*Journal of Forensic Vocational Analysis, **Vol. 24 Spring***

Vocational Analysis of Apportionment Following *Nunes I* and *Nunes II*: An Empirical Vocational Analysis of Medical Factors of Permanent Disability

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Abstract. Vocational expert implications of *Nunes I* (2023a) and *Nunes II* (2023b) are summarized. A formula is described for calculating diminished medical labor market access. An empirical formula is presented that can be used to vocationally analyze apportionment of medical factors of permanent disability in relation to *Nunes I* and *Nunes II* in support of an opinion in conjunction with the clinical judgement of the vocational expert. The empirical formula can be applied to workers' compensation and potential subsequent injury fund cases to support the vocational expert's ultimate opinions regarding the percentage of diminished employability, earning capacity, and amenability to rehabilitation for each portion of permanent disability or each injury.

Introduction

Multiple California workers' compensation court decisions have determined that an apportionment analysis is required for the opinions of a vocational expert to be admitted into evidence (Van de Bittner, 2015b; Van de Bittner & Moeller, 2022). This requirement was addressed recently in detail in *Nunes v. State of California, Department of Motor Vehicles, and State Compensation Insurance Fund* (*Nunes I*, 2023a) and *Nunes v. State of California, Department of Motor Vehicles, and State Compensation Insurance Fund* (*Nunes II*, 2023b). An apportionment analysis addresses the existence of any pre-existing or non-industrial medical factors and their impact on employability, earning capacity, and amenability to rehabilitation (Van de Bittner, 2015b; Van de Bittner & Moeller, 2022).

The current article will describe a formula for calculating diminished labor market access followed by an empirical formula for calculating apportionment of pre-existing and non-industrial medical factors of permanent disability from a vocational perspective. The results of the application of the empirical formula can be used to support an ultimate opinion on diminished employability for each portion of permanent disability in conjunction with the clinical judgement of the vocational expert. Several examples will be presented to demonstrate the effectiveness of the empirical formula in developing vocational opinions.

Nunes I

On September 13, 2011, Grace Nunes sustained a specific injury at work on to her neck, upper extremities, and left shoulder. She sustained a cumulative trauma

injury culminating on September 13, 2011, to her bilateral upper extremities. The orthopedic qualified medical evaluator, Melinda Brown, M.D., declared her permanent and stationary on May 17, 2016. Dr. Brown wrote that Ms. Nunes was unable to perform her usual and customary occupation for the Department of Motor Vehicles. She was restricted from forceful gripping, grasping, reaching above chest level with the left upper limb, repetitive forward reaching, lifting and carrying in excess of 15 pounds with the bilateral hands or three pounds with the left hand, and static positioning. She was unable to work in the open labor market based on pain and function.

Dr. Brown wrote that apportionment for the left shoulder was 100% industrial. Apportionment for the cervical spine was 60% industrial and 40% to pre-existing degenerative factors. Apportionment for the carpal tunnel symptoms was 40% industrial and 60% due to non-industrial diabetes.

The applicant's vocational expert concluded that Ms. Nunes had lost 100% of her access to the open labor market and was not amenable to vocational rehabilitation. He wrote that there was no non-industrial apportionment vocationally since Ms. Nunes was able to perform her usual and customary work with no impediment until she was injured on September 13, 2011.

The defense vocational expert wrote that Ms. Nunes was likely not employable in the competitive labor market with a substantial loss of earning capacity. He wrote that apportionment vocationally was at least 10% since Ms. Nunes' non-industrial conditions would likely be further aggravated if she were to return to work.

The workers' compensation judge awarded Ms. Nunes 100% permanent disability without apportionment since there was no evidence of a previous loss of earning capacity. The defendant sought reconsideration asserting the workers' compensation judge had not fully explained why the 100% award was industrial. The applicant replied by asserting that apportionment did not apply since the non-industrial impairment did not cause any loss of earning capacity.

In *Nunes I* (2023a, p. 2), the commissioners concluded that:

1. Section 4663 requires a reporting physician to make an apportionment determination and prescribes the standard for apportionment. The Labor Code makes no statutory provision for "vocational apportionment."
2. Vocational evidence may be used to address issues relevant to the determination of permanent disability.
3. Vocational evidence must address apportionment, and may not substitute impermissible "vocational apportionment" in place of otherwise valid medical apportionment.

The commissioners then discussed each of the above conclusions in response to Ms. Nunes' work injury claims in response to prior court decisions. Among other points, regarding the first paragraph above, they noted that an apportionment determination may include apportionment to pathology, asymptomatic prior conditions, and retroactive prophylactic work restrictions. Section 4663 (McCaleb, 2023) does not provide for collateral sources of expert opinions and does not authorize the application of any other standard of

apportionment. Accordingly, "vocational apportionment" by a non-physician is not an authorized form of apportionment.

Regarding the second conclusion above, the commissioners wrote that the court in *Ogilvie* (2011) affirmed the continued relevance of vocational evidence in determining permanent disability. Additionally, the commissioners observed that the holding in *Ogilvie* regarding the ability for vocational evidence to rebut the permanent disability rating schedule continues to apply to all dates of injury including those occurring on or after January 1, 2013. This means that *LeBoeuf* (1983) also continues to apply since one of the methods for rebutting a standard rating cited in *Ogilvie* is a *LeBoeuf* analysis. Moreover, this suggests that vocational evidence can be used in permanent partial disability as well as permanent total disability cases since *Ogilvie* involved a claim for permanent partial disability.

The commissioners also noted that it is often necessary for the evaluating physician to consider vocational evidence in rendering opinions on permanent disability and apportionment. Rules governing substantial evidence for physicians apply equally to vocational experts. A vocational expert's opinion must provide the history and evidence that supports its conclusions, as well as how and why any specific factor causes permanent disability.

The commissioners explained that vocational evidence can be helpful in evaluating various factors that would preclude vocational feasibility and amenability to rehabilitation, employability, and earning capacity. They provided several examples in relation to prior court decisions, as follows (2023a, pp. 10-11):

1. The vocational expert may identify factors of apportionment that are solely industrial and, based on an agreed medical evaluator's assessment of the synergistic effects of the combined impairments, conclude that the injured worker sustained a total loss of labor market access and future earning capacity (as cited in *Thomas v. Peter Kiewit Sons', Inc.,* 2021).
2. Another example would include an injured worker who is not feasible for vocational rehabilitation because of his or her industrially-related work restrictions. Therefore, the injured worker has no future earning capacity due solely to the industrial injury (as cited in *Bagobri v. AC Transit,* 2019).
3. Vocational evidence may be helpful in parsing the degree of permanent disability caused by multiple body parts or systems (as cited in *Lehman v. Walgreens*, 2017).
4. Vocational evidence can help clarify whether any un-apportioned disability to one body part can cause permanent and total disability for an applicant who has apportioned disability for other body parts (as cited *Lehman v. Walgreens*, 2017).
5. Vocational evidence can also clarify the employment effects of disability to multiple body parts and systems (as cited in *Cemex, Inc. v. WCAB* [*Burdine*], 2013).

To conclude their discussion of vocational evidence, the commissioners wrote, "In sum, vocational evidence continues to be relevant to the issue of permanent disability, and may

be offered to rebut a scheduled rating by establishing that an injured worker is not feasible for vocational retraining" (2023a, p. 12).

Regarding the third conclusion above, the commissioners noted that "in order to constitute substantial evidence, vocational reporting must consider valid medical apportionment" (2023a, p. 13). They noted further:

> Accordingly, a vocational report is not substantial evidence if it relies upon facts that are not germane, marshalled in the service of an incorrect legal theory. Examples of reliance on facts that are not germane often fall under the rubric of "vocational apportionment," and include assertions that applicant's disability is solely attributable to the current industrial injury because applicant had no prior work restrictions (*Zmek v. State of California, Department of Corrections and Rehabilitation* (December 13, 2019, ADJ8493350) [2019 Cal. Wrk. Comp. P.D. LEXIS 552]), or was able to adequately perform their job (*Lindh, supra*, at p. 1194) or suffered no wage loss prior to the current industrial injury (*Borman, supra*, at p. 1141). (p. 14)

Regarding Ms. Nunes' case, the commissioners concluded that the applicant's vocational expert did not adequately consider the issue of apportionment since the analysis did not account for disability that formerly could have been apportioned, such as pathology, asymptomatic prior conditions, and retroactive prophylactic work preclusions. In other words, the analysis did not determine whether there was evidence that established that an asymptomatic prior condition or pathology was a contributing cause of disability. For example, the analysis did not address whether there were any work restrictions for the pre-existing or non-industrial portions of permanent disability.

The commissioners continued by noting that the defense vocational expert's reporting engaged in speculation, rendering it unreliable. The expert did not explain how he arrived at the 10% figure for non-industrial apportionment other than noting that non-industrial factors would likely interfere with Ms. Nunes' reentry into the labor market.

The commissioners concluded:

> In sum, factors of apportionment must be carefully considered, even in cases where an injured worker is permanently and totally disabled as a result of an inability to participate in vocational retraining. Expert vocational testimony may be utilized to identify and distinguish industrial and nonindustrial vocational factors, but may not substitute impermissible "vocational apportionment" in place of otherwise valid medical apportionment. Finally, we observe that an unapportioned award may be appropriate where it can be established through competent medical and/or vocational evidence that the current industrial injury is the sole causative factor for the employee's residual permanent disability. (2023a, p. 16)

Nunes II

In *Nunes II* (2023b), the commissioners denied Ms. Nunes' request for reconsideration and affirmed their decision in *Nunes I* (2023a). They also clarified further the roles of physicians and vocational experts in addressing issues related to permanent disability and apportionment.

The commissioners explained that the opinions of evaluating physicians and vocational experts must provide the history and evidence supporting their conclusions, including "how and why" a condition is causing permanent disability, for their opinions to constitute substantial evidence (2023b, p. 3).

The burden of proof for both parties was explained as follows:

> All parties to this matter are required to meet their respective burdens of proof as to all issues by a preponderance of the evidence. (Lab. Code, § 3202.5; see *Peter Kiewit Sons v. Industrial Acc. Com.* (*McLaughlin*) (1965) 234 Cal.App.2d 831, 838 [30 Cal.Comp.Cases 188].) Moreover, [t]he burden of proof rests upon the party … holding the affirmative of the issue." (Lab. Code § 5705; *Escobedo, supra, at p. 612.*) In order to address their respective burdens of proof, the parties may wish the seek an additional opinion from the QME as to whether the factors giving rise to applicant's non-feasibility for vocational retraining as identified by the vocational experts are themselves subject to medical apportionment, or whether applicant's inability to participate in vocational retraining is attributable solely to current industrial conditions or factors (*Borman, supra,* at pp. 1142-1143; *Lindh, supra*, at p. 1175.) (pp. 7-8)

The above findings support asking the evaluating physician to provide an opinion on work restrictions for each portion of permanent disability for each injury or body part, the portion that is attributed to the work injury and the portion that is attributed to any pre-existing or non-industrial injury. Related to this, over the next two pages, the commissioners cited regulations that require evaluating and treating physicians to provide opinions on work restrictions.

The responsibility of evaluating physicians to review and opine on vocational evidence, including the analysis and opinions of vocational experts, was described as follows:

> In short, as is demonstrated above, treating and evaluating physicians regularly review, assess, and opine on vocational issues, from the gathering of vocational information relevant to the determination of causation, to the final assessment of permanent disability and work restrictions. We therefore find no merit in applicant's contention that evaluating physicians are ill-equipped and unwilling to assess

> vocational evidence. To the contrary, we believe that vocational evidence is an important, and often integral, consideration in the preparation of medical-legal reporting, and that is fully within the purview of the evaluating physician to offer an opinion responsive to the vocational evidence either at the request of the parties, or of the physician's own accord. (2023b, pp. 9-10)

Ms. Nunes contended that the proscription of "vocational apportionment" in *Nunes I* (2023a) would have significant negative consequences for the workers' compensation system. The commissioners responded to this concern as follows:

> Our Opinion holds that only an evaluating physician may render an apportionment opinion, and that the opinion must be based on substantial medical evidence. (Opinion, at p. 7.) Our Opinion further holds that pursuant to section 4663, a vocational expert may not substitute other theories of apportionment in an effort to supplant otherwise valid legal apportionment. (Opinion, at p. 13.) Our Opinion does not require the application of invalid apportionment by the parties or by the WCJ, and in those instances where there is a significant question as to the validity of a physician's apportionment opinion, the vocational expert is free to offer their analysis in the alternative. (2023b, pp. 10-11)

The above finding suggests that in some cases, a vocational expert would be asked to re-analyze the medical apportionment and offer an alternative analysis, which in turn would result in a re-analysis by the evaluating physician.

The commissioners summarized their findings in *Nunes II* (2023b) as follows:

> In summary, reconsideration is inapposite because applicant's petition offers no challenge in our determination that the current record does not comply with section 5313. We reject applicant's contention that a vocational expert may substitute a competing theory of apportionment in place of otherwise valid legal apportionment, as inconsistent with statutory and case law authority. We further reject applicant's contention that evaluating physicians are unwilling or unqualified to evaluate vocational evidence. Rather, we are of the opinion that evaluating physicians are uniquely situated to consider and opine on vocational evidence, and that the

> consideration of vocational evidence is appropriate and often necessary to the assessment of the issues related to industrial injury and permanent disability. Finally, we decline to characterize the consideration of valid medical apportionment in vocational reporting as "pass through" apportionment, because the vocational evaluator is not statutorily authorized to render an apportionment opinion. We will deny applicant's Petition for Reconsideration, accordingly. (p. 11)

Court Decisions Following *Nunes I* and *Nunes II*

To this point, there have been two panel court decisions (involving three of the seven commissioners) following *Nunes I* (2023a) and *Nunes II* (2023b). In *Rigoberto Gonzalez v. Team Infinity and Public Service Mutual Insurance Company* (2023), the commissioners wrote that the applicant's vocational expert's opinion on apportionment was not substantial evidence since it disregarded the factors of apportionment described by the medical evaluator. The opinion of the defense vocational expert was not found to represent substantial evidence since it was based on speculation and conjecture regarding the applicant's medical condition. The applicant's vocational expert wrote that while none of the applicant's impairments by themselves would preclude him from working in the open labor market, the combination of his separate issues would make him not amenable to rehabilitation. Additionally, he would be precluded from working based on his non-industrial impairments alone. No empirical analysis was described that supported these opinions. The court found these opinions to be inconsistent with the findings of the medical evaluators. By contrast, the defense vocational expert concluded that the applicant could work in the open labor market and was amenable to vocational rehabilitation. Additionally, the defense vocational expert wrote that the applicant had pre-existing medical conditions that would have led to the current industrial condition. The pre-existing medical conditions might have progressed absent the industrial injury. The court found this conjecture regarding applicant's medical condition to be outside of the role of a vocational expert.

In *Mejia v. J.B. Critchley, Inc.* (2023), a panel decision, the commissioners affirmed the workers' compensation judge's decision that the applicant was 100% disabled, without apportionment. The orthopedic agreed medical evaluator found a 28% whole person impairment for the cervical spine with 20% apportionment and work restrictions of no heavy lifting, no repetitive bending, stooping, flexion, extension, and rotation with the neck, and avoidance of prolonged neck flexion or extension. A neurological qualified medical evaluator found 2% whole person impairment for headaches, without apportionment. An otolaryngology qualified medical evaluator found 1% whole person impairment for binaural hearing loss, without apportionment. A psychology qualified medical evaluator found a global assessment of functioning of 52, with moderate impairment in activities of daily living,

without apportionment. There was a moderate impairment in sleep and social functioning, and an inability to test further due to problems with focus, concentration, and memory. An internal medicine qualified medical evaluator found a 30% whole person impairment for heart issues and a 9% whole person impairment for concentration and sleep issues with no apportionment. Internal medicine restrictions included an hour or two per day for activities involving standing, walking, sitting, climbing, forward bending, kneeling, crawling, twisting, keyboarding, grasping, pushing, and pulling. The primary treating physician reported that the applicant was unable to return to gainful employment, without apportionment. Work restrictions included standing for 5 minutes per hour, walking 10 minutes per hour, no lifting over five pounds, and a need to lie down or recline about 10-15 minutes every hour. The applicant's vocational expert concluded that the applicant was unable to perform competitive work and was not amenable to vocational services based on the opinions of the orthopedic agreed medical evaluator and the internal medicine and psychological qualified medical evaluators. The defense vocational expert (who apparently did not personally interview or test the applicant) wrote that the applicant had a diminished future earning capacity of 37%. The primary treating physician reviewed the reports of both vocational experts and rejected the reporting by the defense vocational expert. The workers' compensation judge considered all of the medical and vocational evidence while deciding the applicant was 100% disabled, without appointment. The judge's findings were affirmed by the commissioners.

Diminished Medical Labor Market Access

The first step in a vocational analysis of apportionment of medical factors of permanent disability is to calculate diminished medical labor market access. This can be done by using the Diminished Medical Labor Market Access (DMLMA) Formula, as follows:

$$\text{DMLMA} = \left[\frac{\text{PRE - POST}}{\text{PRE}} \right]$$

where:
LMA = labor market access
MLMA = medical LMA
PRE = pre-injury MLMA
POST = post-injury MLMA
DMLMA = diminished MLMA

The DMLMA Formula provides a method for a vocational expert to describe empirically the results of the Employability Analysis Process (EA Process), which was discussed previously (Van de Bittner, 2003, 2012, 2015a). Pre-injury medical labor market access for the current injury is consistent with the physical requirements of the jobs in the individual's work history. For example, if the jobs in the individual's work history subsequent to a prior injury were all sedentary and light with respect to physical demands, he or she was physically able to perform sedentary and light jobs prior to the current injury. Resource tools such as the *Occupational Employment Quarterly* (U.S. Publishing, 2023), the McCroskey Vocational Quotient System (McCroskey, 2023), Occubrowse (Truthan, 2023c), Job Browser Pro (Truthan, 2023a), and OASYS (Truthan, 2023b) can be used to determine the percentage of pre-injury medical labor market access with respect to physical

demands. Once the Occupational Requirements Survey (U.S. Bureau of Labor Statistics, 2023b) is complete, it should offer another source of occupational data that can be used by the vocational expert in this regard. Calculating diminished medical labor market access in this manner is consistent with the method for calculating labor market access described in the *Rehabilitation Consultant's Handbook* (Weed & Field, 2012).

The *Occupational Employment Quarterly* (U.S. Publishing, 2023) can be used to determine the number of workers employed by physical demand (sedentary, light, medium, heavy, and very heavy), geographic area (one or more counties), and skill level (unskilled, semi-skilled, and skilled) based on the number of workers employed by occupation. This resource can be used to calculate pre-injury medical labor market access at the employment level. Job Browser Pro (Truthan, 2023a) can also be used to calculate medical labor market access at the employment level. The McCroskey Vocational Quotient System (McCroskey, 2023), Occubrowse (Truthan, 2023c), Job Browser Pro (Truthan, 2023a), and OASYS (Truthan, 2023b) can be used to determine the percentage of pre-injury medical labor market access at the occupation level. Calculating the percentage of pre-injury medical labor market access at the employment level will result in a more precise opinion.

Some cases include additional work restrictions that cannot be accounted for through the use of the above resources, such as the need to work part-time, use a cane, or to work from home. The vocational expert can use government sources (U.S. Bureau of Labor Statistics, 2022; 2023a; 2023c) to calculate the impact of these additional restrictions on an evaluee's medical labor market access. For psychiatric injuries, the vocational expert can consult government rating manuals, such as the 1997 *Schedule for Rating Permanent Disabilities* (California Division of Workers' Compensation), which provides standard ratings based on work preclusions.

The next step in the process of determining the percentage of diminished medical labor market access is to calculate the percentage of medical labor market access for each injury, the current injury and any pre-existing, concurrent, or non-industrial injury. The results can then be applied to the DMLMA formula. For example, if an evaluee had pre-injury medical labor market access to all sedentary and light jobs (assume to be 70% of all jobs) and post-injury medical labor market access to half of sedentary jobs (assume to be 15% of all jobs), the percentage of diminished medical labor market access can be calculated through the DMLMA Formula, as follows:

$$\text{DMLMA} = \left[\frac{70\% - 15\%}{70\%}\right]$$

$$= 79\%$$

Thus, diminished medical labor market access for the current injury is 79%. The same method can be followed to determine the percentage of diminished medical labor market access for the pre-existing or non-industrial injury, or concurrent injuries where the evaluee has a specific injury and a cumulative trauma injury that culminated on the same day as the specific injury. The results can then be applied to the vocational analysis of apportionment formula, which will be described in the next section.

Vocational Analysis of Apportionment Formula

In some cases, analyzing apportionment from a vocational perspective is simple, clear, and straightforward. For example, if an agreed medical evaluator concludes that medical apportionment related to a cervical spine injury is 100% to the work injury and 0% to other medical factors, with permanent work restrictions for the work injury and none for other medical factors, then apportionment of employability, earning capacity, and amenability to rehabilitation is 100% to the work injury and 0% to other medical factors. Other cases require a more careful and systematic analysis of apportionment. For example, an agreed medical evaluator may conclude that medical apportionment of permanent disability for a lumbar spine injury is 60% to the current work injury and 40% to a pre-existing work injury or to a non-industrial injury. Additionally, the agreed medical evaluator may opine that the permanent work restrictions for the current work injury result in a limitation to sedentary work while the work restrictions for the pre-existing work injury or non-industrial injury resulted in a limitation to light work. The vocational analysis of apportionment formula described below can be applied to this example. Apportionment of medical factors of permanent disability can be analyzed from a vocational perspective by the Vocational Analysis of Apportionment (VAA) Formula, as follows:

$$A1 = \left[\frac{DMLMA1}{SDMLMA}\right]$$

$$A2 = \left[\frac{DMLMA2}{SDMLMA}\right]$$

Continue for additional injuries.

where:
MLMA = medical labor market access
DMLMA = pre-injury MLMA – post-injury MLMA ÷ pre-injury MLMA
SDMLMA = sum of DMLMA for all injuries
A1 = apportionment to the first injury
A2 = apportionment to the second injury

The first step in the VAA Formula is to compute diminished medical labor market access for each injury. As described above, diminished medical labor market access = pre-injury medical labor market access – post-injury medical labor market access ÷ pre-injury medical labor market access. The second step in the VAA Formula is to add the diminished medical labor market access for each injury to obtain the sum of diminished medical labor market access for all injuries combined. The third step in the formula is to divide the diminished medical labor market access for the first injury by the sum of diminished medical labor market access to obtain an opinion on the percentage of apportionment of employability, earning capacity, and amenability to rehabilitation attributed to the first injury. The next step in the formula, if applicable, is to divide the diminished medical labor market access for the second injury by the sum of diminished medical labor market access to obtain an opinion on the percentage of apportionment of employability, earning capacity, and amenability to rehabilitation attributed to the second injury. For cases with three or more injuries, the second step is repeated to obtain

an opinion on the percentage of apportionment of employability, earning capacity, and amenability to rehabilitation attributed to each additional injury.

The VAA Formula can be used in workers' compensation as well as in potential subsequent injury fund cases. Below are examples of workers' compensation situations where the formula can be applied:

1. Cases with a current injury and a prior injury to the same body part.
2. Cases with a specific injury and a cumulative trauma injury.
3. Cases with a current workers' compensation claim and a potential subsequent injury fund claim.
4. Cases with multiple specific injuries.

The VAA Formula is useful in developing opinions on the percentage of employability, earning capacity, and amenability to rehabilitation for each injury in many, but not all cases involving multiple disabilities. For example, the formula is most useful in cases where a medical evaluator or treating physician has provided opinions on permanent work restrictions for the current injury and for any pre-existing or concurrent injury. Using the formula may not be necessary in cases where the medical evaluator or treating physician has determined that work restrictions or permanent disability by injury or body part are consistent with opinions on medical apportionment. The formula may not be necessary for cases where the medical evaluator or treating physical has concluded that all of the permanent disability and related work restrictions are attributed solely to one injury or another. The formula would not be useful in cases where the medical evaluator or treating physician has concluded that it is not possible to develop an opinion on medical apportionment since the effects of the injuries are too closely intertwined. In general, a vocational expert can use the VAA Formula and the related DMLMA Formula to address questions regarding how apportionment of employability, earning capacity, and amenability to rehabilitation was addressed and the extent to which it exists or does not exist for the individual being evaluated. The DMLMA Formula and the VAA Formula can assist the vocational expert in explaining "how and why" vocational evidence addresses apportionment, as required by *Nunes I* (2023a) and *Nunes II* (2023b). It can be used to clarify the percentage of diminished employability, earning capacity, and amenability to rehabilitation, if any, that is attributed to each portion of permanent disability, the portion that is industrial, pre-existing, and non-industrial. The findings of the vocational expert can then be provided to evaluating and treating physicians to use in developing opinions on apportionment.

Clinical Judgment

The VAA Formula can be used to support an opinion in conjunction with the clinical judgment of the vocational expert related to the vocational analysis of apportionment for an injured worker. Regarding vocational experts and life care planners, clinical judgment was initially defined by Choppa et al. (2004) primarily in relation to Rule 702 of the Federal Rules of Evidence as follows:

> 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. (p. 135)

Field et al. (2009) expanded on the definition of clinical judgment for rehabilitation professionals, as follows:

> Clinical judgment is a term that has a specific meaning, has been published in peer reviewed journals, and has achieved general acceptance in the field of rehabilitation. The professional meaning of clinical judgement is predicated on valid, reliable and accepted assessment methodologies, instruments and background information about the client concerning the medical aspects of disability by a professional who has specialized knowledge, education, training and/or experience. (p. 185)

Rule 702 of the Federal Rules of Evidence were amended recently. According to the *2023 Federal Rules of Evidence* (LexisNexis, 2023), effective January 1, 2024, Rule 702 of the Federal Rules of Evidence is as follows:

> A witness who is qualified as an expert by knowledge, skill, experience, training or education, training or education may testify in the form of an opinion or otherwise if the proponent demonstrates to the court that it is more likely than not that:
>
> a. the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
> b. the testimony is based on sufficient facts or data;
> c. the testimony is the product of reliable principles and methods; and
> d. the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.

In accordance with the requirements of *Nunes I* (2023a) and *Nunes II* (2023b), the vocational expert's clinical judgment concerning the percentage of diminished employability, earning capacity, and amenability to rehabilitation for each portion of permanent disability must be based on valid medical aspects of disability by the evaluating and treating physicians, specifically their opinions on medical apportionment. Furthermore, in keeping with these requirements, the vocational expert must disclose his or her reliance on the factors that were considered when providing an opinion on the percentage of diminished employability, earning capacity,

and amenability to rehabilitation for each portion of permanent disability.

Table 1 below summarizes factors related to a vocational analysis of apportionment that can be considered by the vocational expert in developing an ultimate opinion based on clinical judgment. The table is followed by four examples that describe the use of the VAA Formula.

Table 1: Clinical Judgment Factors to Consider When Conducting a Vocational Analysis of Apportionment

1. Work restrictions by injury and by body part.
2. Additional medical information.
3. Results of a functional capacity evaluation.
4. Education, employment, and earnings of the injured worker.
5. Results of a structured interview.
6. Reliable and valid test results.
7. Results of a transferable skills analysis.
8. Results of an employability analysis.
9. Results of a labor market opportunity analysis.
10. Results of an analysis of vocational feasibility and amenability to rehabilitation.
11. Results of the use of the VAA Formula.

Case Examples

Several case examples will be presented at this time to illustrate how the VAA Formula can be applied in the context of a vocational rehabilitation evaluation regarding an apportionment analysis of medical factors of permanent disability.

Case Example Format

The following format will be used for each of the examples. Each example will start with medical factors impacting apportionment of employability, earning capacity, and amenability to rehabilitation.

A. Medical Factors of Permanent Disability
   1. Summary of case example
   2. Injuries by date of injury and body part
      a. Current injury
      b. Pre-existing industrial or non-industrial injury
   3. Work restrictions for each injury
   4. DMLMA for each injury
   5. VAA Formula calculations for each injury
   6. Apportionment of medical factors opinions

Case Example 1. Mr. Lew. Specific Work Injury with No Pre-Existing or Non-industrial Injuries.

Example 1 is presented as the simplest application of the VAA Formula. In summary, Mr. Lew sustained work injuries to his low back and left foot on 4/18/19. Dr. Quinn, the panel qualified medical evaluator, concluded that Mr. Lew lacked the medical capacity to work at any occupation.

A. Analysis of medical factors:
   1. Injuries by date of injury and body part:
      a. Current injury of

4/18/19: Low back and left foot

b. Pre-existing work or non-industrial injuries: None

2. Work restrictions for each injury:
   a. Current injury of 4/18/19: Medically unable to work
   b. Pre-existing work or non-industrial injuries: None.
3. DMLMA for each injury:
   a. Current injury of 4/18/19: 100%
   b. Pre-existing work or non-industrial injury: 0%
4. VAA Formula calculations for each injury:
   a. Current injury of 4/18/19:

$$A1 = \left[\frac{DMLMA1}{SDMLMA}\right]$$

$$= \left[\frac{100\%}{100\%}\right]$$

$$= 100\%$$

   b. Pre-existing work or non-industrial injury:

$$A2 = \left[\frac{DMLMA2}{SDMLMA}\right]$$

$$= \left[\frac{0\%}{0\%}\right]$$

$$= 0\%$$

5. Therefore, apportionment of medical factors of permanent disability from a vocational perspective with the opinion of Dr. Quinn is 100% to the injury of 4/18/19 and 0% to other medical factors.

Case Example 2. Mr. Fernandez. Specific Work Injury with a Pre-Existing Specific Work Injury.

Mr. Fernandez sustained a specific injury to his neck on 9/3/02 while working as a janitor. The agreed medical evaluator identified permanent disability midway between a preclusion from heavy work and a preclusion from substantial work. He had lost about two thirds of his pre-injury capacity for bending, stooping, lifting, pushing, pulling, and similar activities. This results in a standard rating of 35% from a rating schedule that is based on work preclusions. Therefore, his DMLMA for the 9/3/02 neck injury is 35%. Mr. Fernandez sustained a second work injury to his neck on 7/6/16 while working as a food preparer and stock clerk for the same employer. By coincidence, he was evaluated by the same agreed medical evaluator for the 7/6/16 injury and was assigned permanent work restrictions that would allow access to half of sedentary jobs.

A. Analysis of medical factors
   1. Injuries at date of injury by body part

a. Current injury of 7/6/16: Neck
b. Pre-existing work injury of 9/3/02: Neck

2. Work restrictions for each injury
   a. Current injury of 7/6/16: Limited to sedentary work while alternating sitting and standing
   a. Pre-existing work injury of 9/3/02: Preclusion from midway between heavy work and substantial work
3. DMLMA for each injury.
   Current injury of 7/6/16: 75.34%.
   Pre-existing work injury of 9/3/02: 35.0%.
   Sum of DMLMA = 110.34%
4. VAA Formula calculations for each injury
   1. Current injury of 7/6/16:

$$A1 = \left[\frac{75.34\%}{110.34\%}\right]$$

$$= 68.27\%$$

   2. Pre-existing injury of 9/3/02:

$$A2 = \left[\frac{35.0\%}{110.34\%}\right]$$

$$= 31.72\%$$

5. Therefore, apportionment of medical factors of permanent disability from a vocational perspective is 68% to the work injury of 7/6/16 and 32% to the work injury of 9/3/02.

Case Example 3. Mr. Dawson. Specific and Cumulative Work Injuries.

Mr. Dawson sustained a specific injury to his low back at work on 3/4/15. He sustained a cumulative trauma (CT) injury to his neck and left shoulder that culminated on 3/10/15. The panel qualified medical evaluator concluded that for the specific injury of 3/4/15, Mr. Dawson was precluded from lifting and carrying more than 20 pounds. He needed to be allowed to sit and stand at will. He also needed to be allowed the use of a cane. For the cumulative trauma injury to his neck and left shoulder, he was precluded from rotating his head and neck to the extremes of right and left side more than 5 times per hour. He was also precluded from work above the shoulder level.

A. Analysis of medical factors
   1. Work injuries
      a. Specific injury of 3/4/15: Low back
      b. CT 3/10/15 injury: Neck and left shoulder

2. Work restrictions for each injury
    a. Specific injury of 3/4/15: Precluded from lifting and carrying more than 20 pounds. He needed to be allowed to sit and stand at will. He also needed an allowance for the use of a cane.
3. CT 3/10/15 injury: Precluded from rotating his head and neck to the extremes of right and left side more than 5 times per hour. He was also precluded from work above shoulder level.
4. DMLMA for each injury
    a. Specific injury of 3/4/15: 87.47%
    b. CT 3/10/15 injury: 54.6%
    c. Sum of DMLMA = 142.07%
5. VAA Formula calculations for each injury
    a. Specific injury of 3/4/15:

$$A1 = \left[\frac{87.47\%}{142.07\%}\right]$$

$$= 62\%$$

    b. CT 3/10/15 injury:

$$A2 = \left[\frac{54.6\%}{142.07\%}\right]$$

$$= 38\%$$

6. Therefore, apportionment of medical factors of permanent disability from a vocational perspective is 62% to the specific injury of 3/4/15 and 38% to the CT 3/10/15 injury.

Case Example 4. Ms. Jones. Work Injury and a Non-Industrial Injury with a Subsequent Injury Fund Claim.

Ms. Jones sustained a specific work injury on 2/5/18 while working as an office clerk. She had a prior non-industrial injury to her knees for which she used one or two canes every day prior to her work injury. Ms. Jones has filed a claim with the subsequent injuries fund for her prior non-industrial bilateral knee condition. An agreed medical evaluator assigned permanent work restrictions for the work injury equal to labor market access of 75% of sedentary jobs. Ms. Jones' need to use one or two canes every day prior to her work injury would allow access to all sedentary jobs and half of light jobs.

A. Analysis of medical factors
    1. Injuries by date of injury and body part
        a. Current injury of 2/5/18: Right shoulder, left hip
        b. Prior non-industrial injury: Bilateral knees
    2. Restrictions for each

injury
   a. Current injury of 2/5/18: Restrictions equal to access to 75% of sedentary jobs
   b. Non-industrial injury to the knees: Restrictions equal to access to all sedentary jobs and half of light jobs
3. DMLMA for each injury
   a. Current injury of 2/5/18: 58.26%
   b. Prior non-industrial injury: 47.77%
   c. Sum of DMLMA = 106.03%
4. VAA Formula calculations for each injury
   d. Current injury of 2/5/18:

$$A1 = \left[\frac{58.26\%}{106.03\%}\right]$$

$$= 54.95\%$$

   b. Prior non-industrial injury:

$$A2 = \left[\frac{47.77\%}{106.03\%}\right]$$

$$= 45.05\%$$

5. Therefore, apportionment of medical factors of permanent disability from a vocational perspective is 55% to Ms. Jones' work injury of 2/5/18 and 45% to her prior non-industrial bilateral knee condition.

This concludes the presentation of case examples, which demonstrate the practical application of the VAA Formula in workers' compensation and potential subsequent injury fund cases.

Summary

Vocational expert implications for *Nunes I* (2023a) and *Nunes II* (2023b) were summarized. A formula for calculating diminished medical labor market access was described. A new empirical formula was presented for calculating the percentage of diminished employability, earning capacity, and amenability to rehabilitation for medical factors of permanent disability in relation to *Nunes I* and *Nunes II*. Several examples were presented to demonstrate the use of the VAA Formula in workers' compensation and potential subsequent injury fund cases.

Implications for Practice

The first implication for practice is to know that the VAA Formula is well suited to workers' compensation and potential subsequent injury fund cases that include opinions on work restrictions for each portion of permanent disability, the portion that is due to the current injury, and the portion that is due to a pre-existing work injury or a non-industrial injury. The results of the application of the VAA Formula can be used to support the vocational expert's ultimate opinions regarding the percentage of diminished employability, earning

capacity, and amenability to rehabilitation in conjunction with clinical judgment for each portion of permanent disability. Another implication for practice is to ask the referring attorney or claims representative to obtain any missing opinions or work restrictions for the current injury and any pre-existing work injury or non-industrial injury. A related implication for practice is to know that self-reported information regarding work limitations or functional capacity can sometimes be used in lieu of an opinion on work restrictions by a medical professional when no medical opinion on work restrictions exists.

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THE OFFICIAL JOURNAL OF THE AMERICAN BOARD OF VOCATIONAL EXPERTS

THE JOURNAL OF Forensic Vocational Analysis

VOLUME 24, NUMBER 1, SPRING 2024