

Vocabulary Task Force

September 1 and 2, 2010

Stanley M. Huff, MD

Intermountain Healthcare

Salt Lake City, Utah

THEMES/QUESTIONS

Overall questions

1. What are the requirements for a centralized infrastructure to implement “one-stop shopping” for obtaining value sets, subsets, and vocabularies for meaningful use?

There should be a government maintained website where we can download versioned copies of value sets, subsets, and terminologies. It should be possible to easily download a single value set, a list of value sets, or all value sets. The site should also support download of Meaningful Use terminologies. We should be able to download a complete version of a terminology or just updates to the terminology since a given date. Ideally, the terminologies could be downloaded in a common format so that tools that download and integrate the terminology into the local environment can be identical or very similar, so that I don't have very different processes for SNOMED CT, LOINC, RxNORM, FIPS codes, etc.

2. Which requirements or functionalities are urgent, i.e., absolutely required to support “meaningful use”? Which would be most useful immediately? What would be a staged approach over time to get to the desired end state?

The most urgent need is for maintenance and download of versioned value sets. Subsets could come later, as could the download of the terminologies.

Detailed Questions

3. Where are you using value sets and subsets? For what domains? How many value sets and subsets?

We use value sets and subsets in nearly all of our clinical systems. We use them in our EMR systems, in quality assurance and quality improvement, in clinical decision support, and in the collection of research data.

4. In your experience with creating, disseminating, updating and/or using value sets, subsets, and entire vocabularies, what works and what does not work?

Allowing for the use of synonyms for concepts in the value set makes it easier to please clinical users.

One of the most important principles is making value sets easy and intuitive for clinical users. This often means a fair degree of pre-coordination in the concepts in the value set.

5. What human resources does it take to implement and manage value sets, subsets, and entire vocabularies? Informaticists? Clinicians? IT people? How are you organized?

We have 7 full time employees that maintain models, terminology, and value sets for our production systems. We have 7 full time employees that are working on development of terminology and value sets for our new next generation EMR system. The team members are technologists, nurses, pharmacists, and physicians, all with either formal medical informatics training or years of experience in HIT. We have a single team that manages our clinical models, value sets, and terminologies.

6. What national resources and services could be leveraged to reduce the level of effort required for local implementations? What is the irreducible minimum of local work at an implementation site, or within an organization or system?

Having a single location for downloading value sets and terminologies would be a big help.

What is your maintenance process? How do you manage updates?

7. What metadata do you maintain and how do you maintain versioning?

We maintain a log of each action that changes the content of any terminology element. The log records the previous version of the item, the date and time of the change, and who made the change. We version each item with timestamps of when it became active and when it became inactive.

8. Is there a difference between versioning for clinical documentation vs. versioning for reported measures, i.e., when do you go live with a change in

the EHR vs. when do you use the new version for measures?

We do not distinguish different versions for different purposes. However, we can have software or decision support software specify the particular version of a value set that it should use if there is a need.

9. How do you manage versioning in clinical decision support vs. changes in value sets?

If needed, we can have the decision support software reference a specific version of a value set. In the general case, we record a timestamp for when the decision support software executed, and because of the timestamps associated with the items in the value set, we know the exact contents of the value set at the time the clinical decision support software was run.

10. How does an application know which value set is for which purpose? How is the specific context for a value set maintained at the message data element level of specificity? How is the English language intent of the value set context documented and maintained?

The value sets are specifically referenced from clinical models or decision support logic. In a sense, the value set does not know where it is used. Models, rules, applications, etc. contain specific references to the value sets that they use.

11. What are lessons learned about web links vs. storage of the vocabulary or other artifact in a physical repository?

We always store the value sets and terminology locally. This is for performance and availability reasons, but also for maintenance of the local changes and mappings that are essential for clinical use.

12. How do you manage distribution of updates to multiple sites?

We have files that contain packaged updates that are moved to each site and the updated is executed against each environment at that site (development, test, and production) as appropriate.

13. Where is local customization appropriate and how much customization is acceptable?

Ideally, addition of concepts to a value set should happen centrally, but in rare cases concepts need to be added locally. Addition of local synonyms and mappings to local codes are essential.

14. How do you manage distribution of updates with local variations and optionality? Unique subsets? Local mappings?

A given concept, synonym, or mapping is either centrally owned or locally owned. Centrally owned items cannot be changed locally, and local items cannot be changed by the central authority. If locally added items clash with centrally added items, it is the responsibility of the local site to resolve the issue, usually by replacing the local item with the new central item.

15. What has to be local in an EHR implementation vs. what can be external in a vocabulary repository?

I don't know of anything that could be external at the current time. This might change as networks and cloud computing continue to improve.

16. What functions are required that users have not yet appreciated?

There is the need for adding user interface specifications to a value set to make it easy to use. You need to add synonyms, add display information like font and size, and sometimes order the elements in the list to have the most common items first in the list. You need to have very fast ways for users to find the item that they need in the value set.