# Social Security Administration

# *WORKING PAPER*

# *What is a Content Model?*

June, 2009

**Social Security Administration**

**This working paper was prepared by the staff of the Social Security Administration's Office of Program Development and Research in the Office of Retirement and Disability Policy for the Occupational Information Development Advisory Panel.**

### *What is a Content Model?*

The Social Security Administration (SSA) is developing a new Occupational Information System (OIS) designed to provide SSA with a long-term replacement for the information that it currently obtains from the <u>Dictionary of Occupational Titles</u> (DOT) and companion volumes, including the <u>Selected Characteristics of Occupations</u> (SCO) and <u>Revised Handbook for Analyzing Jobs</u> (RHAJ).

SSA needs a new database that is optimized for its disability assessment and adjudication purposes. This document provides an overview of the kinds of information that will be contained in the new OIS – i.e., its *content model*. Detailed specifications regarding the information that will be included, and the data-collection instruments that will be used, will be developed later in consultation with an internal SSA workgroup, the Occupational Information System Development (OISD) Workgroup and the external Occupational Information Development Advisory Panel (OIDAP).

Three main issues are addressed in this document:

- What is a content model?
- What does a content model mean for SSA?
- What input will SSA be seeking from the OISD Workgroup and the OIDAP?

### *1.     What is a content model?*

In general, the term "content model" refers to the totality of data elements on which each of the entities in the new OIS database will be described. In our case, these entities are *occupations*, each being defined at a level of specificity that is optimal for use in SSA's disability programs.

We have determined that the level of aggregation used in the SOC and O*NET title taxonomies is too abstract for SSA's disability purposes. We therefore seek to describe occupations at a level that is more specific than the relatively small number of titles in the SOC taxonomy, but less specific than very large number of titles described by the DOT.

Each occupation will be described using attributes drawn from the two major domains of content that make up the "world of work."  That is:

- **Person-side elements:** These describe characteristics that individual *workers* bring to the job situation (left side of Figure 1) that may be involved when performing the job successfully. These can include relatively stable personal traits like abilities, interests, aptitudes, and temperaments, as well as more trainable characteristics like experience, knowledge, and skill. However, the important point is that person-side elements describe *characteristics or properties of a human being*.

- **Job-side elements:** These describe the *work activities* and related demands (right side of Figure 1) that the job requires of workers. These include tasks, duties, responsibilities, and contextual characteristics such as environmental conditions or hazards. The essential point for job-side elements is that they describe *characteristics or properties of the work itself*, without reference to the personal traits of individuals who perform the work.

As shown in Figure 1, person- and job-side elements vary considerably in terms of the degree of *specificity* at which they are defined. The level of specificity has important implications regarding the processes that are used to measure individual elements of the content model.

## 2.     *What does a content model mean for SSA?*

On either the person- or job-side of the world of work summarized in Figure 1, the number of possible descriptive elements that could be identified for inclusion is infinite. Accordingly, to develop a practical content model, we must specify which types of information are essential for SSA to have in order to effectively administer its disability programs, versus which types of data are not essential for our purposes.

### A.     *What must be in it?*

SSA will require the new OIS content model to contain information that spans a wide range of specificity on both the person- and job-side domains. That is, some of SSA's uses of occupational information require relatively abstract data. For example, at step-five of the sequential disability determination process, SSA currently needs the ability to identify occupations that require a level of gross physical activity that is consistent with an individual's overall physical residual functional capacity, or RFC (e.g., "sedentary" work, using the DOT Strength scale).

In contrast, for other uses we require more specific information. For example, adjudicators may need to consult the detailed, task-level information provided in the narrative DOT description of each occupation (bottom level of the right side of Figure 1) when determining which occupations provide the best match to the activities performed in an individual's prior work history. Likewise, for the occupational title taxonomy used in the new OIS, it will be necessary to monitor the degree of within-title variability that

exists with respect to moderate-specificity activities (the middle levels of Figure 1) performed by the various DOT-level occupations in the title to ensure that within-title variability is minimized over time as jobs evolve.

Moderate- and high-specificity information is also currently used during the RFC assessment process. That is, although currently the "grid" system bases determinations on relatively low-specificity information – such as the "sedentary" versus "light" overall Strength distinction – when assessing the RFC of individual claimants, the assessment is performed with respect to the person's ability to perform much more specific physical functions. This information is then aggregated to determine the individual's overall RFC at the more abstract level considered in the "grid" tables.

It is important to note that the current DOT-based systems used at SSA describe only a portion of the range of information illustrated in Figure 1. That is, on the job-side, the DOT narrative descriptions capture the most specific level, and the various RHAJ rating scales describe occupations in terms of the more abstract elements such as Strength, and the overall levels of the Data, People, and Things functions.

However, the DOT lacks coverage of the moderate-level of specificity that lies between these extremes, and such information may be extremely useful for SSA in the future. For example, in addition to being able to identify occupations a claimant could perform at step-five of the sequential process by focusing only at the macro-level of functionality seen in the DOT Strength rating, it is desirable for occupations to be described in terms of the same types of detailed elements that are evaluated in the RFC questionnaire. This would allow a much closer tailoring of residual functional capacity to the actual requirements of occupations, and ease the burden of making and defending step-five determinations/decisions.

Likewise, on the person-side, the current DOT-based system focuses heavily on describing worker-trait requirements in terms of highly abstract traits, such as the Temperament, GED, and similar scales. Although this is useful, SSA would benefit from having the additional capability to match individuals to occupations in terms of worker-trait requirements that are specified at a more specific level of analysis.

This is especially important with respect to the logistical aspects of the RFC assessment process. That is, if in the future standardized assessment tests are included in the evaluation process to measure various physical, mental, or interpersonal abilities in applicants, SSA must have the ability to directly tie the results of these medical or psychological assessments back to the requirements of occupations, using the same traits. Under the current DOT-based system, the moderate-specificity level of person-side requirements receives only modest coverage in the physical domain of functionality, and little or no coverage in the cognitive or interpersonal domains.

## B.      What is not included in it?

As was noted above, there are many types of content that *could* be included in the content model for a new OIS, but which are not directly useful (or desirable) in the context of SSA's disability programs. For example, the content model specified for the O*NET describes a wide range of person-side characteristics that, while of value for career exploration, would be of little use to SSA. For example, work values, work styles, and occupational interests have little utility with respect to addressing the core question addressed in SSA's disability programs – that is, given an individual's severe medical impairment(s), is the individual capable of performing any meaningful work[1] in the economy? Issues involving vocational guidance or occupational preference do not directly relate to this goal.

Likewise, on the job-side, the O*NET content model includes a range of information that is useful for some applications, but that is clearly not central to SSA's mission. For example, although SSA does need to have information regarding the degree to which various occupations exist in the national economy, specific labor market information such as wage rates or occupational outlook is not essential.

Arguably, even some of the content now described by the DOT may not be necessary to retain in the new OIS content model. For example, on the person-side, it may be argued that many of the traits that focus on interests, personality, and temperament are primarily useful to *employers*, who are seeking to identify the *best possible applicant* from a larger pool of applicants, all of whom may be able to perform the occupation at a minimally acceptable level. SSA, in contrast, is focused on the minimally acceptable issue: what is the minimum required to perform the job.

On the job-side in light of the high cost associated with collecting and maintaining such information, one can question the degree to which it is necessary for the new OIS content model to describe each occupation in terms of a lengthy, detailed task narrative, as was done by the DOT. Certainly, SSA adjudicators need to be able to compare an individual's past work experience or skills to those of other occupations that fall within the individual's residual functional capacity to perform. Therefore, the skills required for the occupation are critical information. However, highly detailed narratives about the occupation must be custom-written for each occupation, and one might question the cost/benefit utility of continuing to collect such detailed data. Perhaps data collection resources would better be devoted to collecting a broader range of moderate-specificity information and updating the database more frequently over time.

---

[1] That is, substantial gainful activity.

### 3.    *What input will we be seeking from the Workgroup and Advisory Panel?*

As we have briefly summarized above, many issues must be addressed during the process of developing and finalizing the content model that will form the conceptual foundation for the new disability-focused OIS.  Over the upcoming months, SSA will consult closely with the OIDAP and the OISD Workgroup regarding a range of issues, such as those cited in this partial list:
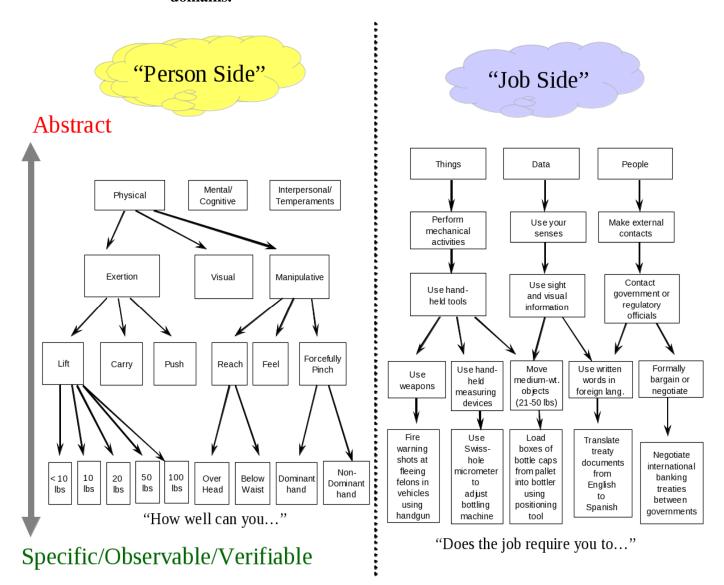
- What moderate-specificity elements, on the job- and person-side, should SSA consider including in its OIS?
- Are there conceptual frameworks in which these moderate-specificity elements can be grouped and, if so, what are they?
- What degree of specificity should be described for the elements on the job-side of the content model?
- How can SSA ensure that the language of its OIS content model reflects terminology common to human medical and functional assessment?
- What degree of specificity should be described for the elements on the person-side of the content model, both in the OIS database and in the RFC assessment process?
- How can these elements be described so that they can be readily associated or compared with an individual's physical or mental functioning or with an individual's vocational profile?[2]
- Should SSA consider including demographic elements describing job incumbents' age, education, and work experience for policy development purposes? What other data might be useful for us to collect for such purposes?
- To what degree should the person-side domain be expanded beyond its current focus on physical abilities?
- To the extent that the content model will include worker traits and work demands that SSA did not have access to before, what will SSA need to consider regarding claimant information it may need to make the best use of this new occupational information?
- What information should SSA include regarding general accommodations available within and among occupations or industries that offer workers options for perform the core tasks, such as a sit/stand option?

---

[2] SSA assesses individuals' vocational profiles using occupational information. For example, SSA compares the individual's work experience with the skills required for an occupation to determine/decide if the individual can do other work given the physical or mental limitations resulting from his or her impairment(s). It may be valuable to gather language requirements, such as the extent to which communication in English is required to perform the occupation, as well as literacy requirements for the occupation.

**Figure 1.   Levels of data specificity within the "person side" and "work side" domains.**