Learning More About Terminology Asset Management Trends, Principles, and Definitions

Save to myBoK

By Kelly Abrams, MPA, CHIM; Kathy Giannangelo, MA, RHIA, CCS, CPHIMS, FAHIMA; Sue Schneider, BA CHIM; and Rita Scichilone, MSHA, RHIA, CCS, CCS-P

Terminology asset management (TAM) in healthcare and research settings is an emerging role for HIM professionals, but requires certain skills and knowledge to move into these new TAM positions. This appendix is linked to the article "New Name of the HIM Game" published in the February 2014 *Journal of AHIMA* and provides additional trends, requirements and educational materials of interest to HIM professionals seeking a terminology related position.

Trends in Terminology Asset Management

Trends observed in the US and Canada supporting the need for TAM includes:

1. Implementation incentives that support an increase in the number of physicians with EHRs
2. Increased sharing of information across jurisdictions in support of patient movement and health management including health information exchanges
3. The move to cloud computing
4. Increased interest in terminologies to address clinical data collection, evidence-based care management, clinical decision support, health analytics, and Big Data
5. The evolving use of mobile health monitoring, health devices, and applications by patients to capture and assess health

Five Critical Tam Requirements

There are five critical requirements that support TAM in healthcare systems. Ignoring even one of these critical areas will result in suboptimal performance and decrease the ability for an electronic health IT system to perform at the optimal level to meet clinical and administrative requirements. The five critical areas of support are:

1. Evaluation of clinical terminology systems for electronic environments
2. Linkage of terminologies where appropriate for data management
3. Implementation of standardized terminologies in EHRs
4. Identification of user groups requiring education or training for the use of terminologies
5. Educational approaches important for preparing future HIM professionals for the roles and competencies required for successful terminology asset manager work

Financial asset management (i.e., banks and investment firms) and healthcare share established principles and best practices. A clinical terminology such as SNOMED CT must be used correctly to produce reliable results in data storage and retrieval. In other disciplines, life cycle asset management is an established protocol and this is also important for this role. For TAM, the life cycle includes avoiding risk exposure, maintaining and promoting performance attributes, and optimizing assets through the life of the terminology.

Terminology Asset Management Essential Principles

Principles for managing healthcare terminologies address the following attributes:

1. Holistic: Examining the situation from all aspects of terminology use
2. Systematic: Assuring value of use through systems design and training of users

3. Optimal: Finding the best value compromise between competing factors related to the use of terminology products that often arise in EHR systems
4. Sustainable: Managing cost and performance. Terminology systems are an expensive but necessary asset to healthcare delivery and information sharing. A terminology asset manager guides the practice of data stewardship to maintain and improve the system over time.
5. Integrated: Cooperating and leveraging other assets within the enterprise. Terminologies co-exist with other data management assets including classifications, registries, and a variety of software applications within the existing health information system(s)

Key elements are required to be successful in TAM. These elements cover the five critical areas of support mentioned above for organization and individuals. The elements are:

1. Organizations must have a structure that facilitates implementation of essential principles
2. Employees must have proper training and deep knowledge of HIM and essential knowledge of the health IT system hosting the terminology
3. Organizations and employees must understand how to treat the use of standardized terminologies as assets to be managed and maintained
4. To be an effective terminology asset manager, one must have a:

    a. Knowledge of all existing terminology systems within the healthcare entity
    b. Clear understanding of structure, authority, and responsibilities for the role
    c. Confirmed competence in data content and use of the select terminological resources
    d. Documented system information specific to the terminologies deployed
    e. TAM policy statement
    f. Information and data governance awareness and/or training

5. Competencies for TAM employment include:

    a. Knowledge of terminology systems (how and when to use a particular terminology in electronic systems)
    b. Ability to assess and develop concept representation for health data requirements appropriate for the work environment
    c. A keen sense of discernment, discretion, and judgment for deploying and managing the terminological resources included in the information system
    d. Familiarity with common terminology related tools including terminology browsers, data mapping tools, and technology requirements and specifications
    e. Knowledge of data quality management principles and the ability to apply them consistently for collection, mapping, and analytics
    f. Ability to design data capture and collection processes involving the use of terminology systems
    g. Knowledge of release cycles for specific terminologies used in the information system
    h. Familiarity with the standards organizations developing and distributing the terminologies used by the employer
    i. Knowledge of certification, licensing, and conformance requirements for the systems and standards being used by the organization and vendors
    j. Knowledge of laws to address an extension or constraint of the standards

Similar to an investment banker looking after the assets held by a bank, HIM professionals are entrusted to manage terminology assets to ensure expected results in electronic systems. This work will frequently include elements of information and/or data governance, quality assurance, leadership, and risk avoidance.

As clinical information exchange expands, participating experts gain knowledge about the use of terminologies and assist others in discovering opportunities for similar use. One example of collaboration is the work completed by Healthcare Human Factors located at the University Health Network, based in Ontario, Canada. This initiative included the development of user interface guidelines surrounding the clinical coding of data using SNOMED CT. More information is available about this project at http://humanfactors.ca/projects/design-guidelines-for-clinical-coding/

Common TAM Job Roles

Jobs in terminology asset management are not standardized and therefore vary between organizations and regions. The list below is a sample of common tags for jobs in TAM that interested HIM professionals could explore:

1. Terminology standards specialist
2. Terminology standards manager
3. Code mapping specialist
4. Health information semantic content expert
5. Clinical data modeler
6. Chief terminologist
7. Clinical terminology editor
8. SNOMED CT health program specialist
9. Director of convergent medical terminology
10. Terminology consultant
11. Content manager
12. Terminology coding analyst
13. Health data manager
14. Clinical terminologist

All of these positions draw on information management principles and guidance familiar to HIM professionals. Data management and data quality are key aspects of the TAM and HIM disciplines.

The Canadian Institute for Health Information (CIHI) is a leader in data quality and provides excellent practices that are of value in TAM. CIHI's data quality framework includes the following five dimensions:

1. **Accuracy**—How well information from a data holding reflects the reality it was designed to measure
2. **Timeliness**—How current the data is at the time of release
3. **Comparability**—The extent to which a data holding is consistent over time and collects data in a way similar to other data holdings
4. **Usability**—The ease with which data can be accessed and understood
5. **Relevance**—The degree to which a data holding meets users' current and potential future needs

AHIMA provides many data quality and integrity resources, including:

1. AHIMA. "Data Standards, Data Quality, and Interoperability (Updated)." *Journal of AHIMA* 84, no.11 (November–December 2013): 64-69.
2. AHIMA. "Data Quality Management Model (Updated)." *Journal of AHIMA* 83, no.7 (July 2012): 62-67.
3. AHIMA. "Ensuring Data Integrity in Health Information Exchange." 2012.

Professional associations and standards development organizations frequently provide educational events and resources to learn more about terminology structures and uses. For example, Canada Health Infoway, a federally-funded, independent, not-for-profit organization that is leading the development and implementation of electronic health projects across Canada, offers:

- **Orientation to Terminology**
  Get an overview on terminology-based standards, the components, and how they enable the reliable exchange of health information between computer systems.
- **Orientation to SNOMED CT**
  Gain a broader understanding of Canada Health Infoway, and the content, structure, and benefits of using SNOMED CT.
- **Orientation to LOINC**
  Learn more about Canada Health Infoway, health IT research organization Regenstrief Institute for Healthcare, and how its LOINC terminology is used to help standardize observables in labs and other clinical domains.
- **Orientation HL7 V3**
  A one hour webinar that orients viewers to HL7 Version 3 by learning about the benefits, structure and key concepts of HL7 v3 terminology.

- **Orientation to CDA**
  This presentation will provide an overview of CDA (Clinical Document Architecture), its goals and common characteristics and provide examples of CDA use in Canada.

For more information about the resources visit https://www.infoway-inforoute.ca/index.php/programs-services/standards-collaborative/standards-education/online-education#self-paced

The United States National Library of Medicine provides many resources involving the use of terminologies. For more information, visit http://nnlm.gov/. The National Library of Medicine's Unified Medical Language System "integrates and distributes key terminology, classification and coding standards, and associated resources to promote the creation of more effective and interoperable biomedical information systems and services, including electronic health records." For more information go to http://www.nlm.nih.gov/research/umls/index.html

Glossary of Terminology Asset Management Terms

Canada Health Infoway (Infoway): "The organization within Canada charged with the overall responsibility for developing a national plan and standards for electronic health records of the Canadian population." (Abrams 2013).

Canadian Classification of Health Interventions (CCI): "National standard for classifying diagnostic, therapeutic, and other associated healthcare interventions; the companion classification system to ICD-10-CA that provides the diagnosis codes." (Abrams 2013)

Canadian Institute for Health Information (CIHI): "The organization within Canada charged with the overall responsibility for developing and maintaining national healthcare reporting standards, systems, and databases." (Abrams, 2013)

CIHI Data Quality Framework: "An associated assessment tool and guidelines used by CIHI to promote and monitor data quality for data submitted to CIHI." (Schneider, 2013)

Electronic Medical Record (EMR) (Canada): "Computer-based clinical data for an individual that are kept by a single physician office or practice, or community health centre." (Abrams, 2013)

Electronic Health Record (EHR) (Canada): "Computer-based clinical data for an individual across multiple locations. This longitudinal health record includes data from a number of different interoperable EMRs and EPRs and is shared across multiple jurisdictions." (Abrams, 2013)

Electronic Patient Record (EPR) (Canada): "Computer-based clinical data for an individual that are kept by a single healthcare organization (i.e., hospital, acute care facility, regional health authority)." (Abrams, 2013)

Evidence-based clinical practice guideline: Explicit statement that guides clinical decision making and has been systematically developed from scientific evidence and clinical expertise to answer clinical questions; systematic use of guidelines is termed evidence-based medicine..

Healthcare Human Factors: A multi-professional healthcare team with services and usability lab facilities located at the University Health Network in Toronto, Ontario, Canada, and affiliated with the University of Toronto and York University (Healthcare Human Factors, 2012). This team is dedicated to setting standards and developing best practices to support effective interaction between computers and people based on access to healthcare professionals and patients. (Healthcare Human Factors, 2012).

HL7 Version 3: Used in the pan-Canadian standards for health data exchange and approved by the Standards Collaborative; based on the reference information model from HL7 and focused on the content and format of the message (see HL7 International for more details). (Schneider, 2013)

Infoway InfoCentral: The Canada Health Infoway website, which features pan-Canadian and international standards, tools, guides, specifications, and collaboration communities to assist with the implementation of standards based solutions in EMRs, EPRs, EHRs in Canada. (Canada Health Infoway, 2013)

International Organization for Standardization (ISO): The world's largest developer of voluntary international standards. ISO gives state-of-the-art specifications for products, services, and good practice, helping to make industry more efficient and effective. Developed through global consensus, they help to break down barriers to international trade.

Legacy system: A type of computer system that uses older technology but may still perform optimally..

Logical Observation Identifiers, Names, and Codes (LOINC®): A database protocol developed by the Regenstrief Institute for Health Care aimed at standardizing laboratory and clinical codes for use in clinical care, outcomes management, and research that enable exchange and aggregation of electronic health data from many independent systems. (Regenstrief 2013)

Mapping: The process of associating concepts from one coding system with concepts from another coding system and defining their equivalence in accordance with a documented rationale and a given purpose.

Meaningful Use (MU): A regulation that was issued by the Centers for Medicare and Medicaid Services on July 28, 2010, outlining the EHR Incentive program for eligible professionals, eligible hospitals, and critical-access hospitals participating in Medicare and Medicaid programs that adopt and successfully demonstrate meaningful use of certified EHR technology..

Office of the National Coordinator for Health Information Technology (ONC): The principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and foster the electronic exchange of health information. The position of National Coordinator was created in 2004, through a Presidential executive order, and legislatively mandated in the HITECH Act of 2009. (ONC 2013)

RxNorm: A clinical drug nomenclature developed by the US Food and Drug Administration, the Department of Veterans Affairs, and HL7 to provide standard names for clinical drugs and administered dose forms. (NLM 2013)

Semantic interoperability: Mutual understanding of the meaning of data exchanged between information systems..

Use case: A technique that develops scenarios based on how users will use information to assist in developing information systems that support the information requirements..

References:

Abrams, K. J. and C.J. Gibson. "Glossary." *Fundamentals of Health Information Management*.(2nd edition). Ottawa, ON: Canadian Healthcare Association, 2013, 385-411

Canada Health Infoway. "Infoway InfoCentral." 2013. https://infocentral.infoway-inforoute.ca/3_Tools_and_solutions/InfoCentral.

Healthcare Human Factors. "About Us: Research." 2012. http://humanfactors.ca/aboutus/research/.

Office of the National Coordinator for Health IT. "About ONC." 2013. http://www.healthit.gov/newsroom/about-onc

Regenstrief Institute. "Logical Observation Identifiers Names and Codes (LOINC)." http://loinc.org/

Schneider, S.A. et al. "Health Information Standards." *Fundamentals of Health Information Management* (2nd edition.).Ottawa, ON: Canadian Healthcare Association, 2013, 77-99.

US National Library of Medicine. "RxNorm." 2013. http://www.nlm.nih.gov/research/umls/rxnorm/

Article citation:
Abrams, Kelly; Giannangelo, Kathy; Schneider, Sue; Scichilone, Rita A. "Learning More About Terminology Asset Management Trends, Principles, and Definitions" *Journal of AHIMA* 85, no.2 (February 2014): web extra.

Driving the Power of Knowledge