“Clinical Vocabulary Mapping:
- Definitions, Assumptions and Issues
- Core Set of Problems with Maps”

Mark S. Tuttle, FACMI
Apelon

Revised 10/15/05
(Recent news) A “two year” national imperative …

“Incremental progress trumps perpetually deferred perfection. We need real benefits, for real people, real fast: this needs to be our mantra.” Michael Leavitt, Secretary HHS, Charge to AHIC*, 10/07/05

*American Health Information Community
A mapping symposium ...

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- Long overdue.
- If I’m a consumer of mappings:
  - Where?
  - How?
  - Who is accountable?
  - Who listens?
  - Who maintains?
  - Who improves?

“But I already have mappings …”
Definition …

• Essential to
  – Focus effort
  – Measure progress
  – Frame lessons learned
  – Define success

• (For today) **Mappings are links between terminologies that improve billing and reporting productivity.**

• Any measurable improvement – faster, cheaper, better - would be a big success!
Caveats …

• Pragmatic approach good, per Leavitt, but …
  – Avoid painting oneself into a corner by trying to understand what you’re doing
    • Models are good – Reference Terminology, Classification, …
    • Leavitt like the “railroad” analogy
  – Adjust plan in response to lessons learned
  – Plan for graceful and productive maintenance and enhancement
  – Plan for involvement of relevant stakeholders
  – Still, one can make a case for “just do it”
Remembering that I’m an engineer …

• If we were already producing useful instances of 1 and 2, productively, would we be having this meeting today?
• What would we do differently if a useful version of 3 existed?

In the context of a single patient, 1 and 2 enable computers to produce an output – an ICD-9-CM or ICD-10-CM code for use by stakeholders – given an input – one or more SNOMED-CT codes.

3 is something that might become available.
More engineering questions …

• (T/F) 1,2, and 3 are primarily means not ends?
• (T/F) 1,2, and 3 will in and of themselves represent new science?
• (T/F) Creating 1,2, and 3 is primarily a process and workflow management problem?
• (T/F) I am more comfortable with a “top-down” – authoritarian - approach, than a “bottom-up” – Web-ish – approach?
• (T/F) 1, 2, and 3 must be deterministic.

The “point” of today …?

- One or more SNOMED-CT Code(s)
- An ICD-9-CM Code
- An ICD-10-CM Code

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- (Choose one) 1, 2, and 3 must be updated
  – annually?
  – as often as necessary?
- (T/F) It matters more how we get to 1, 2 and 3, than where we start?
- (T/F) Producing 1, 2 and 3 will require introspection more than experience?
“Definitions” …

- 1, 2 and 3 are instances of MAPS – data or algorithms that are human-readable and understandable, and computer-empowering.
- SNOMED-CT is one of a handful of examples of a REFERENCE TERMINOLOGY.
- ICD-9-CM and ICD-10-CM are examples of CLASSIFICATION systems.

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- The differences between a REFERENCE TERMINOLOGY and a CLASSIFICATION are exploitable by computer, at least potentially.
“Assumptions” …

• Healthcare IT is a means of improving quality and reducing costs.
• Without standard terminology, computers are a better fax machine.
• With standard terminology, computers may generate significant ROI.
• The “reference terminology” vs. “classification” distinction is a given for the foreseeable future.
• AHIMA members …
  – want to be part of the solution
  – know part of the solution
  – may inherit the problem whether they want it or not!

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The “point” of today …?

Patient

Patient Stakeholders

One or more SNOMED-CT Code(s)

An ICD-9-CM Code

An ICD-10-CM Code

In the context of a single patient, 1 and 2 enable computers to produce an output – an ICD-9-CM or ICD-10-CM code for use by stakeholders – given an input – one or more SNOMED-CT codes. 3 is something that might be available.

Paul Patient

• <Demographics>
• <Problem List>
• <Allergies>
• <Labs>
• <Meds>
• <HX>
• …
“Issues” …

• **(Deep)** It’s an hypothesis to be proven that EHRs will contain SNOMED-CT codes sufficient to generate ICD-9/10-CM codes!

• **(Lack of Semantics)** 1, 2 and 3 lack a normative definition.

• **(Operational Semantics)** 1, 2 and 3 could be valid for reimbursement and compliant with regulation; is that sufficient?

• **(The problem and the solution)**
  Maintenance Use Cases:
  – Changes in our understanding
  – Changes in the world
  – Changes in reimbursement and/or regulation

• **(Necessary)** Need to accumulate practical, scalable, sharable clinical experience with SNOMED-CT.

• **(Engineering again)** MAPS solve the wrong problem.
“Core Set of Problems with Maps” …

• We lack experience …
  – creating authoritative maps
  – widely deploying tools known to be helpful
  – choreographing maintenance of 1, 2 and 3 with SNOMED-CT and ICD-9/10-CM
  – supporting users of authoritative maps
  – making pragmatic tradeoffs
  – using SNOMED-CT for this purpose in an EHR.

• The scale of this problem dwarfs even AHIMA

• Pragmatic leader yet to emerge

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Technical solutions …(!)

- **TermWorks** – Brings terminology matching in support of mapping to desktop; leverages UMLS.
- **MRMAP** – Represents kinds of maps known to be important in the Metathesaurus.
  - Requires RRF
- **caDSR** – Cancer research support for metadata and terminology mapping.
  - [http://ncicbsupport.nci.nih.gov/sw/content/caDSR.html](http://ncicbsupport.nci.nih.gov/sw/content/caDSR.html)
- **Semantic Web** – Would support a top-down notion of MAPS.
  - [http://www.w3.org/2001/sw/](http://www.w3.org/2001/sw/)

- **Wiki** – Web server software that supports bottom-up consensus development, e.g., Wikipedia.
- **N.B.:** These are important tools and partial solutions that should not be re-invented; what is needed is an end-to-end solution that takes advantage of them.
Recommendations …

- Get started!
- AHIMA can provide a much needed empirical and experiential foundation
- Plan for a scalable, national effort
- Find the low-hanging fruit and near-term ROI.
  - What can be accomplished by Summer, 2006?

- Leverage “best practices” from software development and engineering.
  - Plan for graceful evolution that leverages existing and legacy data.

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Summary …

- It helps to be very specific when using the term “MAP”
- Focus on human-understandable computer-empowerment.
- Technical solutions exist for portions of the task.

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- If we were already producing useful instances of 1 and 2, productively, would we be having this meeting today?
- What would we do differently if a useful version of 3 existed?

- End-to-end solution needed
- AHIMA can lead with “reality”.
Clinical Vocabulary Mapping Methods Institute
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