting edge of research and thinking. In Wechsler *Intelligence Scale for Children-IV*. Retrieved June 19, 2009, from <http://pearsonassess.com/hai/ProductLongDesc>
- Rabin, L.A., Barr, W B., & Burton, L.A. (2004). Assessment practices of clinical neuropsychologists in the United States and Canada: A survey of INS, NAN, and APA Division 40 members. *Archives of Clinical Neuropsychology*, 20, 33-65.
- Smeltzer, S., & Bare, B. (2000). *Medical-Surgical Nursing* (9th ed.). Philadelphia, Pennsylvania: Lippincott Williams & Wilkins.
- Vocational Economics Incorporated. (Fall 2000). Life Care Planning 101. In *VE Insight*. Retrieved May 5, 2008, from <http://www.vocecon.com/pdfs/articles/v0303.pdf>
- Weed, R. O. (2004). *Life Care Planning and Case Management Handbook* (2nd ed.). Boca Raton, Florida: CRC Press.
-