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Occupational Information System (OIS)

Request for Comments: Docket No. SSA-2010-0018

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Thank you for the extended opportunity to offer public comments about the new OIS proposed by SSA through the excellent work of the blue-ribbon OIDAP panel. The OIDAP panel is conducting a careful and comprehensive solicitation of stakeholder input across many different industry groups, both public and private. The changes being contemplated are both challenging and necessary to create a more effective resource that is useful in both the SSA Disability Adjudication process and for more effective rehabilitation of claimants through SSA's Ticket to Work initiatives. The upcoming choices to be made by SSA are game changers for the entire disability-related industry, not just for SSA. These comments are limited to structural OIS changes, not changes in the CFR definition nor adjudication policy .

The OIDAP work already undertaken and the work product being contemplated are the most exciting changes I have witnessed in my 37-year career in the vocational industry. My work history includes 10 years of direct client services "in the trenches" in both public and non-profit settings as a VR counselor and vocational evaluator. It also includes 25 years in the private sector as a software designer to build, integrate and deliver innovative software tools. These tools examine the transferability of worker skills, particularly among those who are disabled. SkillTRAN specializes in the integration of supplementary data drawn from a variety of government and proprietary resources to create useful and actionable reports that foster more comprehensive and rapid decision-making for vocational guidance, rehabilitation and the development and support of expert vocational opinion. SkillTRAN's most recent innovation is a peer-reviewed methodology to estimate employment numbers at the DOT level using existing government data resources. Details about this methodology are publicly posted on SkillTRAN's main web page – www.skilltran.com

Computer software alone will never replace the decision-making insights of a claim examiner, ALJ, Vocational Expert or Career Specialist. Yet it can serve up plenty of data to facilitate the decisions ultimately rendered with solid statistical support.

The impact of a new OIS is an opportunity to do a wide range of things "right," specifically for people with disabilities and for those who serve them. For too long, the industry has struggled with difficult and very specific questions, yet had access to a DOT resource with less than specific data elements upon which to confidently build a reliable opinion. Change to a new OIS will be difficult; but it is needed. **Do not be deterred from doing what needs to be done, and do it better than ever.**

Recommendation 1 – A New Occupational Information System: Technical, Legal, and Data Requirements.

Stretching as far back as the Civil War, our country's economic transition from an agrarian society to one with specialized industrial needs has required the assessment of people and the work potential they possess with available work that needs to be done.   Industrial engineering and I-O psychology emerged to perfect the mass production and organizational processes that propelled the country forward. The production demands of world wars and more specialized military occupations required rapid and accurate assessment of people and assignment to appropriate work. Post-war economic boom and bust once again fueled the need for matching lots of people to available training and job openings. Both the military and United States Employment Service (USES) were the primary drivers to better match people with positions.   Yet the focus was strictly based on the needs of the military and of industry to get the best people for their positions. "**Normal" people, that is**.

Only after SSA began to administer disability benefits in the mid-1960's did USES begin to ponder the issue of disability … and only at SSA's prompting (*and funding*). In 1972, the Department of Labor (DOL) published the Handbook for Analyzing Jobs, the first real resource that began to examine occupational characteristics that are relevant to people struggling with various disabilities. With a large data collection effort following these new guidelines, the 4th Edition of the DOT was released in 1977. It was a watershed event. Coupled with the advent of the personal computer, it triggered an avalanche of innovative computer applications to manage and sift through such a massive database document. In 1991, DOL released the Revised Handbook for Analyzing Jobs to disaggregate many discrete physical demand factors that had been rolled up into inappropriate clusters. The impetus to do this came not from DOL; rather it was SSA direction (and funding of the effort) that drove this forward. DOL decided that the DOT was more than it needed for matching normal people to normal jobs. It created an Advisory Panel on the DOT, and in 1998 rolled out the earliest version of O*NET. Despite SSA's repeated subsequent attempts to work with DOL to re-do the DOT, DOL remains committed solely to its new O*NET system, since it works with the general population with which it is funded to serve. While there are some variables in the O*NET system that offer some additional insights that are helpful to persons with disabilities, the occupational groups are so aggregated that little reliable information can be extracted from it for SSA's needs.

The point of this background is simply this: SSA has always been the primary driver behind the disability definitions and the various factors that DOL has (sometimes reluctantly) captured in the DOT data collection process. SSA is in the BEST position to understand its own data needs. SSA should not hesitate to continue to be the primary driver to get the information it needs to make better claim decisions.

Economically, SSA has far too much at stake to not do a great job with the timely administration of disability claims as defined in current law. A new OIS, designed to better answer the many complex questions encountered when adjudicating claims, will ultimately expedite the decision-making process and get benefits to the people who desperately need and are entitled to them. An important by-product of this new OIS can also help people extricate themselves from the disability dependence system through development of new skills and placement into other work for which they have potential, can be trained or re-trained, and for which truly local economic opportunity exists … i.e. vocational rehabilitation and placement.

So the real challenge is indeed to create a new OIS that is objectively built to collect reliable data based on existing and new factors that best define the requirements of today's occupations. The identification of which factors are most needed for disability adjudication and the establishment of solid measurement criteria will take some time, but are essential to establish the constructs and proper measurement techniques. As much as we all want a quick answer or a quick fix, SSA must do this part with meticulous precision to be able to withstand legal challenges later.

In the Spring 2009 Journal article "A Call to Update the DOT: Findings of the IARP Occupational Database Committee" (published in The Rehabilitation Professional by the International Association of Rehabilitation Professionals), many specific suggestions of variables and data collection techniques were offered after a 2 year study by the IARP IODC. A reprint of this article is available at www.skilltran.com/RehabPro_17_2_pp63-84.pdf. The OIDAP has amassed a wealth of additional stakeholder ideas contributed from many professions to expand this list. It would likely be cost-prohibitive to collect data for all of the suggested data elements, so SSA must be guided by the frequency with which it encounters situations in which these kinds of questions must be answered, recognizing that there may still be some grey areas when infrequent disabilities are present.

Data Mining. To be able to more quickly assess changing needs going forward, SSA should take advantage of the enormous amount of data it collects (3+ million annual claims) by capturing, categorizing, analyzing, and mining its own data at the critical steps for every claim. This includes capture of the presenting disability issues, past relevant work history (as noted on the initial claim, as coded by the claim examiner, and as later coded by a Vocational Expert at the hearing level). This kind of information can be used to detect shifts in client population groups served, the kinds of work history most commonly encountered, the (in)accuracy of self-reported work history vs. expert analysis, and the most common factors that must be considered given the frequency of reported disability conditions. Protracted "special studies" would become a relic of the past, as timely, up-to-date, and swiftly extracted information can be obtained from the treasure trove of past claims experience. With plenty of data, patterns emerge that can guide and expedite the

claim decision-making process. In private industry, this is called data mining, business intelligence, and customer relationship management.

Recommendation 2 – Data Elements for the New Occupational Information System

- Keep the concepts of WORK fields, MPSMS codes, and SVP. They are critical elements in the process of analysis of transferable skills.
- Expand the WORK field code system to reflect more precise skill sets. O*NET Tools and Technology (T2) may provide ideas for new groups. SkillTRAN has already done some private research to expand the WORK field code system.
- Retain the MPSMS code system, adjusting it as needed or perhaps morphing it based on the newest NAICS code system and possible UNSPC coding.
- Keep the general concept of SVP, but consider a revision/refinement of it. Consider tying SVP to the Classification of Instructional Programs (CIP).
- Establish that SVP and work skills can be achieved through formal training and education as well as via informal means (crafts, significant leisure activity, and significant hobby and volunteer work).
- Skills represent a reasonably distinct set of specific tasks relevant to perform essential job functions. In reality, a person's "bucket" of acquired skills may exceed the requirements of a particular occupation. The unused skills enable transferability to additional related (and sometimes unrelated) occupations. Capture as much information about the skills required in occupations and present within each individual claimant (person-side).
- Improve anchor points to be consistent with the variable being rated. Anchor points must relate to actual examples of work activity, not to ivory tower constructs with no relevance to work.
- Build on the many great suggestions already made in the IODC paper and submitted directly to OIDAP through in person and written testimony.
- Keep as many of the older characteristic labels as possible, but improve/enhance the definitions and anchor points. This will improve adoption by the disability industry and facilitate learning of the new OIS.
- Keep aptitudes – These are a long accepted, well researched group of constructs that are critical to identifying alternative work potential for vocational rehabilitation efforts. Without relevant aptitudes, certain skills cannot be developed. As the late Gale Gibson noted, skills often reflect aptitudes realized.
- Refine/enrich/expand temperaments – part of the mental/cognitive/social dimensions that must be greatly improved to better adjudicate claims with social and psychological issues. Include adaptability to change.
- Retain and expand the physical demand and environmental conditions.

- Consider capturing discrete physical demand and environmental data at the task level. Calculation of the overall strength and physical demand requirements of an occupation could be made on the aggregate sum of the tasks, with appropriate weighting for frequency and duration of the component tasks. Don't be overwhelmed by the magnitude of such calculations; computer-processing speeds for large database sets are very swift.
- Remove the confusing and sometimes conflicting elements that comprise the Strength rating. Isolate many of these factors into discrete independent, well-defined variables (e.g. sit, stand, walk, lift, push, pull, use leg controls).
- Retain the core GED-RML concepts, but use modern and better examples at each level. Tie to national standards for grade level achievement when possible to facilitate interpretation of achievement test results.
- Add a special dimension (perhaps to GED-RML) to reflect computer literacy skills. This should range from no skill, to basic keyboarding, to basic applications (e.g. word processing, spreadsheet), to sophisticated applications, to hardware repair, to quality assurance testing, to programming, to software design, network deployment, security, and hardware design). With so many skills, it might need to be more like a checklist than a continuum, though a limited continuum might be possible.
- Harvest the occupational data obtained through normal claim processing to detect new and alternate job titles. Be sure to tie these to the new occupational definitions. Tie to self-reported titles in the Census Bureau's Current Population Survey.
- In addition to capturing detailed work history from the claimant, claim examiners, and Vocational Experts, capture the NAICS code for each past employer when gathering claimant PRW. The federal Master Business File is a resource that SSA should be able to use to obtain this information. This is one more method to establish known existence of occupations. It also keeps SSA in touch with the most frequently encountered occupations in claimant PRW. These will be the occupations to most regularly re-visit to assure quality and timely job analysis and occupational definition.
- Carefully study the work of the HR-XML consortium. SSA could be a huge contributor to this open source HR industry group. Adoption of SSA characteristics into a taxonomy widely used by popular resume and job posting software can facilitate the greater capture of information helpful to matching disabled persons to real job openings. SSA could become a significant change agent for how industry reports/structures its data when hiring and posting its job openings. www.hr-xml.org
- Consider using the Data-People-Things (DPT) taxonomy in a new coding structure. The definition of each can be greatly modernized. It should not

pretend to be a hierarchical structure. Many people possess multiple levels of functional DPT skills at several levels within each category.

- Metamorphosis of the DPT concept might be expanded along the lines of Data-Cognitive-Technology-Mechanical-Social-etc.
- Holland interest coding should be captured as this is important for identification of career planning and vocational rehabilitation. There may well lurk relationships among Holland code, DPT, Work Field, and MPSMS.
- Capture a measure of supervision required – self-paced vs. prescribed production rate vs. employee-monitored vs. externally-controlled.

Recommendation 3 – The Classification of Occupations

- Preserve the emphasis on the important distinction between a job position (the tasks of which can vary from one shift to another) and an occupational definition.
- The role of SSA should be to define, collect, and aggregate job analyses to build a reliable new OIS database. The development of software to access this information should be done by experienced software developers who have a firm grasp of the specific needs of SSA and other industries impacted by this new approach to occupational information.
- The aggregation of discrete job analyses gathered from multiple employers to form a new occupational definition will be a challenging process. Clear criteria and homogeneity in observations should be achieved to more accurately consolidate an occupational definition from its member job analyses.
- Before beginning the process of aggregating the many collected job analyses into an occupational definition, clearly delineate the methodology to be followed to "know" when a unique occupational definition is warranted. This may be a function of particular skill set (or groups of skill sets) involving a certain level of complexity with a limited set of industries.
- Revisit the concept of complexity of an occupation. It may be a useful measure based on the characteristics of component job tasks and the number, diversity and/or range of required tasks. O*NET Tools and Technologies (T2) already report more than 38,000 discrete items; this gathered from just the "high demand occupations".
- Avoid over-aggregation like O*NET. Be sure that observed/measured variables have a small standard deviation.
- Collect enough sample job analyses from multiple employers to be statistically defensible.

- Preserve the semantic structure of the DOT definition … lead statement first to summarize the occupation, then follow with the essential functions, written with gerund first, then object. Awkward though it may seem, it does facilitate the recognition of patterns that facilitate the process of transferability analysis.
- List essential functions and job duties first, perhaps labeling them as such. Then show optional "may" statements, describing functions that may not exist in all instances of the occupation.
- Capture information about the more broad skill sets of self-employed persons. This has been a weak area historically in the DOT.
- Add many new occupational definitions in the health care and technology industries.
- SSA will have to determine the "sweet spot" in terms of just how many discrete OIS definitions are needed to adequately reflect the national economy.

Recommendation 4 – Development of Internal and External Expertise for the Creation and Maintenance of the New Occupational Information System.

- SSA is certainly capable of best defining its own data needs. It is new to the process of massive data collection. SSA is encouraged to solicit assistance from a wide variety of government and private organizations to look for creative ways to collect such a large data set.
- Involve experienced professionals in the private sector to learn about research and other very practical initiatives for processes relating to the integration of labor market information, the analysis of transferable skills, and new HR practices (some based on millions of case histories) to pattern match work history with available job openings. This includes techniques for finding the "best" applicants from massive pools of data and pointing one person to current job opportunities that "best" meet their past experience and current skill sets.
- SkillTRAN endorses the concept of using Vocational Experts and other trained/certified/periodically re-qualified professionals to be the "arms and legs" of SSA to go out to appropriate industry locations to collect fresh data.
- The data collection process should take advantage of the use of modern technology to collect, transmit, analyze and appropriately aggregate the collected data. Internal expertise will be needed to confirm and shape the evolving taxonomy.
- The use of externally contracted parties to collect data for SSA will help to defuse the potential quandary of "the fox in the hen house".

- Carefully examine the meticulous work prepared by the US Bureau of Labor Statistics in the realm of long -term employment projections. These projections show differential rates of change for OES occupations on an industry-by-industry basis. With an understanding of multiple and larger economic forces at work, it becomes more clear as to why there are shifts in the need for certain occupations in certain industries.
- Monitor public and private sources of information about new occupations, including the O*NET "New and Emerging" occupations, Tools and Technologies (T2), the Occupational Outlook Quarterly, CIP changes, County Business Patterns, Long-Term Employment Projections, trade journals, and private and public, internet-based resources that spider the web looking for all internet job postings.

Recommendation 5 – Need for Basic and Applied Research.

- SSA will have to set a threshold value for what is a "significant number" of jobs existing for an occupation. The US DOL reports frequencies as low as 100 people employed in an occupation in specific industries. Within regional areas, it reports 50 (sometimes even less) people employed in a given occupation.
- Use existing federal resources and private resources to comb through massive amounts of information about employers and current job openings.
- Not all job openings are posted on the internet, so be prepared to dig through the federal Master Business File to target certain employers for job analyses.
- SkillTRAN technology can help SSA identify which industries are the most likely to employ certain kinds of occupations. A combination of various private resources with SSA's access to the federal Master Business File will help to quickly identify likely employers for specific occupations. Combined with analysis of real job openings posted on the internet, the existence of specific occupations can be reliably established.
- SkillTRAN's latest technology innovations in the estimation of existing DOT employment numbers using standard government data resources can help to identify the estimated frequency with which DOT occupations exist in the national, state and regional economies. This same technology can be used to identify the most frequent estimated occupations, and the least frequent. This kind of information can guide SSA as to which occupations/groups to analyze first and also which to discard due to low frequency.
- The 12,761 occupations listed in the existing DOT all existed at some point in time. However, the ravages of time, technology, automation, out-sourcing and off–shoring have significantly altered the U.S. economy. Many discrete DOT occupations no longer exist and should be eliminated from the new OIS.

- Some DOT occupations have been consolidated into a utility position, which significantly alters the requirements placed on the worker.
- Obsolete DOT occupations must be identified and discarded from the new OIS. Mechanisms should be in place to detect newly obsolete occupations.
- Sometimes simple accommodations made for a disabled worker in a RTW program result in transformed methods or working conditions for all similar employees in a particular company. It is not unusual for an accommodation of a disabled worker to become "Standard Operating Procedure" at an employer's place of business because it makes the job easier or more efficient. Well-qualified job analysts (VEs, PTs, OTs, Ergonomists, Safety Engineers, etc.) may discern ways in which job performance factors could be easily accommodated during the conduct of an on-site JA. While not part of the OIS, this information could be very useful to subsequent VR RTW efforts and could be captured in some way.

Recommendation 6 – Measurement Considerations.

- Take non-disruptive videos/photos of people performing jobs, particularly for production-oriented occupations. These can be used for training and recalibration sessions to improve inter-rater reliability. They might also be helpful in career exploration during TTW vocational rehabilitation.
- Use available standard push/pull and other physical instrumentation to actually measure forces and working conditions involved in performing an occupation. When possible, objectively measure factors such as weights lifted/pushed/pulled, distances carried, decibel levels, and such.
- Capture the number of hours typically worked in a job. Discover dependencies such as fluctuation due to weather, company contracts, off-shoring, technology, seasonality, etc.
- Document supervisory responsibilities.
- Are vehicles operated? Describe and note any special training required.
- Use SS Vocational Experts as a resource for conducting on-site job analyses. Compensate these professionals properly and fairly. Unless not physically able to do so, consider requiring "x" number of on-site analyses per year to keep them connected to what is really going on in industry today.
- Ask about hours worked, shifts, absenteeism, and tardiness.
- Train job analysts over the Internet. The IARP IOTF and DOL proved the effectiveness of this approach in 2000/2001.
- Test/certify job analysts using internet-based technologies.
- Periodically recalibrate the job analysts (observe and rate standard video segments) to be sure that assigned ratings remain stable.

- Accept job analyses collected from State workers compensation agencies and insurers. Be sure that the format meets SSA specs – or send out a second analyst to collect just the missing information to complete the OIS protocol.
- Establish a minimum number of new job analyses per occupational definition.
- Let NO occupational definition be published without fresh job analyses.

Recommendation 7 - Communication with Users, the Public, and the Scientific Community.

- **The new database of occupational definitions and the related occupational characteristics <u>must be in the public domain</u>.**
- As prototypes and final definitions of the existing and new data elements are identified, SSA should disclose these choices so that software developers have sufficient lead-time to develop applications to take advantage of this rich new set of information.
- Be as specific and concrete as possible when describing new concepts.
- Use terminology familiar to stakeholders, then expand on these known concepts and existing framework to introduce aspects of the new content model.
- Flesh out the new content model with easy to understand examples of observable and common criteria.
- Emphasize SSA's enormous budgetary and staffing commitment to really "get it done" this time. **<u>Too many prior false starts feed skepticism.</u>**
- Build and disseminate a timetable and overall work plan. Be aggressive, but realistic, too. This is a major effort that will take significant time to achieve.
- Comprehensive, new training materials will need to be developed. Use web-based training tools to more economically bring stakeholders up to speed.
- Commit to maintaining the new OIS on an ongoing basis. The economy continues to change; so must the OIS to best reflect the increasing demands placed on the worker by new technology, consolidation of function, and automation.
- **<u>Extend the offer of vocational rehabilitation services to applicants at the point of initial claim, NOT post-claim decision.</u>** The odds of successful RTW plummet the longer the delay between onset of disability and RTW. Concurrent participation in rehabilitation/retraining activity parallel to the claim process will help to preserve claimant dignity and work ethic, and just might sometimes lead to RTW instead of permanent dependency on the disability benefit system.

Conclusion

SSA should not flinch in its critical role to define what it needs. SSA should expand and refine the existing set of occupational data variables with better, more measurable methods and instrumentation of solid constructs.

Retain as much of the familiar language as possible to ease the transition, minimize training, and increase the acceptance rate among the many diverse stakeholder groups. It has taken a long time to build a reasonably common language across many different medical, health, and vocational realms. Build on that shared foundation rather than totally reject and rebuild. Much of the resistance to O*NET can be attributed to total disregard for variables and constructs that had worked reasonably well in the DOT system.
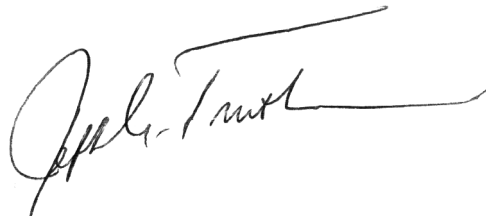
Keep the general concept of WORK fields, MPSMS codes, and SVP as the core mechanism to approach transferability, but modernize and expand them to reflect the greater diversity and complexity of required skills and technology. Consider adding real or implied CIP training and licensure as part of the transferability mix. Consider O*NET Technology and Tools (T2), NAICS codes, and UNSPC as resources in this process.

SkillTRAN technology can help SSA to:
1. Identify high frequency occupations
2. Identify low frequency occupations
3. Identify likely industries (and minimum company size) for targeted JA
4. Build data collection applications
5. Help analyze/mine the newly collected OIS and archived DOT, O*NET, and other data

Thank you for the opportunity to share some ideas for building a better OIS. These suggestions flow from nearly 4 decades of applied daily experience with thousands of clients and customers nationwide. There is much work to be done and a variety of ways that can be used to better manage the workflow. SkillTRAN desires to assist SSA in the evolution of this critical project. Please let us know how we can help going forward.

Sincerely,

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