Determining Physician Level of Service with SNOMED RT
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Abstract. Preliminary results from the application of SNOMED RT coding to a set of clinical findings indicates that SNOMED descriptive logic provides a promising platform for coding physician level of service. The inherent descriptive definitions of SNOMED terms frequently include E&M scoring requirements. Our initial findings indicate administrative coverage for determining physician level of service is not as rich as clinical coverage, but the prospect of using a single vocabulary for both purposes is appealing.

Background. The current complex Evaluation and Management (E&M) coding system has resulted from the Health Care Financing Administration’s press to develop a more equitable physician reimbursement system and control the growth of Medicare expenditures. The E&M coding rules have grown in complexity since 1992 with greatly expanded descriptions, progressing in 1995 to documentation by body system/area, then in 1997 to include documentation scoring by examination method and anatomic location. Since these guidelines are primarily a combination of organ system or body area, examination method, topography, and finding modifier, we believe the hierarchical nature and descriptive logic of SNOMED can facilitate classification of findings for E&M coding in a system we are developing to record structured clinical notes. This article describes the preliminary results of a SNOMED based approach for coding structured findings to quantify the level of E&M services for purposes of billing.

System Description. In general, we first code the finding clinically (e.g., the physical exam finding of a heart murmur is coded as “Cardiac murmur 88610006”). If the finding is in the physical examination, we would code the finding administratively using both the 1995 and 1997 rules (http://www.hcfa.gov/medlearn/emdoc.htm). The objective of administrative coding differs from those of clinical coding. For clinical codes, we want the most specific term in SNOMED that fits the finding, but for administrative codes we traverse the hierarchy of the finding for the least specific code that still defines whether the finding contributes to calculating level of service. For example, the SNOMED hierarchy for cardiac murmur includes the following:

- Is a “Cardiac Auscultation Finding 106070007”
- Associated topography “Cardiovascular System 113257007”

For this finding, these SNOMED codes are sufficient to know if the finding would score a point for both the 1995 and the 1997 E&M guidelines. The “associated topography” code is sufficient to assign the finding to the cardiovascular system for 1995 scoring and the “is a” code is sufficient to assign cardiac auscultation finding to a bullet point under the 1997 cardiovascular exam, “Auscultation of heart including sounds, abnormal sounds and murmurs”.

In addition to findings, the administrative coding of qualifiers can also be important for quantifying level of care. For example, scoring in the History of Present Illness (HPI) section requires specification of details of the illness. In some cases these may translate directly into an HPI score, as does the SNOMED RT code, “Duration 103335007”.

Evaluation. We have profiled about 400 findings and 200 associated modifier lists to date. These represent only a subset of a more comprehensive data set. Our preliminary results indicate the descriptive logic of SNOMED facilitated coding of about 60-80% of the findings in the data set. For the remaining 20-40% that the descriptive logic was insufficient, administrative codes were explicitly assigned if E&M scoring applied to the finding. Compliance office staff became the final arbiter in these decisions. For example, the descriptive logic for “chest pain” does not point to any organ system. In the manual coding system the finding could have been assigned to the cardiovascular, respiratory, musculoskeletal, or gastrointestinal system based on the physician’s concluding impression. In the proposed system, findings will be prospectively coded so we assigned this finding to the most common system with which it is associated, Cardiovascular System, coded in SNOMED as “Cardiovascular system 113257007”.

Conclusion. Although not comprehensive, SNOMED leads in coverage of clinical codes. We suggest that the descriptive logic inherent in SNOMED presents a promising prospect for administrative coding.

References