Organizational Track

10 a.m. - 11 a.m.

TRAINING
Qualifications for a Terminology Analyst

Veterans Health Administration

Melanie Loucks, RHIT
**VHA Enterprise Terminology Services**

- **Enterprise Terminology Services (ETS)**
  - Inclusive name for both the ERT and VETS teams

- **Enterprise Reference Terminology (ERT)**
  - *Terminology Content* creation and maintenance
    - ERT Team - 4 physicians, 2 pharmacists, 1 dentist, 2 nurses, 1 lab technician, 1 dietician, 1 HIM, 4 analysts; of which 7 are trained in informatics.

- **VHA Enterprise Terminology Services (VETS)**
  - *Terminology Services* (Database, APIs, etc.) for terminology distribution and access
    - VETS Team - 7 Java/Mumps developers, 1 DBA, 1 configuration management, 1 planner, and 3 project managers.
VHA Terminology Positions

- Chief Terminologist – MD
- Associate Terminologist – MD, DDS, PhD
- Terminology Analyst – HIM, RN, Masters Degree in Medical Informatics
What are the Needed Qualifications for a Terminology Analyst?

Education

Experience

Knowledge

Terminology Analyst

Job Responsibilities

Essential Skills
Experience

• Clinical or Health Information Management background.
• A master’s degree in clinical informatics or equivalent experience is strongly preferred.
• Previous terminology development or implementation within a clinical information systems is desirable.
• Understand the flow of an embedded clinical terminology and how it is utilized in an electronic health record environment.
Knowledge

• Clinical terminologies
  – SNOMED CT, LOINC, NIC, NOC, NANDA, PNDS, etc.

• Unified Medical Language System (UMLS)

• Drug terminologies
  – RxNORM, NDF-RT or Vendor databases
    (e.g., Micromedex)

• Reimbursement systems
  – ICD-9-CM, ICD-10, CPT, and HCPCS
Knowledge

• Standard Developing Organizations
  – HL7 Messaging, ASTM, and DICOM etc.
• Consolidated Health Informatics Initiative
  – Recommends messaging and vocabulary standards
    that enable federal agencies to exchange electronic
    health information
• Good terminology practices
  – Applying Jim Cimino’s “desiderata” of controlled
    medical terminologies for terminology development
• Mapping principals
  – Understand differences between mapping & coding
  – Creation of use cases with a specific purpose
Essential Skills

- Understand software development life cycle
- Experience with terminology development tools is desirable
- Create and maintain use-case models
- Working knowledge of relational databases systems
- Ability to create, execute, and analyze SQL queries
- Strong analytical and problem solving skills
- Demonstrate effective verbal and written communication skills
- Strong and detailed organizational skills
- Work independently and effectively with development teams and stakeholders
Job Responsibilities

• Ability to analyze and evaluate clinical data
• Work with stakeholders and business owners to identify contents to be standardized
• Assist terminologists and developers in the development and deployment of interface or reference terminologies
• Participate in mapping projects
• Ability to plan and shift workload, working on several projects simultaneously
How can a HIM professional make the transition to a terminology analyst?

- Take the AHIMA Career Development Clinical Vocabulary Manager Self-Assessment
- Assess your proficiencies through a personalized gap analysis
  - Identify learning opportunities to improve your skills and increase your value
  - Gains insights and strategies to plan a new career in becoming a clinical vocabulary manager/terminology analyst!
  - Get involved!
Mappers - how to find them, train them, and keep them

Patricia S. Wilson, RT(R), CPC, PMP
3M Health Information Systems
Hire the right person to train

• Where to look for potential mappers
  - Head hunter
  - Referral
  - Advertise

• What to look for on a resume
  - Type of past work experience (clinical or administrative)
  - Length of time at previous positions
What to look for during the interview

• What to ask during an interview
  - Likes and dislikes of past positions
  - What do they do for relaxation
  - Short term and long term goals
  - Personality fit (you can train a person, but you can’t change their personality)
Do coders make good mappers?

- Detail oriented
- Works well alone
- Good at following rules and processes
- Coders are consistent
- Understanding of Classification Systems
Expansion of knowledge areas

- Mapping does not have the same principles as coding
- Understand clinical vocabularies
- Understand knowledgebase and polyhierarchies
- Understand information models
How to train

- Classroom setting
- Web-based test suite
- One-on-one with a mentor
- Read, watch, act, review
- All work, regardless of level of training, is second-reviewed
What to train

- Medical informatics principles
- Relational database structure and function
  - Standard Query Language (SQL)
  - Troubleshooting
- Information modeling
  - Abstract Syntax Notation One (ASN.1)
  - Extensible Markup Language (XML)
More of what to train

- Understanding of each terminology, vocabulary and/or classification system to be mapped
- Review of Use Cases
- Review of Standard Operating Procedures
3M mapping staff

- **Skill set**
  - Four physicians/medical informaticists
  - One public health professional/medical informaticist
  - Four coders
  - Six lab techs
  - Three radiology techs
  - Two project management professionals
  - Three pharmacy techs
  - One database administrator

- **Total of 21 staff members, many with multiple qualifications**
Bottom line

• Time investment is 3 to 6 months for a completely trained mapper
• Objective is to retain a mapper that
  - Thinks for themselves
  - Is detail oriented
  - Follows protocols
  - Is happy in what they do
  - Makes it a career not a job
Terminology Training
Intermountain Healthcare
Susan Matney, M.S., R.N
Intermountain Health Care (IHC)

- Not for profit corporation
- 22 Hospitals
  - 500->25 beds
- 70 Clinics
- 14 Urgent Care Centers
- Health Plans
- Physician’s Division
The Terminology Team at IHC

- 9 clinicians/informaticists
  - 5 Nurses, 1 Pharmacist, 2 Physicians, 1 Cytotechnologist
    - 5 with formal training in Informatics
    - Experience from 15 years to 3 months
- The team adds 3000 entries per week
  - Some weeks are as high as 50,000 to 100,000+
- Interface engine (messaging middleware)
  - 1500+ interfaces
  - 3 million+ transactions/day
- Current areas of work
  - POE, Allergens, Medications, Blood Bank, Labor & Delivery, Microbiology, Insurances, Providers, Neonatal Data, Ventilator Data, Radiology, Laboratory, etc.
Types of Training

- **Formal Training and Exercises**
  - Web based
- **Job Shadowing**
- **Coaching**
- **External Training Courses**
Medical Vocabulary Engineer Training

Terminology Model

Terminology is the study of activities concerned with the collection, description, processing and presentation of terms, i.e. lexical items belonging to specialized areas of usage of one or more languages. Sagers proposed that A terminology fulfills three functions:

1. It accounts for sets of concepts as discrete entities of the knowledge structure.
2. It accounts for sets of interrelated linguistic entities which are somehow associated with concepts grouped and structured according to cognitive principles.
3. It establishes a link between concepts and terms, which is traditionally done by definitions. Therefore a "Terminology" is the collection of "Terms" which are the special reference within a discipline. A terminology model is the stored meaning usually expressed in hierarchies and its interrelationship with the information model and the knowledge base. (A Practical Course in Terminology Processing, Juan C. Sager, John Benjamins Publishing Company, Amsterdam/Philadelphia 1990.)

Terminology is one aspect of the ERTH trilogy (Terminology Model, Information Model, and Knowledge Base).

The following links will give you information about Terminology.

Additional resources

- Standardized Organizations and Terminologies
- Introduction to Terminology
- Terminology Beyond the Basics

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## Terminology Exercises

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**Map Local Terms** - SAMPLE

- **Local Term File**: Map to
  - **Shortnames**:
- **Search Terms**:
  - **CBR Code**: OBR-3 Code
  - **Units**: Sample Values
- **Extra Search Words**:
  - **Acceptance** OBR name and/or OBR name

**View**

- **Use**:
  - **Local Words**:
    - **# Hits**:
      - 1
      - 2
      - 3
      - 4

**Row**

- **Short Common Name**: LOINC # Component Property Time System Scale Method
Job Shadowing and Coaching

• Assigned as a backup to specific domain paired up with the domain expert.
  – Radiology
  – Problem List
  – Scheduling

• Given small specific mapping tasks with coaching for each step.
  – Maintenance mapping
External Training Courses

- XML and XSLT
  - Data modeling language
- Visio
  - Flow diagrams
- Unix
  - Text processing required for terminology development
Susan Fenton, MBA, RHI A
AHIMA Initiatives

• Support professional development in terminology related roles critical to an industry that relies on electronic tools and health care data exchange

• Clinical terminology management and mapping are key to the future roles for coding professionals that comprise a portion of our membership
AHIMA’s Experience

- HIM professionals who currently work as coders have many appropriate qualities
- Knowledge of ICD-9-CM and CPT is preferred, even necessary, but not sufficient so additional orientation and education is required for new roles
Current Offerings from AHIMA

• Online introductory clinical terminology courses
• Career Development Assessment: Clinical Vocabulary Manager
• Comprehensive textbook with expected publication date of March 2006 covers most terminologies in use today
The Future

• Developing specialized unit for applied health informatics work including map validation and associated activities and research
• Envision distance education offerings and annual Institute and additional outreach offerings for career advancement in this discipline
• Specialty Advancement Certificate program
• Establish advisory group
• AHIMA will continue to work closely with organizations that use or evaluate clinical terminology for health information management
Questions?
Clinical Vocabulary Mapping Methods Institute
Saturday, October 15, 2005