Organizational Track

1 p.m.-2 p.m. Maintenance and Updating

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Terminology Manager
Mapping, SNOMED, International
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Health Data Dictionary
3M
SNOMED CT® to ICD-9-CM

Mapping Overview

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Mapping Manager
SNOMED International
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The SNOMED CT to ICD-9-CM mapping provides an approximation of the closest ICD-9-CM code or codes at the highest level of specificity, that best represent the disorder or finding concept.*

*It is important to note that this mapping is NOT intended for direct billing or reimbursement without additional authoritative review.
SNOMED CT Source Domains
Mapped

- Clinical Findings
  - Disorders
  - Findings
- Context dependent categories:
  - Family history
  - Past history
  - Reasons for visit
Current ICD-9-CM mapping

• ICD-9-CM map advice categories:

  0 = Unmappable
  1 = 1:1; concepts are identical or included
    within the ICD-9-CM code description
  2 = Narrow to broad; SNOMED is more specific
  3 = Broad to narrow; ICD is more specific
  4 = Overlap exists and rules are required
to correctly map
SNOMED CT to ICD-9-CM
Update Process

• Existing mapping
  - Updated 2x / year
    • ICD-9-CM changes
    • (April and October as changes may apply)
  - Updated 2x year with new concepts added
    (January and July releases)
  - Currently comprised of 93,000+ mapped concepts
  - Part of US Agreement
SNOMED CT to ICD-9-CM
Use Case Approach

• Documented Use Cases (new)
  – Reimbursement
  – Epidemiology

• Mapping Rules (new)

• External Validation Process (new)

• Source Domains:
  – Clinical Findings (includes Disorders & Findings)
  – Context dependent categories: Family history, Past history, Reasons for visit
  – Morphology codes*

*To be developed for future epidemiology map
ICD-9-CM Revisions

- Two different user communities, therefore segregate mapping into two use cases:
  - Epidemiology/statistical use case (future)
    - ED diagnosis reporting
    - Case finding for research
    - Ambulatory care reports for NCQA
    - Cancer registry data from tissue pathology reports
  - Reimbursement use case (current development)
    - Candidate billing diagnoses from problem list from SNOMED CT clinical data

- Improved definitions and procedures that acknowledges the fundamental differences between reference terminology and classification scheme
  - “Equivalence” is often uncertain
Mapping to ICD-9-CM is NOT Context-Independent

- Clinical use: SNOMED CT concept
- Context free; concept based map (concept classification)
- Patient context (demographics and co-morbidities)
- Clinical care context (encounter and episode data)
- Administrative use: ICD-9-CM code
CAP Process: ICD-9-CM Rules Based Map to Support Reimbursement

- Manage use case:
  - Reorganize SNOMED-ICD-9-CM map for specific case of reimbursement support; expose all assumptions and optimize codes for this use case

- Manage context:
  - Extend one-to-one map to include ICD code-level exclusions and incorporate these as sequentially evaluated text-based rule statements in order to manage patient record context
# New ICD-9-CM Categories

## Support Rule Based Mapping

<table>
<thead>
<tr>
<th>Statistical Use Case</th>
<th>Reimbursement Use Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 0: Outside of ICD scope</td>
<td>Category 0: Outside of ICD scope</td>
</tr>
<tr>
<td>Category 1: Properly classified within ICD</td>
<td>Category 11: Properly classified and specific for reimbursement</td>
</tr>
<tr>
<td>Category 2: Properly classified but not valid as primary code</td>
<td>Category 12: Properly classified but non-specific for reimbursement</td>
</tr>
<tr>
<td>Category 3: Requires additional patient characteristics or information to classify</td>
<td>Category 20: Not valid as primary: Fully classified but is referenced in the authoritative source as a manifestation code, an additional or secondary diagnosis code</td>
</tr>
<tr>
<td></td>
<td>Category 22: Properly classified but not valid as primary diagnosis</td>
</tr>
<tr>
<td></td>
<td>Category 31: Requires additional patient characteristics, otherwise sufficiently specific for reimbursement</td>
</tr>
<tr>
<td></td>
<td>Category 32: Requires additional patient characteristics, non-specific for reimbursement</td>
</tr>
</tbody>
</table>
# Rule-based Mapping

<table>
<thead>
<tr>
<th>CTID</th>
<th>CONCEPT</th>
<th>OPT</th>
<th>GRP</th>
<th>CAT</th>
<th>RULE</th>
<th>ICD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2520005</td>
<td>AIDS with volume depletion (disorder)</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>Always</td>
<td>042</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>31</td>
<td>IFA postoperative hypovolemic shock</td>
<td>998.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
<td>31</td>
<td>IFA traumatic loss of fluids</td>
<td>958.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>Otherwise</td>
<td>276.5</td>
</tr>
<tr>
<td>225565007</td>
<td>Perineal pain (finding)</td>
<td>1</td>
<td>0</td>
<td>32</td>
<td>IF Female gender</td>
<td>625.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>0</td>
<td>32</td>
<td>IF male gender</td>
<td>608.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>Otherwise</td>
<td></td>
</tr>
</tbody>
</table>

Update and Maintenance
Plan

- Reorganization of 93,000 maps +, to rules based format to support reimbursement

- Schedule upon release:
  - Updated 2x / year
    - ICD-9-CM changes
      - (April and October as changes may apply)
  - Updated 2x year with new concepts added (January and July releases)
Maintenance and Update
Issues for Clinical Vocabulary
Mapping

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3M Health Information Systems
Objective

To Maintain the integrity of the mapped data while providing a timely and complete update of new, ‘deleted’, and/or changed terms and relationships
Basic Assumptions

• Maintenance and update issues are different for legacy data versus standard terminologies and classifications
• The process of mapping is dynamic
• No two systems or mapping processes are alike
General Issues

• Quality assurance
• Log of work assignments
• Version control
Quality Assurance

- Ongoing quality checks (test suite)
- Test and development environments
- Standard operating procedures
- Backup and redundancy
- History logs
- Security of access to data
Log of Work Assignments

- Maintain log of requests
- Monitor work assignments
Version Control

• Schedule/frequency of version updates
• Documentation of content
• Distribution/access to updates
• Full replacement or changed/updated data only
Updating of Standards

• Source of data
  – Proprietary
  – Public domain

• Format of data
  – Electronic (pdf, text)
  – Hard copy (paper)
Updating of Standards

Continued

• Notification of changes/updates
  – Email
  – Subscription
  – Monitor website
  – Letter/mail

• Tracking data
  – Schedule of updates
  – Version control
Legacy Data

• Updating issues will be dependent upon the type of legacy data being updated and/or maintained
  – Laboratory systems
  – Pharmacy systems
  – Users/providers
  – Locations
Legacy Continued

- Management of requests (ad hoc or scheduled)
- Communication with department or site
- Question and answer policy
- Timing (proactive requests)
Conclusion

- Lack of control over maintenance and updates can result in incorrect data being stored on a patient record.
- Good maintenance and update procedures and practices will assure that the integrity of the mapping remains intact.
Clinical Vocabulary Mapping Methods Institute
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