



Another Turn of the Wheel: Circling back to our standards roots

Gavin Tong

Gavin Tong, Standards and Interoperability Editor, is a Director with Gordon Point Informatics Ltd. in Toronto, Ontario.

The common theme throughout this year's standards articles has been the various business and technical challenges of connecting the "last mile" of the EHR to point of service applications such as EMRs. However, it was Brian Shorter's article "A Commentary on Information Management Today" (2nd Quarter, August 2009), which gave me the greatest reason to pause and reflect. In his article he reminded me of a system design mantra I haven't used in a long time, "Collect data once, use many times."

The last 4 years have been a whirlwind of activity to implement eHealth systems. In our push to get these systems implemented and used by clinicians we have softened our stance on the standards for the data content in those systems. Often that meant capturing the data in free text or home-grown pick lists - ideally developed by clinician teams at least! Unfortunately, neither option resulted in data that could be easily coded in the background and employed for Health System Uses (HSU) such as health system planning and performance. While this may have not been the ideal approach to support the "collect once, use many times" mantra, it did allow for quicker implementations under pressures to prove they could deliver clinical benefits first and foremost.

As Brian aptly points out though, this rush to implement systems without thinking through the secondary uses of the data is short-sighted. Looking ahead, we can expect to see growing demand to derive the full benefits from our eHealth implementations, which will require clinicians to capture data in a structured manner that can be coded behind the scenes. Only then can we provide the decision support and alerts that will deliver true clinical benefit and increase patient safety; only then can we re-use that same data for research and other secondary uses. However, this is where we bump into the challenges of designing systems that allow clinicians to easily capture coded data.

The most popular method for balancing the ease of data entry with the ability to capture coded data seems to be templates. Templates are an excellent way to enforce a standard for capturing disease or procedure specific information where the scope of possible values is already fairly constrained. We've seen many successful template implementations for chronic disease management and synoptic pathology reporting. However, when information capture is not constrained to a specific disease or procedure, such as when a patient presents to their GP with a host

of complications, we need other means to codify the clinician's narrative.

Applications such as EMRs or an ambulatory care record capture a much richer set of data because of the wide range of symptoms, diagnoses and interventions that patients may have. The need for specificity in the data set leads to a very long list of possible values for these key data elements. The possible set of values is further increased due to the fact that clinicians may use multiple synonyms to express the same concept. If you throw in the need for specialists to use those same systems, the possible value set for the key concepts becomes very broad, deep, and highly variable from one clinician to the next.

When faced with a complex challenge such as this, it is tempting to employ the 80/20 rule. The logic is simple; if we can get clinicians to agree on the terms they use 80% of the time and put them into a pick list then we've solved 80% of the problem. However, past experiences demonstrate that if a clinician can't find their preferred term in the pick list 20% of the time, then they'll abandon the system. The most common work around to this problem is to give the end-user the ability to enter their missing values as free text and it will appear in the pick list the next time they use the system. Unfortunately, the newly created term is not mapped back to a standard code set, which means the information cannot be used for any of the key clinical benefits beyond simple electronic capture of information.

In order for EMRs to collect data once and use many times, we have to find ways to allow clinicians to capture and view data at varying levels of granularity (and using their preferred synonyms), and then find ways to automatically aggregate the coded information to classifications of key concepts in order to use the data for secondary purposes such as research.

Many implementers have turned to SNOMED-CT as the structured terminology that can meet these diverse challenges. However, they have also encountered a new set of challenges ranging from impacts to user interface design to new skill sets not traditionally found in implementation teams. In the next issue we will dive deeper into the implementation experiences from several organizations; focusing on the challenges they encountered, how they overcame them, and ideas for new areas of pan-Canadian collaboration so that others can learn from their experiences. ●