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Labor Market Survey Methodology and Applications

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A labor market survey (LMS) is a work product that is used in workers' compensation and civil cases to provide information about local jobs currently open, anticipated, or recently filled. Also obtained, is information to assist the vocational expert in determining whether the employer would consider a potential job applicant when considering medical restrictions and vocational factors such as education, work history, test results, and transferable skills. This article provides a detailed, economical LMS methodology and its applications in response to the need for successful approaches making employer contacts and gathering other sources of labor market data. This article uses the term labor market survey (LMS) to inclusively address both labor market survey (Barros-Bailey [2012] and employer sampling by Neulicht, Gann, Berg, and Taylor [2007]). Neulicht et al. (2007) reported that only 6% of their sample of forensic vocational experts did not use employer sampling; employer sampling is used by the majority of forensic vocational experts and is primary data.

Keywords: labor market survey, vocational rehabilitation, job placement, rehabilitation, expert witness, survey research, workers' compensation, civil case

Background

Labor market surveys have been discussed traditionally in the literature as an integral part of a vocational plan, before the plan is finalized; to ensure the job market will support the plan (Gilbride & Burr, 1993). According to Gilbride and Burr (1993) labor market information is as important as the information about the evaluee and that there is general agreement that labor market data improves the placement of people with disabilities per the U.S. Department of Labor (1982), National Occupational Information Coordinating Committee (1986), and Weed and Taylor (1990). For forensics purposes, labor market surveys demonstrate whether appropriate jobs and wages were available in a previous period of time and/or the present. Labor market surveys do require planning, research time and resources, to obtain relevant, accurate, and specific data. Vandergoot, Swirsky and Rice (1982) noted that labor market data might be underutilized due to the amount of time required to obtain the data. Although forensic labor market surveys are most helpful in substantiating potential jobs for an applicant or plaintiff, the applicant or plaintiff for a job search could use the results of a LMS.

In the California workers' compensation system, the vocational expert's opinion must meet the standard of substantial evidence. The substantial-evidence rule as defined by *Black's Law Dictionary* (2004) is "The principle that a reviewing court should uphold an administrative body's ruling if it is supported by evidence on which the administrative body could reasonably base its decision" (Garner, 2004, p. 1470). To clarify whether there is a labor market for particular jobs recommended by a vocational expert, a labor market survey is conducted to provide substantial evidence. The LMS provides the details to determine whether employers would consider an employee with defined medical limitations, with their current skills and, abilities, or following vocational training. Similarly, in civil cases, a labor market survey (LMS) can be invaluable by demonstrating available employment opportunities for specific occupations during the time the plaintiff was medically able to seek work. It answers the questions: what jobs are suitable according to the information collected from employers? Is any training or schooling needed? Can training and schooling reasonably maximize the earning capacity of the plaintiff over his or her worklife? When focused on future damages, appropriate training and school information is typically included in the LMS. A LMS

is a component in the vocational rehabilitation evaluation methodology for evaluating workers' compensation claims for permanent and total disability in California (Van de Bittner, 2003). In addition to the primary data from the LMS, the vocational expert also reviews secondary data concerning the labor market and wage information. Labor market wage data are evaluated and included in the vocational expert's report along with summary data from the LMS.

Other States: Washington, Arizona, and Florida

Labor market surveys are used throughout the United States with LMS descriptions being published regarding Washington, Arizona and Florida. In Washington State, vocational experts have determined permanent and total disability since the 1970s. Although Washington State has "no standardized methodology of preparing a case for Board consideration," Berg proposed an evaluation methodology for consideration (2003, p. 89). As part of that methodology, Berg notes, "A labor market survey is necessary for each scenario . . . " (2003, p. 96) and discusses various methods for obtaining labor market survey data.

Bakkenson (2003) reviewed the role and function of the vocational expert in workers' compensation cases in Arizona. Bakkenson indicated that, "The burden of proof for the defense vocational expert is to provide specific information regarding suitable and available employment" (p. 101). This specific information is obtained via a labor market survey of employers.

Florida statutes determined that only a certified vocational evaluator could provide a vocational evaluation (training/education) through the Division of Workers' Compensation (Spitznagel, Stuart, & Cody, 2003). Through the process of performing a vocational evaluation, the vocational evaluator will identify a list of jobs which exist within the injured individual's local labor market. Spitznagel, Stuart, and Cody (2003) explained:

> *The evaluator can peruse his / her past labor market surveys to determine existing jobs and will find it necessary to perform additional surveys to produce a list viable for this claimant. . . The fact that the jobs exist in the labor market is important but equally, if not more, important is whether some or all of the jobs are currently available. (p. 132)*

Methodology

LMS methodology has evolved over the past 20 years and has been adapted and changed to the forensic application from labor market surveys that were initially developed to determine if there was a favorable job market for clients with a disability in the rehabilitation counseling and plan development process. The labor market survey results were then used to facilitate job seeking for the client. Thus, the forensic application of the LMS is based on clinical practice. More recently, details of LMS methodology have been described by Barros-Bailey (2012) which includes a 12-step labor market survey approved methodology

Purpose for Completing a Labor Market Survey

A LMS is a work product with local employer survey data based on all available medical permanent restrictions and vocational factors. A script is written and used as a basis for calling employers. Using the most restrictive permanent medical restrictions provides a baseline of jobs that are currently open, recently filled, or anticipated to be open in the next 3-6 months. Vocational factors such as education, work history, test results, and transferable skills are used to introduce the potential job applicant. Factors not included in the medical restrictions can be addressed at the end of the script. See Table 1 for a sample script. Note that vocational considerations or other factors that are not a medical necessity are listed in Question #10 of Table 1. The trier of fact can determine what information is admissible for court. Finally, the applicant or plaintiff to begin job search activities on his/her behalf can also use the information in the LMS. This can be done following the completion of the legal issues.

Additional Civil Considerations

The overall purpose of the LMS in civil cases is determined in the vocational evaluation report or file notes. The question has to do with past damages and whether the plaintiff has made a reasonable attempt to mitigate damages and/or assist in determining whether there were jobs available after the plaintiff was determined to be medically able to work. The labor market survey may focus on past job availability. Historical data may be needed to determine what jobs were suitable and available during a specific time period and geographic area. This can be done in the library reviewing archived classified job leads, or by reviewing archived job leads from newspapers within the geographic area being researched. It can also be done by reviewing a database of archived job leads maintained over the years by the vocational expert or reviewing occupational trade publications, and sometimes by contacting employers about employment availability and suitability. Training and school data can be more important in a civil case to improve an individual's post-incident earning capacity. In civil cases the LMS can be used to mitigate damages by assisting the plaintiff in finding an appropriate job.

The plaintiff's efforts at mitigating damages are assessed by the vocational expert. For specific niche jobs, intensive research may be needed to find the appropriate labor market. Some technical jobs have

their own language, publications, job networks, and training along with specific and detailed titles, information systems in alphabetical codes, and details which are unknown to a layperson. This situation may require research in trade journals, websites, and from union agreements and documents. Union business agents may have information about the special circumstances for members with medical limitations and suitable jobs. The suitable jobs may have a different pathway than that of other union jobs. Availability may vary for these jobs and may vary in different geographic locations. Some jobs have expectations that are not the norm. For example, some crane operator jobs expect the worker to travel and work in various geographic locations within a larger district. At the site, the worker stays in temporary housing if they do not live close to the construction site. It is typical for the worker to apply to a number of geographic locations in order to obtain employment.

In some cases, the circumstances are such that to use the same geographic area where the plaintiff was employed at the time of the incident could have an unexpected impact on the survey results or any job search efforts by the plaintiff. For example, when the community is small, calls to employers could affect the future employment prospects of the plaintiff. If the plaintiff is well known in his or her field then calls to potential employers could affect the plaintiff's relationship with prospective employers. In such a circumstance, a similar geographic area can be used, or a similar occupation can be researched. These types of issues are discussed in detail with recommendations from the vocational expert and the referring attorney as to the best way to proceed.

Information to Include in the LMS

Information is used when constructing the LMS report and script from the vocational expert's vocational evaluation report. This encourages consistency in the LMS report format as well as the understanding as to what questions the LMS is attempting to answer. It ensures that the script is complete and specific for each individual. It also allows the researchers to complete the same or similar steps for each labor market survey. A specific script is followed as an outline for the survey. Individual questions for each case are developed to obtain a thorough picture of all of the aspects of the case that need to be addressed and clarified. This process ensures that the final work product will be credible and accurate and that the testifying expert can rely on a report that can withstand rigorous cross-examination.

Training and School Considerations

The LMS identifies employers who would consider the injured worker to be competitive for a job. Sometimes a job applicant may need additional training or education to be competitive. The employer provides underlying data and the vocational expert makes the final decision as to whether the job is suitable and if the injured worker needs additional training to increase earning potential. Training and school data may be required in addition to a labor market survey of employers to determine whether upgraded or additional skills will improve an individual's post-incident earning capacity. The vocational expert's decision is based on available information, such as occupational data for a specific geographic area, not just the employer information.

Labor Market Survey Script Development

Steps to Create a Script

Labor market researchers at the authors' firm typically read the background material (vocational evaluation report or file notes, record reviews, and other referral information pertinent to the case) before developing a draft labor market script, which will be reviewed, revised, and approved by the vocational expert. If the vocational expert prepares the script, the vocational evaluation report or file notes are read by the labor market researchers following receipt of the script, if possible. This can provide more thorough research and planning during conferences with the vocational expert and when speaking with employers.

After the LMS script is developed, a conference is held with the LMS researchers and the vocational expert. This meeting is helpful in determining whether there are additional questions that need to be added to the script, the budget of time available for the labor market survey, and the geographic location(s) to be considered. Additional potential job titles may be identified during this meeting and specific concerns may be identified for further clarification. For example, if the evaluee has a felony conviction, the length of time since the conviction and the specific type of felony may be important in determining the type of employer that is contacted. If an injured worker has a felony conviction for grand theft, the researchers would not waste time researching bank teller positions since banks typically will not hire individuals with felony convictions for theft in their background. At the conclusion of this conference between the LMS researchers and the vocational expert, the vocational expert approves the revised LMS script for use.

The authors have adapted the U.S. Department of Labor's Office of Workers' Compensation Programs (1996) script for use in contacting employers with regard to a potential employee. See Table 1. Details regarding medical limitations that are described in the vocational evaluation report or file notes, which are obtained from the record review, are reviewed and listed as items under question #7. Vocational and non-medical items are listed under questions #10.

Consistency is maintained in the LMS report format from one survey to the next. The script is created based on the type of labor market survey project, whether it is being done for a diminished future earning capacity evaluation, a *LeBoeuf* (1983) evaluation (at or near 100% disability), or a civil case pertaining to personal injury, employment law, or other case type.

The report formation introduces the researcher in the initial paragraph. The second paragraph is the introduction to the job applicant. This description of the abilities of the job applicant includes transferable skills, detailed work history, schooling and training, type and amount of experience, tools and equipment experience, language abilities, and the ability and license to drive or other relevant information. General job questions are presented before information on medical limitations that are detailed in question #7.

Medical Limitations

Medical restrictions, functional limitations, psychiatric impairments and related data are all considered in Question #7, Table 1, unless the LMS is designed to focus on a different set of assumptions. If there are conflicting medical opinions, the most restrictive limitations are considered when preparing the questions to ask employers. Psychiatric impairments are dealt with according to the psychiatrist's or psychologist's assessments. If there are several opinions the most restrictive impairments are used. Employer questions regarding an individual's psychiatric impairments may be derived from the 8 work functions in the 1997 *Schedule for Rating Permanent Disabilities* (California Division of Workers' Compensation, 1997), which aims to clarify the level of 1) one's ability to comprehend and follow instructions, 2) the ability to perform simple and repetitive tasks, 3) the ability to maintain a work pace appropriate to a given work load, 4) the ability to perform complex or varied tasks, 5) the ability to relate to other people beyond giving and receiving instructions, 6) the ability to influence people, 7) the ability to make generalizations, evaluations, or decisions without immediate supervision and, 8) the ability to accept and carry out responsibility for direction, control and planning. For example, the researcher would most likely not conduct research for the occupation of security guard for an individual with a moderate or higher impairment on work functions 5 and 6.

Under the 2005 *Schedule for Rating Permanent Disabilities* (California Division of Workers' Compensation, 2005), emotional factors from the AMA *Guides to the Evaluation of Permanent Impairment* (5th edition) (Cocchiarella & Andersson, 2001) are considered when preparing LMS script questions. Classes of disability are ranked from 1-5, as follows: Class 1, No Impairment; Class 2, Mild Impairment; Class 3, Moderate Impairment; Class 4, Marked Impairment; and, Class 5, Extreme Impairment. The areas of functioning considered include activities of daily living, social functioning, concentration, and adaptation.

Regarding both *Schedules*, the psychiatric impairment issues are discussed at length during the planning meeting with the vocational expert. As a general rule, if an individual has been determined by a psychiatric specialist to have a moderate to severe level of psychiatric impairment, certain occupations are automatically discarded, such as work in the security industry (except for selected lobby attendant or surveillance system monitoring positions), customer service representative positions that might require dealing with irate or upset customers, or sales positions that might require sales quotas. In these instances, the researcher would look for more entry-level and less stressful type jobs. In addition, cognitive factors, such as attention, concentration, reasoning, and memory are also considered as indicated by the applicant's or plaintiff's medical condition. Suitable jobs to research for an individual with psychiatric and/or cognitive limitations might include parking lot attendant or parking garage cashier positions, surveillance system monitoring positions, cashier at a car wash, various ticket taker positions, as well as various assembler, sorter, filing, and hand packer positions.

Labor Market Survey Script

As noted above, the U.S. Department of Labor's Labor Market Survey Script is used as a guide in preparing the LMS script. This script has been adapted by the authors to economically and definitively determine the availability of appropriate jobs in a geographic area that are medically and vocationally suitable for a particular injured worker according to a potential employer.

Table 1 is an example of a standard script, with examples of additional questions to add based on the circumstances of the applicant or plaintiff.

Locating Jobs and Preparing Call Lists

The sampling of employers begins with searching for employers who have advertised the specific jobs, which are consistent with suitable return to work occupations noted in the vocational evaluation report or file notes. Potential suitable jobs are selected based on an assessment of previous employment, education, experience, test results, job matches on a transferable skills analysis, as well as medical restrictions, functional limitations, psychiatric impairments and other medical and vocational factors. The calls made in the last 3-6 months or earlier are considered as current labor market data for additional potential jobs. The injured worker's previous employers are not typically called or included in the LMS list of employers to call,

Table 1
LMS Script

Introduction. My name is _____. I am calling from Mirfak Associates, Inc. (Name of your company), a vocational and health consulting (a type of work you do) consulting firm. We have been asked to recommend the most appropriate job goal for a job applicant. I am particularly interested in the requirements for work as a (note job goal) at your organization/company.

(Insert the Applicant's education, experience, job titles, languages, and reading, spelling and math tested grade levels.) The applicant is a high school graduate (education), has taken college classes in Early Childhood Education (focus of study or specific certification), and has had (a certificate or permit) since (year). She has over # years of experience in positions such as (job titles listed with types of people worked with or supervisory experience, etc). She is bilingual in (languages). Her reading and spelling skills are at the tested (____) grade level. Her math skills are at the tested (___) grade level.

Applicant's limitations. The applicant is looking for light (level) work in which s/he avoids (activities to avoid listed) repetitive squatting, kneeling, crawling, reaching, lifting, and carrying activities. She can lift and carry up to 25-30 (number of) pounds occasionally.

1. Employer information. Not all employers could or would answer all questions.
   Name:
   Address:
   Phone:
   Contact Person:
   Title:
2. Are there current openings? _____ Yes _____ No
   Job Title:
   Number of Openings:
   a. How many in the last 3-6 months?
   b. How many do you anticipate in the next 3-6 months?
   Comments: (This area is often used to include information that the employer offered during the conversation that may be of value to the vocational expert, but was not asked in any of the script questions.)
3. How often do you hire and what are the future expectations?
4. Wages.
   a. Benefits:
   b. Entry-level wage:
   c. After 3-5 years of work experience:
5. Entrance requirements.
6. Job duties.
7. Physical, mental and other requirements.
   (Specific questions derived from physician and psychiatrist restrictions and impairments are listed here as a. b. c., etc.)
8. Considering the applicant's medical limitations, do you feel that he could perform the job?
9. Would the applicant be competitive for the position?
10. Additional questions.
    (Non-medical questions are listed here. For example questions regarding felony convictions, use of prescribed medication, use of a cane – if used but not medically prescribed, language issues (e.g., speaks Spanish only), educational issues (e.g., no high school diploma or GED certificate), among others. Questions are asked that would provide helpful information to the vocational expert in developing his/her opinions regarding employability and earning capacity.)

even if they are advertising for the job that one is researching, unless authorization has been provided by the retaining attorney or attorneys. The job might be included under the section of the report that lists employers with potentially suitable jobs that were not contacted.

Geographic Considerations

Before "pulling leads," the labor market researchers consider the LMS project in relation to the geographic area. The geographical area is typically defined by the location of the injured worker's residence. However, sometimes the geographic location is selected according to the applicant's or plaintiff's residence at the time of the incident *and* the current residence of the applicant or plaintiff if they have relocated. Having two geographic areas usually increases the number of LMS calls. If there is a question about the geographical area, a map is printed and a compass is used to determine a reasonable geographic area for making employer calls, while considering the applicant's or plaintiff's ability to commute to work. This can be complicated in rural areas and driving directions can help determine accessibility in mountainous areas. Researchers in the authors' firm spend time at the beginning of the LMS project identifying all of the cities, towns, municipalities, etc. that would be appropriate to call, usually within a 30-mile commute radius of the applicant's or plaintiff's residence. This saves time down the line when looking through job leads. If a job lead is not within one of the cities identified, it is quickly discarded. This allows determining the best way to identify leads, be it via job lead websites like Craigslist, CalJOBS, newspapers, or via cold calling. Typically, if the geographic area is quite rural or small, with few or no large cities within a 30-mile radius of the area, the best way to locate jobs may be through cold calling employers. For example, if the area is Auberry, California, a small, rural area 30-45 miles from Fresno, the labor market researchers would first pull a cold call list of employers based on the job titles identified in the vocational evaluation report. For example, if looking for cashiering positions, the researchers could call check cashing businesses, gas stations, video stores, convenience stores, and movie theaters, among others. For customer service representative positions, the researchers could call lumber or hardware stores such as Home Depot, etc. The researchers consider the physical restrictions and psychiatric impairments of the individual, among others, when planning the types of businesses to call. If an applicant requires sedentary work, it would not help to call grocery stores for cashiering positions or customer service representative positions as most of those employees stand to do their work. However, such occupations might be considered if the focus of the LMS is on researching employer willingness to provide a sit/stand work option. How work activity is performed is variable from employer to employer and industry to industry. Having knowledge of jobs and customary ways of working are important for the researchers, or at least for the vocational expert to be sure to consider when guiding and training the researchers. With some jobs, the required amount of sitting or standing depends on the employer. Some employers may say that the employee may sit if they have a medical slip. Many employers volunteer that they currently have an employee with the type of limitation(s) the researchers are asking about. The employer representative may also talk about his or her own limitations, or volunteer that they used to have an employee who was doing the job with that specific limitation.

Sources of leads for employers include *Craigslist, CalJOBS, YellowPages.com, newspapers.com, indeed.com,WAHM.com* (for home-based work), and many others including job specific databases. Potentially suitable ads are copied and pasted into a Notepad document, which removes all of the formatting and enables the researchers to cut and paste a clean, simple job advertisement into a Word document, which is more usable. These ads are separated in the Notepad and the Word document by a line of numbers and/or symbols (****8888) for easy identification of where one ad stops and another starts. Often, advertisements will have spelling or grammatical errors throughout. The researchers at the authors' firm do not spend time editing the ads. The ads are quoted material and should be cut and pasted as they are found. However, on occasion, if an advertisement is particularly long, some of the non-pertinent information will be removed to conserve space in the labor market survey report. The source of these ads is also pasted at the top of the listing so that it is available in the LMS report.

After obtaining leads from the various websites noted above, research for the employer's phone numbers is frequently necessary if the phone number is not given in the advertisement. Some employers do not include their phone numbers in their advertisements. There are several ways to obtain phone numbers even if the ad cautions the reader not to call them. One way is to Google the name of the employer, if provided. Sometimes in the "reply to" line, there will be a business name or a partial name that can be used. If the company is a particular type of company such as a glass company and the name cannot be found, the researchers can Google glass companies in the area and call them all. If the list of all available employers for a particular job could be found in the geographical area of interest from all sources (e.g., Google, yellow pages, InfoUSA, California Employment Development Department, state's attorney general office, etc.) and all viable entries on that list are called, this survey is not a sample of the identified universe of employers, but a census (Barros-Bailey, in press). If only those employ-

ers identified in the Google search are called and there is no guarantee or attempt to triangulate that list with other sources to verify that the list (also called a sampling frame) includes the entire population of potential glass companies to be surveyed, then it is an availability sample (also called a convenience sample).

If the geographic area is smaller, there may not be as many advertised job openings in the regular websites like Craigslist. Therefore, rather than using Craigslist or another website to search for job leads, the researchers can use Yellow Pages.com or the California Employment Development Department's website to identify employers to contact. Copy and paste a list of employers into a Notepad document and then into a Word document as indicated above.

For some job advertisements, no matter how hard the researchers "dig," telephone contact information cannot be located and, therefore, the employer can not be contacted. However, some jobs list enough information about the job such that it appears to be suitable even without contact. In instances like this, these jobs are often included in the report under a separate heading "Jobs with No Employer Contact." These jobs are not included in the summary number of contacts for the labor market survey, but are listed for informational purposes only.

If additional questions arise during the calls, the vocational expert is consulted for resolution and redirection. Sometimes the script requires modification and the previously contacted employers are recontacted to obtain more information. Regular meetings with the vocational expert are important to discuss progress, add additional questions to the script, remove or add additional job titles, or obtain other information before proceeding with additional calls.

Contacting Employers

When contacting an employer, it is best to try to quickly reach the individual who makes the decisions about hiring for the company or for the job in question. This person is typically the only person who will have the detailed information about the job that the researcher needs to obtain when addressing the script questions. S/he may also be the only person that is qualified and authorized to discuss the job in question. Most employers will employ a receptionist to answer and field calls. When an employer has an advertised job opening this can generate a larger than usual number of calls to the company. For this purpose, receptionists are often instructed not to forward calls from potential applicants. Applicants are instructed to follow the directions on the job advertisement, which often asks them to apply online using an application link. For this reason, a good way to begin a call would be to say, "Hello, my name is (state your name), and I am calling from (state your business name). I was hoping to speak with whoever is in charge of hiring for the cashiering position that I saw advertised on Craigslist." If the receptionist advises that they are not taking calls regarding the position, the researcher can counter by saying, "I am not calling about myself. I am calling regarding "another individual," or "a job applicant" (the term is chosen more by experience and what is happening in the conversation than by sticking with a scripted sentence) who I have been asked to recommend the most appropriate job goal for, and I was hoping to verify the requirements of the position." As noted above, the use of the terms "another individual" or "injured worker" seem to relay to the receptionist that this is a conversation better suited to a supervisor, and more often than not, the call is then transferred to the hiring manager.

The labor market surveys completed at the authors' firm are generally an availability sampling and occasionally a census. Availability sampling is where "elements are selected from the target population on the basis of their availability, convenience of the researcher, and/or their self-selection."(Daniel, p. 82) A census is "the entire target population" (Daniel, p. 5). The census could be used in small communities where the pool of employers available for many job classifications is typically limited, but it could also be used in metropolitan or large urban areas with jobs where there are few people performing the work (Barros-Bailey, in press). As noted in an example below, if a job appears to be suitable, then all of the shoe repair shops in a particular geographic location, such as within a 30-mile radius of the applicant's or plaintiff's residence, would be contacted. If all employers are contacted that constitute the universe of the population of employers for the particular job, this is considered a census for that specific job (Barros-Bailey, 2012), Another example of when to use a census is when there are numerous employers, and you want to have a simple random sample. Creating a list of all employers in a geographic region would constitute a census of the sampling list (frame), and not a sample (subset) of it (Barros-Bailey, in press). If all the employers are listed, a simple random sample could be used of the entire list; although it can be "laborious" (Fowler, 2009, p. 24). A table of random numbers or a computer-operated sort is used to select the employers to be called. This requires more time to generate the list, number the list, select the first and subsequent random numbers and assign the random number to each contact so the employers are called in the order generated by the random number table, which gives each agency the same likelihood of being included in the sample (Fowler, 2009). The authors seldom use this method unless it is determined by the vocational expert to be essential to the trier of fact, and has authorization from the referring attorney/s.

Calls to employers then commence and continue until the researchers have 2-3 solid contacts with job open-

ings per job title from at least 3-5 job titles from the list recommended in the vocational evaluation report or file notes and discussed with the vocational expert. A "solid" job is a job where the applicant's or plaintiff's medical conditions are not a deterrent to doing the job and the injured worker's vocational background fits with the requirements of the job. These surveyed jobs result from a combination of 2-3 availability samples of advertised jobs and a purposive sample from the yellow pages of employers. A purposive sample is where "elements are selected from the target population on the basis of their fit with the purposes of the study, and specific inclusion and exclusion criteria."(Daniel, p. 87). Occasionally, the employers' list may be a census sample if all employers of a specific type of business are called, and they are the only employers hiring a specific job title, like shoe repairer, which is possible although rare. It is more likely that additional jobs may be added by contacting different groups of employers who hire cashiers, for example. The goal is to discover if there are employers who would consider a potential employee with the specific abilities and limitations described in the script. Generally, the LMS is a purposive sample in the geographic area. There is an exception to 2-3 solid contacts for 3-5 job titles. If the vocational evaluation report has identified fewer suitable occupations to research than 2-3 job titles, the researchers may locate more jobs (3-6) per job title. Thus, each report typically has 6-10 solid jobs with job openings that were filled recently (from the day of the call through the last 6 months), are current openings, or are anticipated openings (upcoming in the next 6 months).

For some injured workers, their medical status and the vocational expert's opinion results in assessing jobs that can be performed at home. In researching home-based jobs the researchers must be careful to insure the jobs are legitimate positions. If a job requires the applicant to pay a fee, it is most likely generating revenue to the company or the person who posts the job opening. The authors' firm does not recommend these jobs unless there is solid evidence that a true position exists. Jobs with National Telecommuting Institute, Inc. (NTI), at www.nticentral.org, are jobs that are home-based and only for people who have documented disabilities. Similarly, Customer Service/Surveyor jobs are available at Expediter Corporation's website: http://www.expeditercorp.com/career/index.html. Each of these employers has requirements for various jobs. There are other employers who also hire for work-at-home jobs. Some are from national employers, others are from regional employers, and still others are from local employers. Some jobs are home-based due to their nature, such as jewelry production or packaging, bookkeeping, and administrative assistant. Another website that lists reputable work-at-home opportunities is www.WAHM.com.

As employers are asked the script questions, not all will provide answers to all of the script questions. Depending upon the amount and quality of answers an employer may or may not be included in the LMS. For example, a lack of sufficient answers to specific questions would result in the job not being included in the survey. Some employers will provide information on nearly every question. Since the initial question and focus of the survey is to determine if there are employers who would consider the evaluee, those employers who would consider them or who have requested a resume are included.

Honesty and integrity are at the forefront of each project. Notes are taken by hand or on the computer while talking with the employer. If the employer speaks too quickly, the researchers should ask them to repeat the information. Sometimes employers will answer a particular question in great detail. If the researchers intend to quote an employer's answer verbatim, quotation marks should be used. If the information is paraphrased, quotation marks are not necessary. After speaking with the employer it is important to consider the job and determine if it is realistic for the individual based on the employer's responses and the physical and mental limitations, among others, of the injured worker. If there is a question, the employer's responses are kept for the vocational expert to determine whether it is an appropriate job to include in the survey. Sometimes, the vocational expert calls the employer/s.

As each employer is contacted, the script responses are completed on the computer while the information is fresh in the mind of the researcher. In addition, this helps ensure the accuracy of the information obtained. Working as a team of two researchers can be very helpful. Sharing information about employers as the information is gathered enables researchers to benefit from each other's work.

It is important to maintain consistency in your reporting format so those reading your work will become and remain familiar with your style and how to quickly identify the information within the report.

When talking to an employer, the researcher can also ask the employer if they are familiar with other employers with the same type of work (essentially their competitors) that may have job openings. For example, at the authors' firm, one case involved a gentleman who had learned shoe repair at his father's business. By asking one shoe repair employer if he was aware of any other shoe repair shops that were looking to hire, the researcher located several other shoe repair shops with job openings. This resulted from one contact. Without this additional question, these additional employers with job openings may not have been identified nor called.

As seen in the example provided in Appendix A, all of the information, which is provided by the employer, is

included in the script responses. However, employers may not answer all of the script questions. At that time the script may be shortened in the report and an explanation is provided.

The California Employment Development Department has a website that can be used to locate employers for a specific type of job in a specific geographic area. Their website can be accessed at http://www.edd.ca.gov/. On their home page, click on the tab at the far right titled, "Labor Market Info." A drop down menu of choices will appear. Click on the selection, "LMI by Subject." This brings the researcher to the Data Library. To the left of the screen, one of the search areas is titled "Summary Data Profiles." Detailed employer data is listed here. For example, if the researcher wants to find employers who hire cashiers in Sacramento County, in the box titled "Occupational keyword," type "cashiers" and just below in the "Area," at the drop down menu, click on "Sacramento County," then click "View the Occupational Profile." This brings the researcher to "Occupational Profile – Step 2." Look at the occupations provided in the list and choose the most appropriate job title by clicking on it and then click "Explore Occupation" under the list. This brings up an Occupational Profile for cashiers in Sacramento County, and includes such data as occupational wages at various percentiles, job openings per zip code, and industries employing the particular occupation, among other information. Here, the researcher can enter a specific zip code and request a list of advertised jobs. The researcher can also select a specific type of employer, such as gasoline stations, and request this list within Sacramento County. This second option is particularly useful since not only does the list that is generated include the employer's name, address, and phone number, it also includes the size of the company by giving a range of numbers of employees. Often the larger the company, the more job openings that may be available. The researcher can scroll down this list and call only the larger gasoline stations employing 20 to 49 employees or more versus the smaller ones employing 1-4 employees or 5-9 employees.

Addressing Other Labor Market Data in the Vocational Evaluation Report: Secondary Data

The vocational expert also uses secondary data obtained from the California Employment Development Department (California EDD or EDD) in the vocational evaluation report. For example, the vocational expert may discuss in his or her vocational evaluation report why a particular job is being recommended for the applicant or plaintiff. The California EDD website offers projections of employment by industry and occupation, including occupations with the most job openings and the fastest growing occupations. To obtain this information, at the EDD's main webpage, click on the link to the right titled "Labor Market Info," and from the dropdown menu, click on the option "LMI by Subject Area." From this page, under the box to the left titled "Find Data by Subject" click on the link for "Occupations." From the page that appears, click on the link "Wages and Employment" in the box titled "What Information is Available by Occupation." And finally, from the page that appears, at the bottom of the page on the left, in the box titled "Similar Data to Consider" choose the link "Projections of Employment by Occupation." From the page that appears, the researcher has access to all of the counties in the State of California and will be able to access such information as "Industry Projections," "Occupational Projections," "Occupations with the Most Job Openings," and the "Fastest Growing Occupations."

Another source of information from the California EDD that is often used by the vocational experts at the authors' firm is the report titled "Occupational Employment (Month Year) & Wage (Year – 1st Quarter) Data Occupational Employment Statistics (OES) Survey Results (Sorted by SOC code). This report is used to show wages for all occupations within a specific geographic area at the various percentiles (10th to 90th). If the vocational expert needs to compare the wages that the applicant or plaintiff was earning at the time of injury to wages of suitable occupations that the vocational expert is recommending, this report offers that information. The report is accessed from the main page of the California EDD as follows: Again from the EDD home page, click on the link at the right of the page titled "Labor Market Info." From the page that appears, choose the tab "LMI by Subject" in the middle of the page. From the page that appears, from the first box on the left titled "Find Data by Subject," choose the tab for "Occupations." From the page that appears, in the first box, choose the tab for "Wages and Employment." From this page, choose the tab "Excel Files by Area" from the first box at the right of the page titled "What's New for Wages." This will bring up a page titled "OES Employment and Wages by Occupation." From here, the researcher can access current employment and wage information for any county in California as well as statewide. Historical data is also available by clicking on the link "Employment and Wages 2001-2009, which is located directly under the page title. Historical employment and wage data are used by the vocational expert when comparing wages at the time of injury (back to 2001) with current wages.

The information on the California Employment Development Department's website is frequently updated or rearranged. If the researcher has difficulty maneuvering through the State of California's vast Employment Development Department website, telephone consultants are available to assist. The list of EDD Labor Market

Consultants by County can be accessed at http://www.calmis.ca.gov/file/resource/LMIConsultants.pdf.

The LMS data per employer is listed in the LMS report in detail. Please refer to the sample script in Appendix A. It is helpful to expect the employer to answer your questions before you pick up the phone and dial the number.

LMS Summary Table: Appendix B

A LMS researcher then uses a LMS Summary Table to record the LMS results. Please refer to Appendix B for the LMS Summary Table. The advantage of using this table is that the researcher can list the employers by job title with the number of jobs that are past, current, and anticipated and have a running total of the jobs in each category. In addition, the jobs that appear suitable and are not contactable can be listed by page number and title. This form enables two geographic areas to be recorded on one sheet. This is a working document and is not included in the LMS report.

By using the LMS Summary Table the total number of job openings is presented in the Summary section of the LMS report. For each geographic area, a concluding paragraph summarizes the jobs with the information about the medical limitations that were considered along with the physician names. The job titles are listed. In the next paragraph of the LMS report, the number of jobs in total, along with total number of current, past and anticipated jobs are included. A separate paragraph describes the same number of "at-home" jobs if these jobs are included in the survey. The job titles in each geographic area are then typically added to the vocational evaluation report or file notes.

Completing the Labor Market Survey Report

The LMS report is based on the same structure as similar reports completed of the same type (*LeBoeuf*, DFEC, civil, etc.). LMS reports are similar to other reports in that they are refined over time to make the report clearer or more succinct. Issues that arise during deposition or trial are clarified in the next report and then continue in subsequent reports.

Headings that are included in the LMS report are similar and frequently copied from the vocational evaluation report or file notes. These sections vary depending on the type of report and include some or all of the following:

- Overview
- Methodology
- Vocational Profile (taken from the vocational evaluation report)
- School and Training History (taken from the vocational evaluation report)
- Military Service (taken from the vocational evaluation report)
- Work History (taken from the vocational evaluation report)
- Vocational Testing (taken from the vocational evaluation report)
- Medical Restrictions and Psychiatric Impairments (taken from the vocational evaluation report)
- Job Skills from Prior Employment
- Labor Market Survey Script
- Preliminary List of Occupations (taken from the vocational evaluation report or file notes)
- Advertised Job Openings
- Summary and Conclusions

Similarly, the job titles resulting from the LMS are copied and included in the vocational evaluation report.

The Application of Labor Market Survey Data in Development of Vocational Expert Opinions

Labor market survey findings represent one of the many elements comprising a thorough analysis of post-injury employability. It is important to recognize that the labor market research process consists of first identifying prospective vocational options based on the injured person's work history, educational background, medical restrictions, aptitudes, and related factors, while relying on clinical judgment. The purpose of such research is to then clarify whether this preliminary identification of job options is supported by data gathered directly from local employers. The responses obtained from employers are thus incorporated into the consideration and analysis of potential vocational options. Often, due to the vocational expert's experience with prior labor market research, and knowledge of local labor markets in general, the original hypothesis is supported. At other times, however, once additional information is obtained from employers, labor market research reveals that a particular vocational goal is actually unsuitable for the injured individual in question.

The process of obtaining labor market data based on direct inquiry with employers is thus fluid, and a tool for further clarifying whether specific job options are appropriate given the circumstances of a particular injured worker or plaintiff in a civil suit. In the event the vocational expert's original projections are supported regarding a prospective job goal, knowledge of the additional details of the labor market gained from this process serves to strengthen the expert's opin-

ions. In contrast, if employer research suggests that a prospective job goal is inappropriate, the idea is discarded, and attention turns to more suitable options. Regardless, the process of obtaining concrete data directly from employers while discussing the specific circumstances of an individual in question provides invaluable information in the decision making process surrounding identification of the most appropriate job goals.

At the conclusion of the labor market survey process, it is clear which job options are not only supported by statistical data from government sources, but also in actual practice in the local labor market with regard to the person in question. The labor market survey report is then written, clearly identifying the best job options for consideration. In some instances, responses from employers surveyed unequivocally indicate that a particular job would be suitable. The details of each employer contact may in those instances be quite similar. The labor market survey report with its standardized format documents all of this information, and is used to show the existence of jobs that are clearly available to the person in question. These job titles represent the strongest vocational options in that specific case.

Direct labor market survey research with employers also often reveals the existence of occupational titles, which may be appropriate with one employer, but not another. In such instances, it is important to ensure that the labor market survey includes a broad range of responses from local employers in that industry. When responses are conflicting, further research is needed to understand clearly whether a job goal will be suitable for the person in question. Methodical sampling of employers and systematic documentation of their responses highlights areas in which their responses are similar and where they differ. At times, variability in employer responses is noted due to the employment setting, job duties, technology utilized, or other factors. In these instances, the researcher merely documents these differences. Attention can then be focused on the specific area of concern when questioning employers about job duties and requirements, e.g., whether the security guard position requires the ability to restrain others, or only to "observe and report." In situations where labor market research reveals that only some openings for a particular job title would be appropriate, it is important to include all the information obtained when writing the labor market survey report. Such details provide a clear picture of the range of duties that may exist in a particular occupational group, and give the parties an understanding of those that would be the most compatible with the circumstances of the injured worker or plaintiff. The goal is to identify appropriate job openings while taking note of any barriers to employment that may be relevant. Just as with seeking employment in the absence of litigation, it is not necessary or realistic for every job opening within a particular job title to be an exact fit for that particular person.

Within the workers' compensation arena in California, vocational experts are called upon to formulate opinions regarding diminished future earning capacity (*Ogilvie III*), and/or to evaluate an injured worker's ability to successfully compete in an open labor market in cases involving claims for permanent and total disability (*LeBoeuf* or Labor Code 4662). When assessing post-injury earning capacity, identification of appropriate post-injury job titles reflective of the injured worker's maximum earning capacity is critical. Labor market survey data is thus utilized to clarify the most realistic employment options, and the wages typically associated with such work. Similarly, when evaluating employability in cases involving claims for permanent and total disability, the vocational expert is required to determine whether an injured worker is employable on a competitive basis post-injury. Labor market data obtained specifically with regard to that injured worker, while considering the individual's work history and transferable skills, educational background, medical restrictions, geographic location, and any additional relevant details, e.g., limited English skills, use of non-prescribed assistive devices, felony conviction history, reveals whether the person is competitively employable or not. Labor market survey data is also important in developing opinions regarding employability in the context of civil litigation. In personal injury and employment law cases, identification of appropriate vocational options, wages, and additional training requirements, if any, is essential for accurately addressing damages.

Thus, the outcome of the labor market survey process influences the development of the vocational expert's final opinion regarding employability, and the most viable job options for consideration. When done properly, it provides an individually customized, objective, and detailed understanding of labor market opportunities, requirements, and associated wages within a specific geographic area. The manner in which the results of the labor market survey findings are utilized varies depending on the nature of the case.

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Endnote

[1] The labor market survey methodology section of the article was written by Van de Bittner and Mohebbi. The applications section of the article was written by Toyofuku.

Appendix A

Redacted script filled in with samples of employer comments from various jobs.

1. Employer information. Not all employers could or would answer all questions.
   Name: Employer
   Address: 123 California Street, Any City, California
   Phone: (222) 333-4444
   Contact Person:
   Title:
2. Are there current openings? __X__ Yes _____ No
   Job Title: Lobby Attendant, and various other jobs.
   Number of openings: Tiffany would not confirm what types of openings are currently available. She noted that they do fill jobs for surveillance system monitoring and lobby attendant work. She encouraged the individual to contact them to submit an application. She indicated that new jobs come in "all the time." One current opening is counted.
   a. How many in the last 3-6 months? "Six openings filled."
   b. How many do you anticipate in the next 3-6 months? "We do anticipate hiring. I'm not sure how many." One anticipated opening is counted.
   Comments: (This area is often used to include information that the employer offered during the conversation that may be of value to the vocational expert, but was not asked in any of the script questions.) Sheila was contacted and advised that these positions are "entry-level," and they do expect to have to train. She noted that she would consider someone with basic computer skills with no previous banking or cash-handling experience.
3. How often do you hire and what are the future expectations? "I have hired 5 new dispatchers in the last year. We are always, more or less, hiring dispatchers. I would think we will hire 1-2 in the future (3-6 months)," said Jane.
4. Wages. "Entry-level ranges from $8.00 to $12.00 per hour; more if they have experience."
   a. Benefits: "We do not disclose that information."
   b. Entry-level wage:
   c. After 3-5 years of work experience: "We give merit raises."
5. Entrance requirements. Confirmed as noted in the advertisement. Mike noted that the position advertised is one that is so rare that they seldom find someone with that exact experience. They are willing to train, and someone as described would have the necessary background, having been in the gas industry, to be considered for this job.
6. Job duties. Selling tickets, taking and tearing tickets, and directing customers to the correct theater; answering questions.
7. Physical, mental and other requirements.
   (Specific questions derived from physician and psychiatrist recommendations listed here as a. b. c., etc.)
   a. Does the job require lifting over 20 lbs.? "There might occasionally be some lifting over 20 lbs., but there are other staff around to help. It would be very rare."
   b. Does the job involve repetitive bending or stooping? Mike noted that the laser operator needs to position their face down to the laser's level to watch the cutting process. He indicated that the operator could stand and bend, or use a stool to bring the laser service to eye level. "We could work out something to help him."
   c. Is part-time work available? "Yes. We are always looking for good, qualified individuals who want part-time work."
   d. Does the job require prolonged sitting or standing (sitting or standing for longer than 6 hours out of an 8-hour workday or longer than 20 minutes at a time)? Bryan indicated that box office cashier and greeter are able to use a sit/stand stool when working.

8. Considering the applicant's medical limitations, do you feel that he could perform the job? Yes. Bryan indicated that they do have several individuals who work at the theater who are not able to do all of the job duties of the position. They hire these types of individuals and let them work within their comfort levels. "We do have some with certain restrictions. We don't discriminate based on physical limitations."
9. Would the applicant be competitive for the position? "Yes, absolutely. We don't discriminate. We hire based more on heart in what they are doing. We want someone who is looking to grow with our company and who would be a good fit."
10. Additional questions.

    (Non-medical questions are listed here. For example questions regarding felony convictions, use of prescribed medication, use of a cane – if used but not medically prescribed, language issues (speaks Spanish only), educational issues (no high school diploma or GED certificate), among others. Ask questions that would provide helpful information to the vocational expert is developing his opinion.)

    a. How many qualified applicants do you typically get for positions that you advertise? It varies, although Ms. Smith estimated that 3-4 out of 20 are qualified applicants.
    b. Would the use of prescribed narcotic pain medication preclude someone from this position? This company does drug test as a condition of employment. If an employee had a prescription, "there might be some type of exemption process."
    c. At what level would you need to read and write in English to obtain this job? "Not much reading or writing is required. You need to be able to copy information from forms."
    d. Would fluency in Portuguese be beneficial? "Probably. Spanish would be more helpful."

LMS Summary Table

Client Name:______________________________

Date:_______________ Job openings: p= past; c= current; a = anticipated

Not contacted: page ______, # jobs: Titles:

County(s) Surveyed:___________________________

Not contacted: page ______, # jobs: Titles:

Scenario 1 **Job title**					**Scenario 2** **Job title**				
	Number of Jobs	Employer verified: Jobs/ openings/on-going totals		Employers Contacted		Number of Jobs	Employer Verified job openings /on-going opening		Employers Contacted
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	
		p- c- a-	p- c- a-				p- c- a-	p- c- a-	

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Appendix C: Time Saving Activities During the Labor Market Survey Process

1. A map of the area is printed and marked by a compass for a 30-mile radius from the residence of the evaluee, and cities within the area are noted.
2. The authors' firm maintains a database of newspaper ads for the San Francisco Bay Area newspapers. These ads are downloaded weekly from three local Sunday papers.
3. Potentially suitable ads are copied and pasted into a Notepad document, which takes out all of the formatting and enables you to cut and paste a clean, simple job advertisement into a Word document, which is more usable.
4. The ads are quoted material and should be cut and pasted as they are found.
5. The source of these ads is also pasted at the top of the listing so that it is available in the report. For example, the following is an example of the source of ads for cashiers advertised on Craigslist: http://sfbay.craigslist.org/search/jjj?query=cashier&srchType=A
6. When contacting an employer, it is best to try to quickly reach the individual who makes the decisions about hiring for the company.
7. Jobs with No Employer Contact. These jobs are not counted in the totals for the labor market survey, but are listed for informational purposes only. Using these advertisements can be a time saver for the injured worker when looking for work.

Appendix D: Barros-Bailey 12-Step Methodology

Barros-Bailey (in press, 2012) described a 12-step labor market survey methodology. This methodology applies in both workers' compensation and civil cases. The steps are listed below.

Step 1: Identifying the Research Question

Step 2: Developing the Survey's Questions (Items)

Step 3: Training the Interviewer

Step 4: Selecting the Population: The Sampling Frame

Step 5: Taking a Census vs. Sample

Step 6: Deciding on Probabilistic vs. Nonprobabilistic Sampling

Step 7: Constructing and Testing the Instrument

Step 8: Collecting and Preparing the Data

Step 9: Analyzing Qualitative and Qualitative Data

Step 10: Summarizing the Data

Step 11: Reporting the Data

Step 12: Integrating Labor Market Survey Data with other Labor Market Data

The Rehabilitation Professional 20(2), pp. 137–146

Commentary: Labor Market Survey Methodology and Applications

Mary Barros-Bailey

The purpose of this commentary is to review the labor market survey (LMS) process described by Van de Bittner, Toyofuku, and Mohebbi (in press) as applied in forensic practice in California. The authors describe an approach where the steps along the 12-Step LMS Model (Barros-Bailey, 2011, 2012) could be identified and was used to frame this commentary. Techniques and methods to facilitate valid, reliable, efficient, and cost effective LMSs are offered and areas for future research are suggested.

Keywords: labor market survey, survey research, forensic rehabilitation

Writing about labor market survey (LMS) is not always easy. What seems like a straight-forward task within forensic practice all of a sudden becomes a bit inaccessible when we try to capture the process by the written word to embrace the nature of a tool we have used in practice for likely our entire careers. Van de Bittner, Toyofuku, and Mohebbi (in press) took a shot at it and hit every step within the LMS 12-Step methodology (Barros-Bailey, 2011, 2012) either directly or indirectly. Their LMS approach should sound relatively familiar to the vocational expert working in most jurisdictions and geographical locations as it did to me.

LMS is a technique of collecting primary occupational and labor market data. Specifically, I define it as "a survey methods strategy to collect qualitative and/or quantitative data for a small population census or sample about an identified labor market in order to draw inferences to the client/evaluee (N=1)" (Barros-Bailey, 2011, in press, section 3, para. 4). Van de Bittner et al. (in press) describe their approach given a linear and iterative process involving the development of script and call lists, employer contacts, and the inclusion of other labor market data in their report. Their description of the LMS process within their particular practice setting demonstrates what I have said for many years – we apply research methods in what we do daily; yet, as practitioners instead of researchers, we do not recognize this fact or use research methods terms. Therefore, when it comes to defending what we do in a forensic setting by research terms that are the lingua franca that crosses all professional disciplines, we have not developed grounding in the literature or in our training to stand strong in our defenses. Instead we are a bit intimidated by the terminology; it becomes almost a barrier to our recognition of the underlying research methodology we employ and we shy away from it as a profession instead of embracing it and using it as a guide to make our evaluative processes better. Therefore, in this commentary on the Van de Bittner et al. (in press) article, I will demonstrate how they captured the 12-Step LMS Model (Barros-Bailey, 2011, 2012, in press) in their approach and offer recommendations to strengthen LMS in forensic practice.

The Background of LMS

No one is quite sure how LMS became an area of practice in rehabilitation. Barros-Bailey and Saunders (2012) suggested that LMS has existed at least since the 1970s, although measuring the competency of methods and techniques for conducting LMS has only come into rehabilitation counseling role and function studies within the last decade. Van de Bittner et al. (in press) prove that LMS has been in clinical practice for at least two decades given their adaptation of the US Department of Labor, Office of Workers' Compensation Programs' instrument for use in their clinical and forensic practice. Like other techniques adapted for forensics, LMS may have originated clinically to assist a client to explore career options, to justify a rehabilitation plan, and for the employer development and job placement stages of rehabilitation counseling; now, it is also used in forensics to help infer conclusions regarding an individual's capacity for remunerated work activity.

In addressing the overall need for LMS research in general, we turn to the career development and counseling literature. In explaining the career counseling

process, Sharf (1993, 2010) describes the need for an assessment prior to the consideration of occupational information. In their review of the literature, Van de Bittner et al. (in press) cite various authors within the different jurisdictions of Arizona, Florida, and Washington and the importance of LMS in their respective forensic evaluations. The explicit and implicit need for an LMS is described by Van de Bittner et al. (in press) as providing information to clarify whether there exists a labor market for particular jobs that are recommended by a vocational expert given an evaluee's vocational evaluation (with or without remediation) to maximize the evaluee's earning capacity. The availability of jobs or positions in the labor market could be historical, current, or projective. Like Sharf (1993, 2010) who starts with an assessment as the underlying stimulus for considering occupational data in career counseling (Barros-Bailey, 2012), the authors described a vocational evaluation likewise providing the stimulus for developing the preliminary list of jobs or occupations to be surveyed. With this underlying vocational evaluation as the background for the case conceptualization for the LMS, we will now explore the 12-Step LMS Model in Van de Bittner et al.'s (in press) approach.

Using the 12-Step LMS Model

Step 1: Identifying the Research Question

In their outline of the contents included in a LMS report, it is clear that Van de Bittner et al. (in press) use the assumptions derived from such an assessment that they call the "vocational evaluation report" (section 3, para. 2) to underline the purpose and research question(s) for the LMS that will set forth the manner in which the other 11 steps of the LMS model are carried out (Barros-Bailey, 2011, 2012). For Van de Bittner et al. (in press), their assessment/vocational evaluation includes the following parts: 1) vocational profile; 2) school/training history; 3) military service; 4) work history; 5) vocational testing; 6) medical restrictions/psychiatric impairments; and, 7) job skills.

All of these considerations could affect not only the purpose of the LMS for a particular evaluee, but also Step 2 as to the survey questions or items that are included on the survey instrument. Depending on the case and the jurisdiction, other factors might also be included as stimuli for the LMS (Robinson, Pomeranz, & Young, 2012). It is this initial assessment or vocational evaluation that drives the case conceptualization and related assumptions for the research questions in LMS to provide the internal and external validity factors of the individualized (N=1) assessment in Opinion Validity© (Barros-Bailey & Neulicht, 2005).

When describing this first step in the 12-Step LMS Model, I provide an outline to developing research question(s) for the LMS. Research questions speak to the purpose of the LMS and should drive the resulting research design so that by the conclusion of Step 12 the research questions are answered or the vocational expert has data as to why they cannot be answered given LMS research methods. These components for developing research questions include the *what*, *who*, and *where* of the inquiry (Barros-Bailey, in press). Van de Bittner's description of their process assumes that they consider each of these components although they did not directly address their research questions given that they are describing their approach in general and not a specific LMS. For instance, in their discussion of shoe repair establishments and the location of Auberry, California, their research question for a LMS with that job and location may be, "What is the current labor market for shoe repair persons in Auberry, California including available positions and wages?"

Step 2: Developing the Survey's Questions (Items)

Van de Bittner et al. (in press) state that they develop individual questions for each evaluee to obtain a thorough picture of the aspects of the case to be addressed or clarified. As mentioned above, the vocational evaluation provides areas for consideration of specific survey questions (items) to include on the LMS instrument, or what the authors call the "script." Given the particular jurisdiction, or perhaps the specific vocational expert's approach, there may be specific delimitations to the kinds of survey questions asked. Some of the delimitations described by Van de Bittner et al. (in press) include an individual's legal background, language abilities, specific tools and equipment used, cognitive functioning, and possession of a license to drive a vehicle.

Also, the authors made an internal policy decision that, if there are conflicting functional limitations or restrictions, the items on the instrument will be geared towards the most restrictive set of limitations. There are different ways to address person-specific *abilities* when performing a LMS that is collecting information about the *requirements* of work so as to not introduce bias and error into the survey questions and ultimately into the LMS results. Daniel (2012) discusses this concept as response bias. In survey research methodology, of which LMS is a telephone survey mode (Barros-Bailey, 2011, in press), there are certain types of questions that are better addressed through research other than LMS because of the potential introduction of bias through the mode of data collection in survey methods. I provide a list of criteria for survey question development (in press) as well as a discussion regarding how to reword the direction of

the questions towards the requirements of work instead of the abilities of the individual (2012). We have other and better methods of evaluating the *abilities* of people through psychometric and functional assessments that are designed and validated for that purpose. LMS, on the other hand, is for the collection of data about the demands and requirements of jobs and work activity, not the availability of people. It is the data derived from the assessment of jobs that is then matched with the assessment of people. Given our professional orientation of coming at work as practitioners, we often miss this distinction and do not realize that the kinds of questions we ask in LMS may not be the most valid for the type of data collection method we employ when we use telephone survey research. Because as vocational experts we are users of occupational data and not developers of it by way of national surveys, we tend to come at the requirements of work (which is the unit of analysis we are trying to measure) through language from a different unit of analysis – people's abilities.

The authors discuss cognitive factors possessed by the evaluee for whom they try to determine the match with work requirements including attention, concentration, reasoning, and memory. Developing survey questions to validly and reliably obtain work requirements along these cognitive factors is a challenge at best. Although the kinds of cognitive elements of analysis were included from case law by the authors, the specific survey question(s) on the script did not provide examples as how any of these cognitive requirements of work were queried of employers or measured to arrive at valid and reliable responses. This area of measuring the requirements of work activity as it applies to mental and cognitive data elements is likely the greatest challenge that we face in LMS and provides opportunities for creative ways validly and reliable resolve this problem through current and future research.

Step 3: Training the Interviewer

The authors use the term "researcher" to connote the interviewer and the term "vocational expert" to describe the survey developer. These are roles that the survey methods literature typically refers to as the "surveyor" and the "researcher," respectively. I use the same designation as the authors in my practice to differentiate between me as the overall decision-maker of the research design, strategy, and delivery of the instrument, as well as the data analyst, data interpreter, and the one ultimately drawing inferences in the reporting of the data; the person performing the actual calls under the decisions and protocols I develop is who I also call the "researcher." Like in the administration of psychometric assessments, in some cases, I may play both roles. In others cases, it may be beneficial and efficient for me to serve as the designer and supervisor while interviewers/researchers collect the data. They key to using interviewers is their training and competency because this strongly influences the validity of the LMS more than any other factor within LMS methodology. That is, no matter how well constructed and tested the survey instrument may be, the greatest and most important step of the 12-Step LMS Model to ensuring validity and LMS data quality is the training and supervision of the researchers/interviewers (Barros-Bailey, 2012, in press).

One of the most interesting aspects of the Van de Bittner et al.'s (in press) approach to LMS is the implied interviewer training process described throughout the article, particularly at the stages of survey question and instrument development, but also at the data collection phase. The authors' description of the interaction between the researchers and the vocational experts throughout the design and implementation of the LMS is important and indicative of the issues encountered in telephone survey research and the iterative nature of some of the LMS research performed in rehabilitation and disability services. If the target population of interest is known, the geographical area is relatively familiar to the vocational expert, the sampling frame and strategy is straightforward, the survey questions are routine, and the researchers are experienced, the need for regular consultation at every step along the data collection and recording process may be low compared to uncertainty or newness in any or all of these areas of a LMS.

Van de Bittner et al. (in press) describe in detail how they deal with this important aspect of LMS methodology throughout their process. Some of the teaching and supervisory methods indicated by Van de Bittner et al. (in press) include: 1) the researcher reviewing the vocational expert's report and file notes following receipt of the script for context about the evaluee; 2) a conference held between the researchers and the vocational expert to review the script and make adjustments to it (although this includes some of Step 7, it is also obviously an opportunity of training and supervision between the vocational expert and the researcher); and, 3) consulting with the LMS's designer – the vocational expert – for resolution and redirection if issues arise during data collection.

Step 4: Selecting the Population: The Sampling Frame

Van de Bittner et al. (in press) describe various considerations for selecting the job of study for a LMS. Through the evaluee's vocational evaluation and the vocational expert's file notes, the authors determine one or more target jobs of interest. Based on each target population, Steps 5 and 6 of the 12-Step LMS Model could require different approaches or strategies.

Van de Bittner et al. (in press) also discuss decisions they make that limit the target population and, consequently, the sampling frame. One of the delimitations that the authors place on their LMSs is a driving distance of 30 miles as the geographical area of consideration. Such delimitation could be designated by statute, regional differences, or the vocational expert's reasoned approach based on his/her experience, knowledge about local commute patterns, etc. There does not seem to be a single standard among vocational experts about what constitutes a reasonable commute distance. I have heard this to range from 25 to 75 miles. The geographical delimitation could also be measured by time instead of distance. For example, a 30-mile distance may take me a half hour or less to travel if I am driving along Interstate Highway 84 at 75 miles per hour in southern Idaho, or it may take me over an hour if I am traveling along mountain passes and switchbacks in Alaska or in a densely-populated city where I may not be able to travel faster because of the posted speed limit or traffic congestion. Thus, vocational experts considering a reasonable commute distance for LMSs not otherwise designated by statute or jurisdiction should consider distance *and* travel time.

After considering the various factors that impact their decision as to the parameters of the target population, the authors provide recommendations as to sources to consider for developing sampling frames ranging from online telephone directories, search engines, and job boards to the state's employment department and private published sources. A sampling frame is the all-inclusive list of entities or individuals for the target population of study (Barros-Bailey, 2012, in press). Depending on the occupation of study, it could be derived from various sources. The Employment Development Department's (EDD) labor market information page was mentioned in the article as a source to obtain a sampling frame. To evaluate its comprehensiveness, currency, and relevance, the vocational expert needs to understand how the source was developed, including when the data were compiled and from where, whether the entities listed had an option to opt in or out of the listing, and any other factor that could limit the thoroughness, timeliness, or accuracy of the listing. The EDD website, for example, indicates using InfoUSA information that allows establishments to opt in or out of the listing. Therefore, it is of some but limited usefulness as a single source of a sampling frame's development and should be combined along with other sources for a more comprehensive sampling frame. Performing a check and balance with other possible sources for sampling frame development will help determine the extent of the comprehensiveness of any single source as containing all possible establishments that might hire for the desired job of study. Remember, a sampling frame is the list of *any* and *all* establishments where the occupation, job, or position is or may be performed or persons holding those positions, jobs, or occupations (Barros-Bailey, 2012, in press). It includes the entirety of the target population of interest. A list that is feasibly any less than that population (such as that from a single source) as identified in the research question(s) is not a complete sampling frame. Thus, a list from a Google search, from InfoUSA, an online job board, or the EDD itself would likely not constitute the universe of all possible establishments in the desired geographical area.

Step 5: Taking a Census vs. Sample

Daniel (2012) outlines five factors to consider when deciding between surveying a census or sample of a target population including: 1) objectives of the study; 2) nature of the population; 3) availability of resources; 4) research design considerations; and, 5) ethical/legal requirements. The authors touch upon most of these factors throughout their discussion of their LMS approach. Turning to one of the authors' examples, although the occupation of cobblers/shoe repair was once in great demand, and may continue to be so in some areas of the world, in many developed countries such as the United States, the cost of shoes or overall disposable income of the population has contracted the occupation's demand. Thus, no matter whether the vocational expert is in Oakland, California where there may be 86 establishments employing cobblers within a 30 mile radius or in Ceres, California where there may be 8 establishments hiring cobblers within a 30-mile radius, the total number of establishments to be contacted is typically within the resources available to perform the LMS particularly considering that a sampling frame is a compilation of a single or multiple cross-sectional lists and there will be some erosion in the number of actual establishments where the vocational expert could obtain information based on changes that have occurred since the sources used to compile that list were developed.

The practice setting is an area of consideration when determining if the universe of cobblers within a 30-mile radius could be found in only one or in a multitude of different settings. This would relate to Daniel's (2012) second factor. While cobblers typically practice in private shops in civilian employment, on the other hand receptionists have cross-functional skills and may work in private companies or for a variety of other settings from schools to government facilities or in large companies or non-profit enterprises – possibly in every kind of industry in the local, regional, or national economy, in establishments that have contact with the public. A useful resource in determining the various practice settings of different occupations as a check and balance is the SkillTRAN employer list that estimates the number of jobs per industry based on North American Industry Classification System.

No source of information is perfect and will have some element of error in the sampling frame's development resulting in some erosion and error to the ultimate frame. When evaluating the reliability of sampling frames compiled from different sources, I have found the shrinkage to be from 10% to 50% with the higher percentage coming from those sources that estimate the job to be spread across a variety of practice settings instead of a single or few settings but with most shrinkage at the 10% to 20% range. In general, the more cross functional a skillset is across a variety of industries or practice settings, the more difficult it is to locate a representative sample of establishments where the job could be found or to perform a census of that job. Returning to the cobbler job, and knowing the potential erosion in of sampling frame, my decision may be to perform a census and contact all establishments for cobblers within the designated geographical area regardless of whether I am in Ceres or Oakland, California. Regardless of either location, performing a census of receptionists may be a challenge, so I may opt to approach it as a sample of employers of a certain size in the community, in industries were their work activity may be likely to involve the kind of public contact that is an essential function for receptionists.

Because a census constitutes a universe of targeted jobs, a sample involves calling a subset of that universe. If I chose to contact the entire list of employers who advertised for an available receptionist position through a variety of job boards over a specific amount of time (even if I had been collecting all job openings in a personal database for years), regardless of calling my entire list derived from those sources, or even randomly calling that list, this would be a sample not a census. Why? Because not all employers who hire for all positions advertise in any source and only a subset of employers will typically publicly recruit for a position; thus, I cannot guarantee that the sources I happen to collect information from and the employers listing positions through those sources constitute the universe of all enterprises where my desired job or occupation may be available.

Step 6: Deciding on Probablistic vs. Nonprobablistic Sampling

Van de Bittner et al. (in press) do not specify how a decision is made as to whether a probablistic vs. nonprobablistic sample is taken when a sample of the entire population of interest is taken rather than a census. However, from their description of the LMS process, it does appear that both types of sampling are used. For probablistic sampling, specifically a simple random sample, they describe a technique that many of us possibly learned in graduate school before the Internet and personal computers automated the process and made it more accessible. I have previously briefly described the process (2012). Van de Bittner et al. (in press) use a random number table to select the entities to be contacted, a task that used to be time consuming. Rather, with the use of technology, we can perform this task in under one minute (2012, in press). Following is a simple and fast way to execute the simple random sample assuming a complete sampling frame of the desired population: 1) *Sort*: using a spreadsheet, sort the sampling frame alphabetically (this task could be performed in under five seconds); 2) *Number*: the spreadsheet automatically provides each record with a number; thus, unless a word processing spreadsheet is used instead of that of an actual spreadsheet software program, a numbered column may not need to be added (in a word processing spreadsheet, this additional step may add one to three minutes to this process assuming up to 100 entries on the sampling frame); and, 3) *Sequence*: using either the random number sequence generator feature of the spreadsheet software (ToolPak add-in in Excel) or a host of free online random number sequence generators, a random list sequence could be generated in under five seconds. Ensure that the generator uses a nonduplicating sequence. The generated nonrepeating sequence is used to call the simple random sample in the order generated. This is a very easy and quick way to perform a simple random sample that could generate data amenable to the use of descriptive statistics, including error measurements. Thus, what used to be a time consuming task can now be performed in less than one minute with the use of spreadsheet software program or under five minutes if the spreadsheet feature of a word processing program is used instead but adds tremendous advantages to the vocational expert's ability to introduce strong science at Step 6 resulting in quality data to be analyzed and summarized at Steps 9 and 10.

Van de Bittner et al. (in press) describe several forms of nonprobablistic sampling in their process. The examples described are: 1) reviewing a database of job leads maintained over the years by the vocational expert or archived classified listings of past openings; 2) obtaining information about current, perhaps unadvertised, openings through a survey question on the LMS instrument asking employers if they are aware of other employers with the same type of work activity that might have current openings; 3) developing a list of employers hiring for the desired position(s) from online or other available job boards or classified advertisements; and, 4) cold calling employers from an available list of establishments thought to hire for the particular position, job, or occupation. From the description of their LMS process, it is not clear exactly what kind of nonprobablistic sampling is performed by Van de Bittner et al. (in press). Although they mention using availability and purposive nonprobablistic sampling, from the kinds of LMSs described, I assume there are other types of nonprobablistic sampling strategies used, including judgment samples (Daniel,

2012). Exploring different sampling strategies depending on the research design emerging from the research question(s) is a needed and important area for future research in LMS.

Step 7: Constructing and Testing the Instrument

Van de Bittner et al. (in press) state that a "... script is complete and specific for each individual. It also allows the reports to have consistency, which means that the researchers are completing the same or similar steps for each labor market survey project that they undertake." (section 3, para. 2). What Van de Bittner et al. (in press) describe is important to point out from a variety of perspectives. By tailoring the LMS to the individual being evaluated, they acknowledge that people have different vocational, avocational, and educational histories with varied levels of function and a host of other factors that might be important to match to the work activity information obtained from the LMS. Thus, an LMS cannot be a cookie cutter for everyone because the type of data needed by its very nature is heterogeneous as well as ergometric and ergonometric (Barros-Bailey, 2012; Cunningham, 1971, 2000). Yet, there is a reason that many of us consider similar factors of wages, work activity demands, and other survey questions in LMS research because we are taught common factors in case conceptualization methods central to a forensic evaluation (Williams, Dunn, Bast, & Giesen, 2000; Robinson, Pomeranz, & Young, 2012). Consequently, the flexibility integrated into the LMS process that allows for the individualized assessment (N=1) but within a case conceptualization framework providing some common elements results in the internal validity to the LMS process as well as external validity to the individual. This internal and external validity implications are fundamental to the inductive and deductive process in what Neulicht and I refer to as Opinion Validity© (Barros-Bailey & Neulicht, 2005).

In discussing the development of their LMS instrument, Van de Bittner et al. (in press) state that sometimes the script requires modification and those employers previously contacted might need to be recontacted. This may occur in the testing stage of the instrument when it may be learned from the first few contacts that a particular survey question is worded in a way that is confusing or confounding (resulting in unreliable or problematic data collection), that a survey question may be missing, or a host of other issues that were not anticipated during the instrument's development. The authors seem to deal with these emergent issues through employer recontacts; there is a host of other ways this could be performed (Barros-Bailey, 2012, in press) and vocational experts need to determine how they will deal with such matters.

Step 8: Collecting and Preparing the Data

No matter how well constructed the instrument may be, as mentioned earlier, the individuals' (vocational experts or their researchers) training and supervision – particularly at this data collection and preparation stage – is the most important step in survey methodology. This is the stage of the process where significant amount of error and bias could be introduced into the LMS data results. When describing the data collection process, the authors state, "honesty and integrity are at the forefront of each project" (section 7, para. 7) and go on to describe the checks and balances they have instituted into their individual LMS method to protect data quality.

For nonprobablistic sampling and the data collection strategies that involve obtaining data from online sources, Van de Bittner et al. (in press) use Notepad onto which they copy and paste the listing that were located without modification and from which they mine the data they seek for their LMS survey questions. The other data collection and preparation techniques the authors apply involve: 1) the use of a LMS summary table to record the results; 2) taking notes by hand or on the computer while talking with the employer; 3) querying the employer to repeat the response if the response was not fully captured; and, 4) using quotation marks if the employer's answers are to be quoted verbatim and not using quotation marks if the information is to be paraphrased. These decisions as to data collection procedures should be made before the LMS begins as a standard protocol for any LMS or specific to each individual LMS if there are specific procedures that are important to a given study. In those instances where the vocational expert and instrument developer is not the same individual collecting the data, these kinds of procedures should be part of the researcher's training and the interviewer should seek consultation if there are questions or issues that arise that may require deviation from the protocol.

Step 9: Analyzing Qualitative and Qualitative Data

Van de Bittner et al.'s (in press) article did not articulate the kinds of data collected from a qualitative and quantitative perspective. However, a close review of their script template as well as their example in the appendix suggests that most of the data collected is quantitative in nature, or can be quantified. With the availability of retail, freeware, and shareware optical character recognition (OCR) and Computer Assisted/Aided Qualitative Data Analysis (CAQDAS) software, indices containing the desired data elements sought in such job listings (e.g., wages, benefits, education, lifting) could be developed for quick sorting, preparation, and processing of qualitative and quantitative data. Depending of the kind of data that

is included in the Notepad file, it is also possible to quantify the data. As noted in the literature (Barros-Bailey, 2012, in press), several low cost or free options exist to analyze quantitative data, particularly to generate descriptive statistics.

Step 10: Summarizing the Data

Given that most of the data derived from the Van de Bittner et al. (in press) LMS is quantitative, it is not entirely clear how it is summarized. For example, in those responses that require dichotomous responses, is the data summarized by how many "nos" and how many "yeses" and reported as such? If some employers give a starting range of $8 to $12 per hour and others give a single amount of $9 per hour, how are these different responses treated in the data summary? If survey questions deal with categorical data, are these scaled for data analysis? What scales are used for intensity, frequency, duration, or other measures? These and other such questions are important considerations in the data summary stage. The vocational expert should give some thought as to how they plan to summarize the raw data collected because this will be important in its reporting.

The authors state what those who have ever performed LMS know: not all employers answer all survey questions. Depending upon the amount and quality of the information obtained from employers, the contact may or may not be included in the LMS. This is an important point for the data summary stage where pre-identified criteria determine what is considered a quality contact. In my description of this step in previous publications (2012, in press), the summarization of the data includes completing a response rate calculator. This step could further include information about the criteria for determining what constitutes sufficient or quality amount of information obtained from an employer that merits the inclusion or exclusion of that contact in the data summary.

There is no agreed standard found in the literature of how to treat these employer contacts, and survey literature about response rates does provide some guidance which would suggest that contacts with incomplete data may or may not be included depending on the amount of data missing and the kind of data analysis being complete.

Step 11: Reporting the Data

If the data collection stage is one where honesty and integrity are pivotal, the reporting of the data also requires an equal amount of ethics. The data of a well-constructed and executed LMS should speak for itself and help answer Step 1, the survey question(s) that the LMS sought to answer. The LMS might be multiphasic, multimethod, or multioccupational. These different approaches may require results in the study of one or more jobs that use different census or sampling strategies. For example, a census may be used for one job (e.g., shoe repair), a probability sample for another kind of job (e.g., glaziers), and a nonprobablistic sample for another kind of job (e.g., receptionists). The reporting of the data may need to explain these different sampling approaches or techniques along with the results. In their reporting of the data, Van de Bittner et al. (in press) state that advertisements are quoted material and should be cut and pasted as they are found. In reporting jobs where employer information is not included in the data, the authors have elected to list the advertisements for information purposes but not to count them in the number of calls made. The authors state that employer contacts sometimes reveal information that may be variable between employers and propose obtaining a wide range of responses. Sometimes conflicting responses cannot be resolved or reconciled no matter how many employers are contacted. The variability should just be reported as such without biasing or dismissing a part of collected results skewing the data towards whatever side is most favorable to the referral source.

The authors state that their LMS report structure is based upon similar reports and identify *LeBoeuf* in particular. In their outline of the LMS report, they detail 13 content areas. Their overview and methodology sections leading the report contain the scope of their analysis and how they will proceed with the report content. This is followed by seven sections ranging from the evaluee's vocational profile to job skills from prior employment. These evaluation themes drive the LMS's research questions, or Step 1 in the LMS model. The LMS script is included next in the Van de Bittner et al. (in press) report format. The script itself assumes that Steps 2 and 7 have occurred. Then, the authors' report includes the preliminary list of occupations. To reach this point in the report, it is assumed that Steps 3, 4, 5, 6, and 8 of the 12-Step LMS Model have occurred. Next, Van de Bittner et al. (in press) list the advertised job openings. It is further assumed that at this stage of the report, if they use a sampling strategy or performing a census, employer contacts are included, which is Step 9 of the LMS model. Finally, their report ends with a summary and conclusions section that likely includes Steps 10 and 12 of the 12-Step LMS Model. How much detail is explained in such a report, the underlying decisions and their criteria for the LMS, and the methodology employed is something that is dependent upon the audience, the jurisdiction, or the vocational expert.

Step 12: Integrating Labor Market Survey Data with Other Labor Market Data

The Van de Bittner et al. (in press) report format ends with a summary and conclusions. Although the LMS data could stand on its own (Barros-Bailey, 2012, in press), sometimes it is helpful to compare it to second-

ary data available through other sources. The authors noted using EDD and Occupational Employment Statistics results in their report. LMS can derive some of the most ergometric and ergonometric information relevant to the evaluee's needs in the most economical method possible (Barros-Bailey, 2012, in press). Secondary occupational and labor market information sources tend to be more econometric in design (Barros-Bailey, 2012), but may provide a broader labor market context that otherwise cannot be economically studied by the LMS due to resource constraints and considerations. At step 12 of the 12-Step LMS Model, the vocational expert offers conclusions about not only the LMS, but also how the data merges with factors from the vocational evaluation that provided stimulus to the research question(s) in Step 1, along with any relevant secondary occupational and labor market information data sources reviewed.

Conclusions, Future Research, and Recommendations

Van de Bittner et al. (in press) describe their LMS process used in California forensic systems that emerged from their use of LMS in clinical practice. Having started my rehabilitation counseling career in California, perhaps their strategy feels familiar to me because it may be that we received similar training in our professional formation. Despite more recent attention to the LMS literature, there is still much we do not know about LMS and its use across practice settings, jurisdictions, regions, or the stages of the rehabilitation process. Yet, from study of LMS case law internationally (Barros-Bailey & Heitzman, 2011), we know that the term is used in a broad range of forensic cases in the United States, Canada, and Australia.

There is yet much research to be performed on LMS, particularly how using survey methodology could improve our ability to perform more valid and reliable LMSs. This is especially imperative in the development of sampling frames and sampling strategies. Neulicht et al. (2007) provided a great start in considering LMS in forensics. Studying the definitions, uses, and applications of LMS across forensic applications would allow us to learn from each other across different jurisdictions and states, and to develop research designs implied by our research questions (e.g., exploratory, explanatory, etc.).

The Van de Bittner et al. (in press) article demonstrates that in at least one group of vocational experts uses the principles of survey methodology as summarized by the 12-Step LMS Model although they may call each part of the process by a different name than is common in survey methods. Learning how survey research terminology and methods describe our processes in LMS could assist us in developing better ways to collect, interpret, and describe the primary occupational and labor market information we need in forensics.

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