Journal of Life Care Planning, Vol. 3, No. 3, 131-150
Printed in U.S.A. All rights reserved ©2004 Elliott & Fitzpatrick, Inc.

The Efficacy of Professional Clinical Judgment: Developing Expert Testimony in Cases Involving Vocational Rehabilitation and Care Planning Issues

Anthony Choppa, M.Ed., Cloie B. Johnson, M.Ed., John Fountaine, M.A., Kent Shafer, M.Ed., Kent Jayne, M.B.A., John W. Grimes, Ph.D. & Timothy F. Field, Ph.D.

"Always tell the truth...." (Choppa & Shafer, 1997)

Abstract. *The Daubert and Kumho rulings issued by the U.S. Supreme Court have generated a great deal of discussion and concern regarding the admissibility of testimony by experts in state and federal courts. This paper reviews these and related rulings in light of the rehabilitation profession, and evaluates the impact of the rulings on actual case studies, including testimony and opinion of experts. An emphasis is made for the development of relevant and reliable opinion based on professional clinical judgment as a valid approach to developing and presenting testimony. Guidelines are suggested for the development of such testimony.*

Background

In 1993, the federal case of Daubert vs. Merrell Dow Pharmaceuticals, Inc. set off a firestorm of concern and ambiguity among professionals who routinely offered testimony in state and federal courts. Overnight this U.S. Supreme Court case (92-102) impacted the thinking and format of how experts presented information and opinion in depositions and trials. Rules and guidelines for such opinions appeared to change. This article is about case formulation in the areas of vocational rehabilitation and care planning involving issues related to earning capacity, work life expectancy, and future costs for medical and rehabilitation needs of the injured person.

Frye vs. United States (1923) set forth the general rule that the "thing from which a deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs." For nearly seven decades the "Fyre Rule" was the guiding principle in federal courts. This ruling, which was based on the approach of a blood pressure test used as a deception test, was concluded to be lacking in the sufficient acceptance and standing among those in the relevant scientific community. The Daubert ruling significantly changed the landscape with regard to scientific expert testimony from any quarter. The Daubert ruling established four basic criteria by which courts would evaluate expert testimony:

1. Can the theory or technique be tested?
2. Has the theory or technique been subjected to peer review and publications?
3. What is the known error rate of the particular scientific method?
4. Is there an explicit identification and acceptance of the theory and technique by a relevant scientific community?

The Daubert ruling initially caused much concern in the rehabilitation community and elicited reactions from a few professionals such as the warning that "experts must prepare for an impending but as yet uncertain form of application" of this ruling (McCroskey, et al, 1997, p. 27). The debate was further promoted by Feldbaum (1997, p. 70) who concluded that "it is incumbent upon the vocational expert to understand thoroughly and articulate persuasively the scientific, technical, and other knowledge bases that serve as an appropriate court-defensible foundation of their expert testimony." A much stronger point of view was proposed by Stein (2002, p. 1), namely: "While debate among VEs (vocational experts) has had wide variance between scientific and non-scientific methods, the US Supreme Court decisions were not as ambiguous: The scientific method is the standard for vocational evaluation and vocational expert testimony." Stein (2002, p. 9) further argues that all activities (transferable skills analysis, estimating lost employment, estimating future lost earnings, estimating work life expectancies, developing a life care plan, and more) of the forensic vocational consultant "must meet the criteria laid out by the US Supreme Court in Daubert." Similar points-of-view were advanced by others as well (Mayer, 1998; Dennis & Dennis, 1998; Williams, 1998; and Bast, Williams & Dunn, 2002). While these authors correctly point out the need and requirement for relevant and reliable methods in developing testimony, it would appear that there has been a misreading of the intent and purpose of two subsequent rulings (Joiner vs. General Electric, 1997, and Kumho Tire vs. Carmichael, 1999).

Furthermore, there appears to be too great an emphasis on the scientific method as it applies to the field of rehabilitation with a corresponding lack of emphasis on the importance of Federal Rule of Evidence 702. This observation is supported to various degrees by others, like Dillman, who hold that "Daubert relates primarily to scientific testimony" (Toppino, 1998, p. 17). Gries (2002, p. 55) suggested that TSAs (transferable skills analysis) "does not enjoy the luxury of scientific formulation, rigid construction or purely objective application....and invariably involves the subjective interpretation and knowledge of each individual vocational expert." Finally, Elliott (2002, p. 49), in a review of selected papers on transferability states that "any attempt to apply the Daubert standards must necessarily be replete with qualifiers....in many settings, most perhaps, Daubert will not apply at all."

Subsequent Rulings by the US Supreme Court

Joiner vs. General Electric (1997), is often referred to as the "abuse of discretion" decision whereby the trier of fact possesses the discretion to allow or fail to allow testimony by any expert. While the Daubert factors certainly shall be considered in the admission of any testimony, including the important factors of reliable and relevant information, "scientific knowledge is reliable if it is grounded in the methods and procedures of science, and is relevant if the reasoning and methodology properly can be applied to the facts in issue" (Milloy, 1997). The Joiner decision clearly established the role of the judge as the "gatekeeper" with regard to admissible evidence.

The Daubert and Joiner decisions still were not clear as to the application of the four part test for scientific evidence. Was the testimony of vocational rehabilitation, and care planning experts (and other social science experts) to be evaluated against the Daubert criteria, or was the language offered by Federal Rule 702 more appropriately applicable? The Kumho vs. Carmichael decision (1999) helped to clarify the role of the "gatekeeper" by allowing "considerable leeway" in scrutinizing the testimony of an expert in context of "technical and specialized knowledge. Testimony from any expert (science or social science) could not escape the review of the Daubert factors. However, the court would have the "leeway" to admit testimony that might not meet one or more of the Daubert factors.

In McKendall vs. Crown Control (1997), Siegel, a mechanical and metallurgical engineer, had his testimony disallowed because his proposed testimony "was not based on scientific knowledge.... and was not derived by a reliable and accepted scientific method." The 9th Circuit Court of Appeals reversed the decision by mandating that the court must first "determine whether the expert has specialized knowledge that will assist the trier of fact to understand the evidence." In reversing the court's decision, the Appeals Court "found that the Daubert factors are confined to the evaluation of scientific knowledge, and ruled that an expert may be qualified to testify by knowledge, skill, experience, training, and education" (Field, 2002). This ruling was correspondingly supported by USA vs. Cordoba (1997) when it "observed that Daubert only applies to the admission of scientific testimony.... deriving from the scientific method."

The Federal Rule of Evidence 702

Federal Rule 702 reads as follows:

> If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

This federal rule is a very important rule for the rehabilitation counselor, case manager or other related professional. This rule clearly identifies areas of scientific, technical and specialized knowledge as legitimate domains for testimony that do not necessarily conflict with the Daubert factors. Noting that the expert can be qualified on the basis of knowledge, skill, experience, training and education, testimony must still address the salient facts of the case within the framework of a reliable methodology when applied to the facts of the case (Weed & Field, 2001). It is this application of reliable facts and data to the case that requires the clinical judgement of the expert utilizing their specialized knowledge.

As noted in the Kumho ruling, "the Daubert gatekeeping obligation applies not only to scientific testimony, but to all expert testimony." The key word in Rule 702 is the word "knowledge", not scientific, or technical, or specialized. Some knowledge is scientific, and in those cases the Daubert rule would more appropriately apply. In Kumho, the decision noted that "a trial judge determining the admissibility of.... testimony *may* (italicized in the written opinion for emphasis) consider one or more of the specific Daubert factors. The emphasis on

the word "may" reflects Daubert's description of the Rule 702 as a flexible one.... the Daubert factors do not constitute a definite checklist or test. Some of those factors may be helpful in evaluating the reliability even of experienced-based expert testimony." It is only partially true that the Daubert factors must be applied in all cases (science or non-science):

> The US Supreme Court recognized the difficulty in applying specific criteria outlined in Daubert to all types of testimony. It held the four-part test outlined in Daubert was non-exclusive and a "flexible" approach to the assessment of reliability should be applied using factors appropriate to the particular case. In certain cases, virtually none of the specific criteria outlined in the Daubert case would be applicable. In those cases, the trial judge would be given broad discretion in considering other factors which might establish reliability for the specific type of expert testimony at issue. (Burnette, 2000).

In USA vs. Cordoba (1997) the court "observed that Daubert applies only to the admission of scientific testimony.... in order to qualify as scientific knowledge, an inference or assertion must be derived from the scientific method." In this case the witness testified on the basis of specialized knowledge and not scientific knowledge. The court ruled that Daubert did not apply.

In McCullock vs. H.B. Fuller Company (1994) an expert on fumes and glue was disallowed due to a "lack of necessary qualifications." On re-trial the same expert's testimony was allowed based on his "extensive experience.... and knowledge gained through experience, training and education." In the same case, a second expert, a medical doctor, challenged on his opinion which was considered to be unscientific, was allowed to testify. The court ruled that the range of factors (care and treatment, diagnosis and etiology, medical history, pathological studies, and the expert's training and experience, a) "go to the weight of the opinion" and b) was considered useful to the trier of fact.

The foregoing seems to support the premise that FRE 702 is an important and prevailing guideline in the development of expert opinion. Being held to the strict interpretation of the four Daubert factors is relevant in cases requiring the scientific method, in which much more latitude is given in cases involving non-science issues. It would appear that Daubert is an important ruling regarding the admissibility of evidence, but the Daubert factors are not mutually exclusive to any other factors (science, technical, or specialized knowledge) which may assist the trier of fact in determining an outcome. The reliance on reliable and relevant principles and methods are critical to the work of the qualified expert who will be distinguished by such credentialing factors as knowledge, skill, experience, training, or education. Equally important is to develop opinion predicated on valid, reliable and relevant information which will be consistent with the facts of the case. The application of relevant information may require clinical judgment.

The Interplay of Science and Clinical Judgment

The Daubert ruling was clearly a landmark decision by the US Supreme Court. It has been shown that the Daubert factors are relevant in cases pertaining to science and causation (Field, Stein, Babington, Caragonne, Growick & Oldknow, 2000). On the other hand, it has also been shown that other factors may prevail at the discretion of the court when the Daubert

factors are not relevant to the facts of the case. Kumho Tire vs. Carmichael established once again the importance of a reliable and relevant methodology in performing evaluations and developing testimony. While Kumho provided *leeway* in the factors that may be permitted by the court, testimony needs to be within the bounds of a reliable and relevant methodology. Since not all testimony is bound or required by the Daubert factors, there is leeway for opinion that is the product of a qualified expert who relies upon these salient factors under Kumho within the domain of technical and specialized knowledge (clinical judgment).

Defining Clinical Judgment

For purposes of this discussion, clinical judgment is defined as follows: According to the New American Dictionary (1953) *clinical* is defined as "…involving direct observation of the patient, diagnosable by, or based on clinical observation, coolly dispassionate, analytical…". *Judgment* is an "…authoritative opinion, the process of forming an opinion or evaluation by discerning and comparing: the capacity for judging, a proposition stating something believed or asserted…" Consider that the following expands upon the dual concept with relevant language drawn primarily from FRE 702.

> Clinical judgment requires that the final opinion be predicated on valid, reliable and relevant foundation information and data that are scientifically established through theory and technique building which has been tested, peer reviewed, and published, with known error rates, and is generally accepted within the professional community. In cases where any of the above factors do not apply, but other factors have greater relevance, the expert will rely on these other factors within a methodological approach, based on the expert's knowledge, skill, experience, training, or education in order to assist the trier of fact to reach a conclusion. Therefore, clinical judgment, which is the extension of the credentialing factors of the expert, encompasses all relevant factors germane to the weight of the case while discarding those factors which are not relevant, and which are allowed by the court.

Clinical judgment may incorporate such activities as direct observation, diagnosis (vocational evaluation and assessment), dispassionate (objective) and analytical observations, discerning and comparing (evaluating and synthesizing varieties of information), in order to assert a proposition (opinion) about the client. This model is really not unlike a medical model, which requires much of the same experience, and knowledge based activities requiring judgment, albeit based on as many objective findings as reasonable.

Formulating an opinion about a client is basically a three-part process: (1) understand the client (background information, previous medical history, employment history, etc.), (2) understand the client's current situation (the client's current medical or employment status, restrictions due to disabling conditions, and relevant evaluations), and (3) forming an opinion regarding the client's potential future needs (in the areas of medical, psycho-social care, and/or employment). In effect, this is not too dissimilar from the medical model's diagnostic - treatment - prognosis approach; decision-making in either the medical area or the rehabilitation area require both a review of valid, reliable and relevant objective findings, utilizing "clinical judgment" to understand the relevance and weight of the information and data in forming an

opinion about the client's future. This is not to purport how our daily work with clients should be done, but rather, describes how our daily work is done. This approach is not unique, created for, nor isolated to the forensic setting, but is the methodology of our clinical practice with clients. "Clinical judgment is experience understood" (Moses, 1996).

Science, and the scientific method, is not relevant in all cases particularly in the social science domain. In the areas of client services (clinical practice) and forensic rehabilitation consulting, clinical judgment on the part of the professional combined with technical data is an equally appropriate application in the forensic arena as in the practitioners daily clinical work with clients. A knowledge oriented, not just task oriented approach.

In the field of forensic rehabilitation consulting, clinical judgment on the part of the expert would seem to be the more appropriate course. On the other hand, professional clinical judgment should always be predicated on evidence-based science whenever reasonable. The proposition of clinical judgment is not necessarily in opposition to science, or the scientific method. Quite the contrary, professionals should be encouraged to rely on science based information and data, and apply "any other factors" to the case as is deemed necessary through clinical judgment.

It may be helpful to understand that the gap between empirical science and clinical judgment is more imagined than real. Both are methodologies requiring practitioners to form a hypothesis, develop an experimental design including appropriate instrumentation, run the experiment, collect the data, compare the experimental results to the hypothesis, accept or reject the hypothesis, and modify the theory if appropriate. Typically, this "method" is made explicit in laboratory science. The process is similar but not identical, in the formation of opinions based on clinical judgment. One significant difference from the physical empiricist method outlined above, is that in experimental milieus where the laboratories are less physical and more mental, the method has become so over trained that it appears implicit until teased out through the thought process.

Social science addresses the relationships of human behavior. It is not unusual for social scientists to report and subject their findings within standardized application of variance analysis, multiple regression analysis, and reliability coefficients. These types of research require a similar sampling and randomization methodology to that of laboratory science in order that the results be considered valid or reliable in each appropriate context. All science begins and ends with the "clinical judgment" of the qualified researcher. It is important to realize that the qualifications, training, experience and knowledge of the researcher are essential to the intuitive process of hypothesis formation. The practitioner of science must have followed the injunctions of knowledge accumulation specific to their field of expertise in order to develop the power (credibility) necessary to develop the hypothesis with validity. This means in our society, something akin to credentialing and education. If the practitioner of science meets the necessary requirements of education and credentialing they are vested with the authority to engage in these specialized mental applications resulting in a testable hypothesis. This stylized and standardized thinking, called a hypothesis is stated in the form of "If A, then expect B."

It is at this juncture that the practitioner begins to apply clinical judgment to select an appropriate experimental design to test the validity of the hypothesis. An experimental design is developed, either explicitly or implicitly to test the belief. The design involves all powers of observation with regard to the subjects. The data is gathered through the physical as well as non-physical senses to the extent that the practitioner is capable of observing.

At this point it should be made clear that the process of observation cannot be assumed to be totally independent of that which is being observed. The act of observing in order to col-

lect the data, changes the object of observation. Hard science research since Heisenberg (1974) and Bohr (1955) has shown repeatedly that "objective" reality is altered by the act of observation (Faye, 2002).

As difficult as this is to fathom, for our purposes it simply means that we can take our observations to be "objective" only to the extent that they are consistent with shared agreement, and with our clinical judgment as developed over years of former hypothesis formation, experiment, data collection, falsifiability, replication, theory modification, and peer review. Peer review is that process in which findings are shared for reality check with qualified others who have successfully completed the requisite training and experience in the field to have credibility of their own. If the conclusions and findings obtained from one's experimental design and observations are subjected to peer review, they are subject to the quality of "falsifiability". This simply means that the theory or conclusions based on our data can be rejected, resulting in a modified paradigm (Popper, 1963; Kuhn, 1962) from which can be developed new hypotheses, again based on one's hard won clinical judgment.

In a nutshell, this is the integration of scientific method and clinical judgment. That which may be mistakenly viewed as mutually exclusive, (based on "either" "or" thinking), is upon closer analysis of the scientific method, understood to be mutually dependent in the development of knowledge, whether it be scientific, technical or "other specialized."

Clinical judgment is the standard within which practitioners develop and implement the methodology of science: hypothesis generation, experimental design, data collection, falsifiability, replication, and peer review by similarly qualified professionals using the same methodology. The results will support or require modification of the theoretical model, affecting future clinical judgment. Clinical judgment can not be removed from the process any more than the observer can be removed from the observation. Let us not draw imaginary lines that divide our thinking.

Relevant Court Cases

A review of federal court cases reveals an interesting perspective regarding rehabilitation testimony. First of all, there is no one case where a federal court disallowed the testimony of a forensic rehabilitation consultant on the combined four factors under Daubert. The courts seemingly, and maybe purposefully, have recognized that the work of the rehabilitation consultant does not always fall under the rubric of the Daubert factors, but more appropriately fall under the purview of the Kumho ruling which allows for other factors to be considered that may be more relevant to the facts of the case. It may be argued that some of the testimony cited in the following cases were the result of an evaluation under Daubert. An alternate view contends that the testimony disallowed was simply due to errors on the part of the consultant, in some cases, and other issues in the remaining cases (see below).

No cases were found where testimony was disallowed due to the rehabilitation consultant's failure to provide information on either the scientific method or an error rate. A review of several of these cases will illustrate areas of strength and weakness on the part of the rehabilitation consultant. Overall it would appear that the courts have been rather lenient with rehabilitation consultants in areas of credentials and methodology. In some instances, however, the courts have been somewhat forceful when consultants have failed to adequately prepare and define their opinion. None of these cases involved directly the four factors under Daubert.

Cases Involving Credentials

Rehabilitation consultants are not empirical scientists and generally have not been called upon to provide scientific findings in their testimony (Janikowski & Riggar, 1999). To the contrary, Kontosh and Wheaton (2003) propose the need for further research in the transferability which would yield a "standard of practice" for the profession of forensic rehabilitation consulting.

Waldorf vs. Shuta (1997) was one of the first cases post-Daubert to challenge the credentials of a rehabilitation expert. Rizzo who had a masters degree in sociology, but no formal education in the field of rehabilitation, was allowed to testify even though his credentials were described by the court as "a little thin."

In Duncan vs. WMATA (Washington Metropolitan Area Transit Authority, 2002) the appeals court vacated a jury verdict because there was a need for a vocational expert to provide specific information about jobs in the plaintiff's geographical area.

In Davis & Duke vs. USA Truck, Inc. (1999) the vocational expert was challenged on credentials since her "opinion was not based on any scientifically valid reason". The court allowed a well qualified (a strong background in education, experience, and professional activity) expert to testify.

In Fairchild vs. USA (1991), an expert was not allowed to testify in a case involving a life care plan. The court determined that the expert "possessed minimal credentials, including attendance at two seminars and the author of only 25 other life care plans." One of the expert's recommendations was for 2,496 sessions of recreational therapy for the plaintiff and opinion that was refuted as detrimental by a medical expert.

In Goodenow vs. Siemens Information and Communications Networks, Inc. (2001), an expert's credentials were challenged purporting the expert had insufficient knowledge to adequately make conclusions. The defendant's in limine motion was denied.

In Elliott vs. United States (1992), the plaintiff's life care plan was selected over the defense's expert because the plaintiff's expert had personally visited both the doctor and the client and had also completed many life care plans, including the implementation of plans in the past. On the other hand, the defense's expert had only been a rehabilitation consultant for a short period of time, had completed only five life care plans, and had never implemented a plan.

In a more recent case (Taylor v. American Fabritech, Inc., 2004), four different experts, a construction safety expert, a psychologist, an economist, and a life care planner were all allowed to testify following an objection to experts' testimonies because of the unreliability, that is, failure to rely on "specific scientific research and studies but on their on experience, education, and review of the literature in their fields." In the testimony of the life care planner, the court ruled that the expert's testimony "was reliable as based on his training and experience in the field." Testimony of the other three experts was allowed as well with similar rationale. Specifically, the court ruled that the scientific "factors will not always be relevant to the inquiry, particularly when the proffered testimony is based not on scientific research or theories but on the expert's experience and knowledge in his or her field."

Cases Involving Background Information and Data

A growing list of cases point out the importance of utilizing relevant and reliable background information and/or data. In Phillips vs. Industrial Machine (1999) the vocational

expert offered opinion based upon the New Work Life Tables (Gamboa, 1998) regarding reduced work life expectancy. The court ruled that the expert by using these tables failed to provide the necessary and proper foundation for opinion. Testimony was disallowed.

An economist's testimony, in Joy vs. Bell Helicopter Textron, Inc., (1993) was denied as too speculative. The court ruled that testimony must be based on "knowledge and that knowledge connotes more than subjective belief and unsupported conclusions."

In Boucher vs. US Suzuki Motor Corp. (1996), the vocational expert assumed that the plaintiff would be able to work full time at competitive wages and benefits following a very broken and erratic history of employment. Testimony was disallowed due to a lack of sufficient factual foundation. In the same case, the court allowed the expert to testify on the work life expectancy of the plaintiff by using the published work life tables by the US Department of Labor.

In Archer vs. Warren and Warren (2001), the defense objected to a rehabilitation nurse testifying about a life care plan that the nurse had personally developed. The defense contended that the nurse "was not qualified about the necessity for certain medical care." The nurse based her work and opinion on medical records, including the condition and needs of the plaintiff, and itemized the cost of future medical care that would be needed. The nurse was permitted to testify.

In Frick vs. KMart Corp. (1997), the life care planner's testimony was disallowed because the expert's opinion was based solely on judgmental skills and did not use medical foundation information for the opinion, and furthermore, that the expert did not appear to use established and published procedures which were subjected to peer review, or a method which was used by other professionals in the field.

Finally, in Hough-Scoma vs. WalMart (1999), the vocational expert used the New Work Life Tables (Gamboa, 1998) with global estimates of disability, which the court considered "inappropriate." As a result, a motion was granted to reduce the amount of the jury award to the plaintiff. To re-emphasize, use of relevant, reliable, and appropriate foundation information is essential to testimony.

Cases Involving Mistakes on the Part of the Rehabilitation Consultant

Sometimes vocational expert are not allowed to testify because of lack of proper preparation, not completing work carefully, or simply not being able to provide answers regarding questions about their opinion. In Fashauer vs. New Jersey Transit Rail Corporation (1995) the vocational expert testified about future employment based upon one phone call the day before the trial. The court observed that the expert's "testimony was so ludicrous that it is just inconceivable to me that the jury got anything out of it." The testimony was disallowed.

In Elcock vs. Kmart Corporation (2000), the expert attempted to explain a hybrid methodology consisting of two "valid non-scientific methods." The court ruled that the expert failed to adequately explain the hybrid method, and the testimony was discarded.

In Kinnaman vs. Ford Motor Company (2000), the court was not obligated to accept the Daubert criteria, but found it important to do so in this case since the testimony of the vocational expert was considered to be unreliable. The expert, who used a website computer program in developing testimony, was "unaware of any literature in the field that supported this methodology.... including any evidence of peer review, publications, or known error rate." Defendant's motion to strike the testimony was granted.

In Frick vs. Kmart Corporation (1997), the expert's testimony was not admissible since

the expert "was unable to cite any scientific studies that would justify the conclusions." The expert testified that his opinion was "based on his knowledge, training, and experience.... and not on any scientific principles."

In Huey vs. United Parcel Services, Inc. (2000), an expert predicated his testimony on one conversation with the plaintiff and the reading of a few documents. The court ruled that the expert failed to exhibit any expertise in the scientific, technical or other specialized knowledge as set forth in FRE 702. Testimony was rejected.

In EEOC vs. Rockwell (1999), the vocational expert listed only jobs by title from the Dictionary of Occupational Titles (1991), and did not provide any job information from the plaintiff's geographical labor market. Testimony was inadmissible and dismissed.

Finally, in Zarzycki vs. United Technologies (1998), the vocational expert did not consider a specific labor market, but rather, simply listed some *Dictionary of Occupational Titles* (1991) which were not actual jobs existing in the local labor market. This testimony was excluded.

The basic themes of the cases cited above involving a vocational expert centered on issues related to appropriate credentials, the proper use of foundation information, and in the adequate preparation and delivery of testimony. None of the cases involved a determination of the Daubert factors except for the Kinnaman vs. Ford Motor Company (2000). In this case, the court ruled that there was no choice since there was no other relevant criteria by which to judge. The cases involving related background information and data, and some of the obvious mistakes were more directly to a lack of proper attention to Federal Rule 702; a strict interpretation of Daubert appears to not relate significantly to the work of the rehabilitation consultant. In fact, if the rehabilitation experts in all of these cases applied sound clinical judgment, as defined previously, there probably would have been little opportunity for a reasonable challenge, requiring the court to deny vocational testimony. The application of professional clinical judgment in these cases would surely have prevented some, if not all, of the mistakes.

Practical Application

In order to better illustrate the application of both science and professional clinical judgment in the process of developing reliable testimony, this section provides two case examples. Both case scenarios address critical issues within the rehabilitation consulting field.

The question is posed: "*What is the impact of the injury on his/her employability and wage earning capacity?*" Is the fact pattern such that the rehabilitation professional can recommend realistic services that will lead to a complete mitigation of the injury's effects in this regard? This, of course, is the ideal outcome of rehabilitation services aimed at assisting a person in adapting to, or acquiring new skill that allows for a true competitive performance in the areas of obtaining and performing competitive employment.

In some instances, however, the fact pattern is such that the nature and extent of the impairment will lay itself across all occupations and skill levels. In these situations the impairment cannot be reduced to enable an individual to be a truly competitive candidate in obtaining and maintaining work. The permanent economic impact can be determined by the experienced rehabilitation professional through the utilization of evidence based science combined with the clinical judgment of the professional.

What follows is a fact pattern that illustrates the former outcome. The impairment is such, when combined with the relevant factors of the individual, with rehabilitation services that are practical and realistic, leads to an outcome that completely mitigates the effects of the injury on wage earning capacity.

Case #1

This situation exists in clinical as well as forensic arenas. The fact pattern involves a skilled electrician in his mid 30's. Age, education, training and experience reveal that he had reached his adult wage earning capacity at the time of the injury. A motor vehicle accident occurred involving a lumbosacral injury with initial conservative, subsequent surgical intervention and post surgical rehabilitation treatment. Permanent physical limitations in the general range of sedentary to light work activity involving the ability to lift up to 20 pounds occasionally, but an inability to sit for prolonged periods of time, requiring alternating sit/stand posture, are the primary physical implications.

Valid and reliable test results reveal that the worker has the capacity to successfully complete a two-year community college program obtaining an Associate's degree in an area of interest. The client has been actively involved in identifying the goal. The costs for tuition, books and supplies, as well as approximately two years of wage loss support, are recommended while the worker is in school to enable him to essentially make school his full-time job, complete out of class school work and maintain balance in his other life roles as husband, father, home owner and adult male.

Upon completion of the retraining program, initial wages for the new skill area are identified. Growth trends within the new skill area are also identified which indicate that the worker will be back to his pre-injury earning capacity within three to five years post graduation. Complete mitigation (excluding the concept of human capital) occurs in real life for the worker, and is presented in the forensic arena. It should be noted that the presentation in the forensic arena may occur prior to the worker completing this training, and in fact the worker may not be able to start this training unless funds are encumbered.

The rehabilitation expert's opinion is one in which evidence based criteria, such as the test results and labor market information combined with sound rehabilitation counseling practices involving clinical judgment, lead to a forensic opinion. The result, both in the worker's life and in the court, is one in which mitigation can occur and that the worker emerges as a truly competitive candidate for obtaining and maintaining work.

Case #2

However, in other instances, the fact pattern is such that the nature and extent of the impairment in combination with other relevant vocational factors reveals that a loss of earning capacity does exist; and cannot be mitigated. The experienced rehabilitation counselor, through utilization of evidence-based science and in combination with clinical judgement, can make that determination.

This individual is also an electrician in his mid-30's. He experienced severe arterial damage in the dominant upper extremity. Consequences of the injury involved pain in the dominant hand and arm with the most basic of repetitive activities, as well as intolerance of cold/damp temperatures. The resulting pain, decreased fine motor control and decreased strength in the dominant upper extremity are permanent. There is a constant discomfort in the fingers of the dominant upper extremity, which increases with use. Simple repetitive activities such as dressing and grooming are the types of activities that reduce function and increase symptoms. The worker is significantly dependent on the non-dominant upper extremity for the performance of tasks, both in the areas of daily living and work.

Testing in case #2 reveals that the worker has the academic capacity and interest to com-

plete a community college program and obtain an associate degree. The individual has selected three specific goals to include accounting technology, computer-assisted design/drafting, and network technology. Formulated data certainly supports that the client is capable of completing the training and obtaining employment. However, the real question is whether the client can mitigate the reduction in earnings capacity even though he/she is trainable and employable. The question is whether the fact pattern and clinical judgment leads the experienced counselor to assess a reduction in earnings capacity. In such cases, the impact on earnings may not be clearly detailed and defined by the existing data or available data. Therefore, clinical judgment is essential to apply the data to this specific individual.

Discussion on Relevance

Recent postings to various list serves in the area of rehabilitation have been rife with comments about the use and/or misuse of Federal data, including United States Census Bureau/Current Population Survey, Survey of Income and Program Participation, Harris/NOD surveys and Model Systems employment data, to name a few. This article is not about how those various sets of data should or should not be utilized in a forensic arena. The discussion about the merits, or lack thereof, of the various surveys and studies with regard to operational definitions is well known.

However, research data is simply a tool used by a clinician to reach a clinical conclusion. Similar to the scalpel in the hand of the surgeon, saw in the hand of a carpenter and clay in the hand of the potter, the end result is only as effective as the practitioner's skill in using the tools/information. While the data may be helpful in understanding what happens to the general population with a disability, how does it relate to this individual? Data is not used or accepted in absolutes, but is part of the overall decision making process of the clinician.

The clinician must possess an understanding of surveys, studies, journal articles, text, etc. regarding the practical impact, as well as their own day-to-day clinical practice experience, in arriving at an opinion about the impact of injury upon employability and earnings (or ability to live independently for that matter). The importance and weight prescribed to any one piece of data falls within the purview of the experienced clinician. Combining the research data with clinical experience provides the practitioner with the unique perspective to address the wage earnings capacity issue.

How the clinician, utilizing their specialized knowledge and experience, describes this diminution cannot and should not be codified, as it does not involve painting by numbers. The decision must be bound to sound assessment methodologies predicated on valid, reliable and relevant foundation information and data. The clinician must be aware of peer-reviewed opinion and how data is generally accepted within the professional community. A clinician utilizing this specialized knowledge will render a judgment assessing the relevant factors germane to the weight of the case, which indeed will be useful to the trier of fact and accepted by the court.

The issue of earnings capacity follows a sequential decision making process to include medical impairments resulting in limitations, resulting in loss of employment access, resulting in loss of earnings capacity. There appears to be universal agreement among professionals that one does not necessarily result in the other. That is, medical impairment does not automatically equate to limitations, limitations do not automatically result in loss of access, and loss of access does not automatically equate to loss of earnings capacity. This is the foundation of the premise about the individuality of each person and why we evaluate people with disabilities

and not disabled people. If the clinician defers absolutely to the disability research, then all clinical judgment has been removed and total earnings have been restored with additional skill acquisition, and we have failed to address the impact, if any, on earnings of that disability for that person. Likewise, clinical evaluation is necessary to avoid surface conclusions that no impact has occurred.

The fact pattern in Case Two describes a type of impairment and limitations that impacts basic functioning, not only in the areas of work tasks, but in activities of daily living, which cannot be remediated through acquisition of an alternative skill. Simply put, the impairment may be of such severity, in combination with other vocational factors, that re-training for sustained competitive employment may not be feasible.

In summary, the fact pattern of Case Two points out that a number of factors may interfere with a person's earnings capacity even though training is completed, new skills are acquired and a surface assessment is that no diminution of earnings has occurred. An immediate, but not necessarily, exhaustive point would be the individual's ability to sustain employment based upon chronic pain, for example. Even though a static assessment may suggest capacity for employment, the individual's pain, particularly if severe, may be a disruptive factor in meeting productivity standards and ability to maintain employment. Severe pain can certainly impact both the quality and quantity of productivity. Severe pain can also disrupt a person's ability to maintain employment. These are items that may not be addressed by general research, but are gained through experience; as is the knowledge that some people achieve beyond limitations. The data says what the data says, but the clinician knows what the data means for the particular client.

The discussions about the merits, or lack thereof, of the various surveys and studies with regard to operational definitions is well known. However, search as we may, we have not been able to find a study that purports that having a physical, mental and/or emotional impairment that affects the competitiveness of a worker in the performance of work tasks, enhances their inherent competitiveness when competing with peers for occupations. If such an article or study exists, it is being well hidden.

Based on the authors' collective clinical experience, having a condition that adversely affects one's speed of productivity, quality of work or ability to maintain appropriate interpersonal relationships on the worksite may result in a vocational liability, not an asset. However, as illustrated in Case #1, this may not automatically result in a permanent reduction in wage earning capacity.

Nevertheless, certain conditions exist in real life situations, which involve the residuals of an injury or illness that lay across all aspects of life, work or independent living regardless of the services implemented focused on mitigation. This is not to say that such services have no merit. Rather, the focus of such services is to minimize the effects of certain impairments whose type and nature are such that complete mitigation will not occur over time.

In those instances in which the individual's medical condition is such that their competitive ability to obtain and perform work will be adversely impacted, regardless of the physical demands or skill level required of the occupation, a permanent reduction in wage earning capacity likely results. This is essentially the issue that must be addressed.

Circumstances in which the injured person's intellect or ability to successfully complete a retraining or academic program have not been affected, but their physical impairment is such that regardless of the type of occupation performed, their rate of productivity, quality or interpersonal relationships will be less than competitive with their peers, and they will likely experience a permanent reduction in their wage earning capacity. This is probable. Further, this is

not a situation claiming discrimination exists, but rather a situation in which the competitiveness of the U.S. economy reigns. The Americans With Disabilities Act (1990) does not require the removal of this competitiveness from the equation of hiring or promoting. Employers do not tend to go in the back room after interviewing a group of applicants and suggest "let's hire the slow one." It simply does not happen that way.

The most competitive candidate will be one that tends to be hired and promoted as a result of their performance in the areas of productivity, quality and interpersonal relationships on the job. There are instances where even a dramatic loss of access to occupations can be mitigated through rehabilitation and the acquisition of skill within the person's capacity to perform competitively. The reality of the competitive labor market cannot be ignored when assisting a client in clinical practice or rendering an opinion in the forensic setting. The application of evidence based science with clinical judgment regarding the effects of an impairment lies within the purview of specialized knowledge.

Indeed, the raison d'être for the field of vocational rehabilitation and care planning is to assist with client centered services focused on mitigation and a return to true competitiveness and/or independent living. Clinical judgement is equally utilized in the coordination and preparation of a care plan. The rehabilitation professional will incorporate their background, training and experience in combination with medical and rehabilitation information to coordinate and prepare a comprehensive and defendable care plan.

The rehabilitation expert's opinion is one in which evidence based criteria, such as the medical opinion, equipment and supply needs as well as relevant literature, combined with sound rehabilitation practices involving clinical judgment, lead to "a dynamic document" (as cited in Weed, 2004) and educational tool. The result, both in the client's life and in the court, is a road map for future needs, and the client emerges with a knowledge and understanding that their future medical and rehabilitation needs have been clearly and cogently outlined.

Life care plans are a tool of case management, that have existed for decades being referred to by various names, i.e. Discharge Plans, Individualized Written Rehabilitation Plans (IWRP), long term service support plans, to name a few. A life care plan encompasses all aspects of an injured person's life from medical treatment to home life/environment to employment, etc.. This concept is not new, dating back through several major legislative programs in the field of rehabilitation.

Federal Laws such as P.L. 93-112, the Vocational Rehabilitation Act of 1973, P. L. 94-142 Individuals with Disabilities Education Act of 1975, P.L. 101-336, Americans with Disabilities Act of 1990 and the Ticket to Work and Work Incentive Improvement Act of 1999 (see Weed & Field, 2001, pp. 3 & 4) are legislative programs affecting the field of rehabilitation and services to individuals with disabilities. These legislative programs facilitate services aimed at addressing the effects of an impairment on a person's future employment, medical, rehabilitation and independent living needs. The coordination and implementation of this plan (by any name) is a long established area of specialized knowledge in the field of rehabilitation combining evidence-based science with clinical judgment.

Rationale for Applying Professional Clinical Judgment

Science and clinical judgment are not always dichotomous. The scientific method, as suggested in Daubert, may not always apply to cases involving soft or social science. On the other hand, it is important to first consider science-based information (Daubert) and then to rely on "other factors" when necessary. The following is a case in point.

> A young man, while working on a custom deck, fell through the joists and fell full weight onto his left wrist and hand. The pain was significant (to the point of fainting), and the hand began to swell immediately. A trip to the orthopedist was warranted. Following a check of the vital factors and three x-rays of the hand from different angles, the physician began by interviewing the patient, including a full description of the event. The physician then began to softly touch and press on different points in the hand and concluded that two small bones above the middle fingers were broken. The physician then turned to the x-rays and confirmed his diagnosis. When asked why he just didn't check the x-rays first, he replied that he always relied on patient information, observation and examination first a clinical judgment. Use of the science-based data (x-rays) were used to help confirm the clinical impression. This is not an argument for which approach should come first, but rather to point out the importance and necessity of utilizing whatever approach or method is most relevant given the facts of the situation. In this case, one confirmed the other.

In terms of opinion and testimony, it seems that Kumho made it clear that consideration of the Daubert factors (evidence based) does not preclude any other factors which may include clinical judgment. Both domains, scientific evidence and clinical impressions, may be equally important in order for the rehabilitation professional to offer to the court sufficient and adequate testimony that will assist the trier of fact in reaching a fair judgment.

Suggested Guidelines for Forensic Rehabilitation Consultants

For the forensic rehabilitation consultant there are some obvious considerations when developing an opinion for testimony at either deposition or trial. Based upon this earlier discussion of many factors, the following items are offered for consideration by the expert.

1. *Know the law*. Be familiar with the relevant US Supreme Court rulings, the Federal Rules of Evidence, federal and state regulations and guidelines germane to your area(s) of work, and relevant case law and rulings, all of which contribute to defining the proper role for the forensic expert. Simply put, understand your role.
2. *Achieve appropriate credentials*. Relevant academic degrees, training, skills and experience are all important as a means to establish one's credentials. Relevant certifications and certification maintenance are also important.
3. *Know the literature and relevant resources*. Through membership in professional associations, an expert can have access to relevant literature and peer reviewed publications. Attendance at regional and national conferences are an excellent way to stay current with the thinking and activities within the profession. Such documents as "Standards of Practice", "Scope of Practice", and "Ethics Statements", usually developed by professional associations, are resources which help to define an area of expertise.
4. *Develop and use reliable methodologies*. Be reminded that the dichotomy between science and clinical practice may be more imagined than real.

Being mindful of the Daubert ruling, the expert must rely on relevant scientific evidence and foundation information, including peer reviewed approaches and methods, which are generally accepted by the professional community. When the Daubert factors do not appear to apply, other factors may be considered which would include activities and considerations relative to professional clinical judgment involving specialized knowledge.

5. *Rely on reliable, relevant and established foundation information.* Foundation information is important in the development of opinion and testimony and includes such items as medical, psychological and vocational reports, lab and other specialized reports, government and privately developed survey data and information, and any other source which could contribute to the efficacy of opinion. Important to this suggestion is to rely on evidence-based information, and to apply other factors related to the facts of the case through professional clinical judgment.
6. *Know your area of expertise.* Testifying or developing testimony outside one's area of expertise (usually defined by one's credentials) is putting the testimony at risk. Know your area of expertise and stick to it.
7. *Relate testimony to the facts of the case.* Understand and follow the fact pattern of the case. Accurately understanding the facts and testifying thereto is important.
8. *Testimony should relate to routine clinical practice.* Finally, develop testimony and plans of action which are consistent with your clinical practice, especially in how you routinely work with clients in or outside of litigation.

References

Archer vs. Warren and Warren, No. 07-01-00027-CV, Ct of Appeals for the 7th Dist of TX at Amarillo.

Bast, S., Williams, J. & Dunn, P. (2002). The classic model of transferability of work skills: Issues affecting the accurate assessment of future vocational options in earnings capacity assessment. *Journal of Forensic Vocational Analysis, 5*(1), 15-28.

Bohr, N. (1955). *The unity of knowledge.* New York, NY: Doubleday & Co.

Boucher vs. US Suzuki Motor Corp. 73 F.3d 18, 2nd Cir, 1996.

Burnette, G. (2000). Fire scene investigation: The Daubert challenge.

Choppa, A., Cutler, F., Gann, C., Moreland, T., Olson, L., Owings, S., Ramm, A., Shafer, K. & Siefker, J. (1992). *Vocational evaluation in private sector rehabilitation.* University of Wisconsin-Stout: MDC.

Choppa, A., Shafer, K., Jayne, K., & Jayne, M. (2000). Post-Litigation Outcomes of Clients with Disabilities. *The Rehabilitation Professional, 8*(3), 33-36.

Countiss, R. (2002). Amicus curiae brief: Archer vs. Warren & Warren. *Journal of Life Care Planning, 1*(1), 9-34.

Davis & Duke vs. USA Truck, Inc. CIV-99-1252-M, US Dist Ct, W Dist of Oklahoma.

Daubert vs. Merrill Dow Pharm. 92-102, Sp Ct 1993.

Dennis, M. & Dennis, K. (1998). Job search software under Daubert: Will it withstand scrutiny as part of expert opinion? *Journal of Forensic Vocational Analysis, 1*(3), 19-28.

Dictionary of Occupational Titles (1991). Washington, D.C.: U.S. Dept. of Labor.

Downie, R. S. & Macnaughton, J. (2000). Clinical Judgement, Evidence in Practice, Oxford, UK. Oxford University Press

Duncan vs. Washington Metropolitan Area Transit Authority, US Ct of Appeals for the Dist of Columbia, Cir. 2002.

EEOC vs. Rockwell, US Dist Ct , No Dist of Illinois, 1999.

Elcock vs. K-Mart Corp. 98-7472, 3rd Cir, 2000.

Elliott, T. (2002). A Daubert perspective on transferable skills analysis: A plaintiff's attorney's perspective. *Journal of Forensic Vocational Analysis, 5*(1), 49-52.

Elliott vs. United States, 877 F. Supp. 1569 (M.D. GA, 1992).

Fairchild vs. USA, CIV 89-0423 (US Dist Ct, W.D. Louisiana, Shreveport Div., 1991).

Fashauer vs. New Jersey Transit Rail Corp., 94-5523, 3rd Cir. 1995.

Faye, J. (2002). Copenhagen interpretation of quantum mechanics. The Stanford Encyclopedia of Philosophy. Berkeley, CA: Sanford University Press.

Federal Rules of Evidence (as amended 2002). Washington, D.C.: U.S. Department of Justice.

Feldbaum, C. (1997). The Daubert decision and its interaction with the federal rules. *Journal of Forensic Vocational Analysis, 1*(1), 49-75.

Field, T. (2002). Transferable skills analysis: A common sense approach. *Journal of Forensic Vocational Analysis, 5*(1), 29-40.

Field, T., Choppa, A., Dillman, E, Garner, D., Grimes, J.W., Jayne, K., Kelsay, E., Kilcher, D.G., Kilcher, J., and Taylor, D. (2000). *A resource for rehabilitation consultants on the Daubert and Kumho rulings*. Athens, GA: Elliott & Fitzpatrick, Inc.

Field, T. & Stein, D. (2002). *Science vs. non-science and related issues of admissibility of testimony by rehabilitation consultants*. Athens, GA: Elliott & Fitzpatrick, Inc.

Frick vs. K-Mart Corporation. 3:94-CV-78RM, US Dist Ct, No Dist of Indiana, 1997.

Frye vs. US. 3968, 293 F 1013.

Gamboa, A. (1998). *The new worklife tables* (revised). Louisville, KY: Vocational Ecomometrics, Inc.

General Electric Corp vs. Joiner. 96-188, Sp Ct 1997.

Goodenow vs. Siemens Information and Communications Networks, Inc. US Dist Ct, So Dist of Florida, 01-6237.

Gries, A. (2002). A Daubert perspective on transferable skills analysis: A defense attorney's perspective. *Journal of Forensic Vocational Analysis, 5*(1), 53-57.

Heisenberg, W. (1974). *Across the frontiers*. New York: Harper and Row, inc.

Hough-Scoma vs. WalMart Stores. 1999 WL 261857 W Dist of NY.

Huey vs. United Parcel Service, Inc. 98-2453 (US Dist Ct for the Eastern Dist of Missouri, 2000).

Janikowski, T. & Riggar, T. (1999). Training and competency of vocational experts. *Journal of Forensic Vocational Analysis, 2*(1), 2-9.

Joy vs. Bell Helicopter Textron, Inc., 999 F2d 549 (D.C. Cir. 1993)

Kinnaman vs. Ford Motor Company. 4:98CV269-SNL, US Dist Ct E Dist of Missouri, 2000.

Kontosh, L. & Wheaton, J. (2003). Transferable skills analysis and standards of practice: Wherever the two shall meet? *Journal of Forensic Vocational Analysis, 6*(1), 41-48.

Kuhn, T. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

Kumho Tire Company vs. Carmichael. 97-1709, Sp Ct 1999.

Mayer, L. (1998). Admissibility of vocational expert testimony post-Daubert: A statistical validation of the vocational quotient as a predictor of labor market entry wage. *Journal of Forensic Vocational Analysis, 1*(3), 3-18.

McCroskey, B.J., Streater, S., Wattenbarger, W., Feldbaum, C. & Dennis, K. (1997). Analyzing employability using worker trait factors: Past, present and future. *Journal of Forensic Vocational Analysis, 1*(1), 7-39.

McCullock vs. H.B. Fuller Company, US 2nd, 94-7883.

McKendall vs. Crown Control, US 9th, 95-56657.

Milloy, S. (1997). *Expert's testimony excluded under Daubert as irrelevant, unreliable, Ninth Circuit says*. Washington, D.C.: Westlake Solutions, Inc.

Moses, A. (1996). Pseusoscientific Standards and Scientific Double Talk vs. Established Medical Model and Clinical Reality. NIH/NIDR Technical Assessment Conference.

Norwest Bank vs. KMart Corporation, US Dist Ct, No Dist of Indiana, So Bend Div, No. 3:94-CV-78RM.

Paulus vs. Kaiser Medical Group. C-98-0025-VRW, US Dist Ct, N Dist of CA.

Phillips vs. Industrial Machine. S-97-1263, Sup Ct of NE, 1999.

Popper, K. (1963). *Conjectures and refutations: The growth of scientific knowledge*. New York, NY: Routledge and Kegan.

Stein, D. (2002). The scientific method is the standard for vocational evaluation and vocational expert testimony. In Field, T. & Stein, D. (2002). *Scientific vs. non-scientific and related issues of admissibility of testimony by rehabilitation consultants*. Athens, GA: Elliott & Fitzpatrick, Inc.

Taylor v. American Fabritech, Inc. SW 3rd, No.14-02-00982-CV, Tex. App. - Houston, March 23, 2004.The new American dictionary. (1953). New York, NY: Random House.

Toppino, D. (1998). Vocational economic methods, parameters, and underpinnings in personal injury litigation: An interview with Everett G. Dillman. *Journal of Forensic Vocational Analysis, 1*(2), 5-18.USA vs. Cordoba, US 9th, 95-50492.

Waldorf vs. Shuta, et al. US 3rd 97-5222.

Weed, R. & Field, T (2001). *Rehabilitation consultant's handbook*. Athens, GA: Elliott & Fitzpatrick, Inc.

Weed, R. (Ed.). (2004). *Life Care Planning and Case Management Handbook*, 2nd edition. Boca Raton, FL. CRC Press.

White, S. & Stancombe, J. (2003). *Clinical judgement in the health and welfare professions: Extending the evidence base*. Phildelphia, PA. Open University Press

Williams, J. (1998). Transferable skills methodologies used in computerized job matching systems: Sufficient or insufficient control of methodologically induced error *Journal of Forensic Vocational Analysis, 1*(3), 29-42.

Zarzycki vs. United Technologies Corp. 30 F. Supp 2nd 283, D Conn, 1998.

About the Authors

Anthony Choppa, M.Ed., CRC, John Fountaine, M.A., CRC, Cloie B, Johnson, M.Ed., CCM, and Kent Shafer, M.Ed., CRC all work as vocational counselors and case managers at OSC Vocational Systems, Inc. in Bothell, WA. Kent Jayne, M.A., MBA, CRC is a vocational-economic expert with Worklife Resources, Inc. in Swisher, Iowa. John W. Grimes, Ph.D, CRC is professor of rehabilitation counseling at the University of Louisiana at Lafayette and a vocational expert with Rehabilitation and Vocational Consulting, Inc., and President of Gump Land & Cattle Company. Timothy F. Field, Ph.D. is an educator, seminar trainer, author and publisher of rehabilitation resources with Elliott & Fitzpatrick, Inc. in Athens, GA.

Inquires or comments regarding this manuscript should be directed to Anthony Choppa at OSC Vocational Systems, Inc., 10132 NE 185th Street, Bothell, WA 98011.