

MEMORANDUM (DRAFT)

DATE: August 17, 2011

TO: HIT Standards Committee
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FROM: Chairs of the Clinical Quality and Vocabulary Task Force Workgroup
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SUBJECT: Summary of Work and Proposed Recommendations to the HIT Standards Committee on the 23 Categories of Clinical Concepts [Data Elements] for use in measures and EHRs

ISSUE:

This memorandum provides a summary of the work completed by the Clinical Quality and Vocabulary Task Force Workgroup and a set of proposed recommendations for consideration by the HIT Standards Committee.

BACKGROUND:

The Clinical Quality and Vocabulary Task Force Workgroup proposes a list of recommendations that specifically address the 23 categories of clinical concepts [data elements] as defined and proposed by the Quality Data Model version 3.0 (QDM). (See attached QDM Spreadsheet). Each concept has been thoroughly discussed and recommendations have been agreed upon amongst the Clinical Quality and Vocabulary Task Force Workgroup members over the course of six weeks (from mid-June to July 2011). It has been recognized that many vocabulary standards exist; however, it is the mission of the Clinical Quality and Vocabulary Task Force Workgroup to evaluate and further recommend the minimum set of vocabulary standard(s) that would apply to each data element for the purpose of reporting clinical quality measures to CMS

The Clinical Quality and Vocabulary Task Force Workgroup convened on a regular basis to explicitly address the 23 categories of concepts. Each category had been assigned recommended vocabularies based on clinical taxonomy evidence and subject matter expertise contributed by the workgroup members themselves as well as invited Standards Development Organizations and others. It is to be noted that the Workgroup then proceeded to address the concepts and their

corresponding recommendation(s) line-by-line. Thorough discussions occurred weekly to ensure that each concept was properly vetted, taking into account the expert opinions and objective evidence in an effort to apply the minimum set of vocabulary standards necessary. Verbal consensus among the Workgroup was achieved on each call for the concepts that had been discussed in an effort to finalize the draft recommendations. Please refer to the attached Code Sets spreadsheet for further detail of the concepts [data elements] and their corresponding recommendations.

PROPOSED RECOMMENDATIONS:

Proposed recommendations for the following 23 categories of concepts are brought forth by the Clinical Quality and Vocabulary Task Force Workgroup for consideration:

1. Adverse Effect

The concept of “Adverse Effect” is inclusive of Allergic and Non-Allergic Adverse Effects. The vocabulary standards that have been recommended and would apply are the following:

- Rx Norm for Medications that caused adverse effect
- SNOMED-CT for Non-Medication Substances that caused adverse effect
- SNOMED-CT for Adverse effect itself

2. [Patient] Characteristics

The category of [patient] “Characteristics” includes the concepts of Age, Gender, Socio-economic Status, Ethnicity, Race, and Smoking Status; all of which refer to specific factors about a patient, clinician, provider or facility. The vocabulary standards that have been recommended and would apply are the following:

- ISO 639-2 for Preferred Language
- CDC PHIN-VADS HL7 for Administrative Gender
- CDC PHIN-VADS HL7 Race and Ethnicity (use broadest range of code sets within CDC listed for Race, Ethnicity, or both combined)
- LOINC-For assessment instruments, (including tobacco use)
- SNOMED-CT-Appropriate Responses to Instruments (including patient preferences and behaviors)
- (Socio-Economic Status is being further defined by CMS.)
- Payer Typology of the Public Health Data Standards Consortium for characterizing payers

3. Communication

- SNOMED-CT

4. Conditions, Diagnosis, and Problems

- SNOMED-CT

5. Device

- SNOMED-CT

6. [Non-Laboratory] Diagnostic Study

- LOINC for specific study name
- SNOMED-CT for appropriate findings
- UCUM for specific units of measure

7. Encounter

Encounter was considered to include patient-professional interactions that are not limited to face-to-face or billable clinical encounters.

- SNOMED-CT

8. [Patient] Experience

- LOINC for assessment instruments
- SNOMED-CT appropriate responses

9. Family History

- LOINC for assessment instruments
- SNOMED-CT appropriate responses

10. Functional Status

- ICF (International Classification of Functioning, Disability and Health) for categories of function
- LOINC for assessment instruments
- SNOMED-CT for appropriate responses

11. Health Record Component

“Health Record Component” refers to an element of a health IT application.

- LOINC for naming of the components and for their relationships
- HL7 for the messaging among systems.

12. Intervention

“Interventions” forms one end of a spectrum with Procedures.

- LOINC for interactions that produce an assessment or measurable results
- SNOMED-CT—for appropriate results and interventions that do not produce measurable results (e.g., counseling)

13. Adverse Effect other than Allergy (intolerance)

- RxNorm for medications and inert ingredients associated with the adverse effect
- SNOMED-CT for Non-medication substances associated with the adverse effect
- SNOMED-CT for the adverse effect

14. Laboratory Test

- LOINC for the test name and its results.
- SNOMED-CT for applicable results values
- UCUM for units of measure

15. Medication

- RxNorm for medications
- CVX for vaccinations (acknowledging that vaccinations are treated as medications in some contexts and as a separate category in others)

16. Physical Exam

- LOINC for assessment instruments
- SNOMED-CT for appropriate responses

17. [Patient] Preference

- LOINC assessment instruments
- SNOMED-CT for appropriate responses

18. Procedure

- SNOMED-CT

19. Risk Evaluation

- LOINC for evaluation instruments
- SNOMED-CT for appropriate responses

20. Substance (non-medication)

- SNOMED-CT

21. Symptom

- SNOMED-CT

22. System Resource

“System Resource” refers to the configuration of an organization (e.g. nurse staff ratios, availability of durable medical equipment, health information technology infrastructure and capabilities, etc.).

- LOINC for healthcare resources (e.g., staffing)
- HL7 for EHR functions
- SNOMED-CT for equipment

23. Transfer

- SNOMED-CT

TRANSITION PLANS

Current EHR products and quality measures utilized in public and private sector programs today, do not necessarily use the recommended code sets for embedded measures. In order to allow for a transition period, some measure concepts will need interim code set recommendations. The combined working group will present at least preliminary recommended transition plans to the HIT Standards Committee at its September meeting.

CONCLUSION

We believe that these recommendations comprise a minimum necessary set of vocabulary standards that will enable effective expression of quality measures and interoperable electronic health record data elements.

Glossary of Vocabularies/Standards

ISO 639-2- Codes for the representation of names of languages — Part 2: Alpha-3 code, is the second part of the ISO 639 standard, which lists codes for the representation of the names of languages. The three-letter codes given for each language in this part of the standard are referred to as "Alpha-3" codes.

CVX/MVX- The CVX code is a numeric string, which identifies the type of vaccine product used. The MVX code is an alphabetic string that identifies the manufacturer of that vaccine. Taken together, the immunization can be resolved to a trade name (the proprietary name of the product).

ICF-International Classification of Functioning, Disability, and Health is a classification of the health components of functioning and disability.

HL7 EHR System Functional Model-*The HL7 HER System Functional Model* provides a reference list of functions that may be present in an Electronic Health Record System (EHR-S). The function list is described from a user perspective with the intent to enable consistent expression of system functionality. This EHR-S Model, through the creation of Functional Profiles, enables a standardized description and common understanding of functions sought or available in a given setting (e.g. intensive care, cardiology, office practice in one country or primary care in another country).

LOINC-Logical Observation Identifiers Names and Codes (LOINC) is a database and universal standard for identifying medical laboratory observations. LOINC applies universal code names and identifiers to medical terminology related to the Electronic health record. The purpose is to assist in the electronic exchange and gathering of clinical results (such as laboratory tests, clinical observations, outcomes management and research).

Payer Typology- Payer Typology is a standard that allows consistent reporting of payer data to public health agencies for health care services and research.

PHIN-VADS- the CDC Public Health Information Network (PHIN) Vocabulary Access and Distribution System (VADS) that supports the standards based vocabularies of the PHIN to promote semantic operability and exchange of consistent information. A web based resource provides a system for accessing, searching, and distribution of vocabularies used within PHIN.

RxNorm- *RxNorm* provides normalized names for clinical drugs and links its names to many of the drug vocabularies commonly used in pharmacy management and drug interaction software, including those of First Databank, Micromedex, MediSpan, Gold Standard Alchemy, and Multum. By providing links between these vocabularies, RxNorm can mediate messages between systems not using the same software and vocabulary.

SNOMED-CT (*Systematized Nomenclature of Medicine--Clinical Terms*) is a comprehensive clinical terminology, originally created by the College of American Pathologists (CAP) and, as of April 2007, owned, maintained, and distributed by the International Health Terminology Standards Development Organization (IHTSDO), a not-for-profit association in Denmark.

UCUM-*The Unified Code for Units of Measure* is a code system intended to include all units of measures being contemporarily used in international science, engineering, and business. The purpose is to facilitate unambiguous electronic communication of quantities together with their units.

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