

# “Clinical Vocabulary Mapping:

- Definitions, Assumptions and Issues
  - Core Set of Problems with Maps”

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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 ...

(Recent news) A “two year” national imperative ...



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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 ...”

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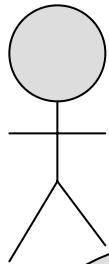
# Definition ...

- 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 ...

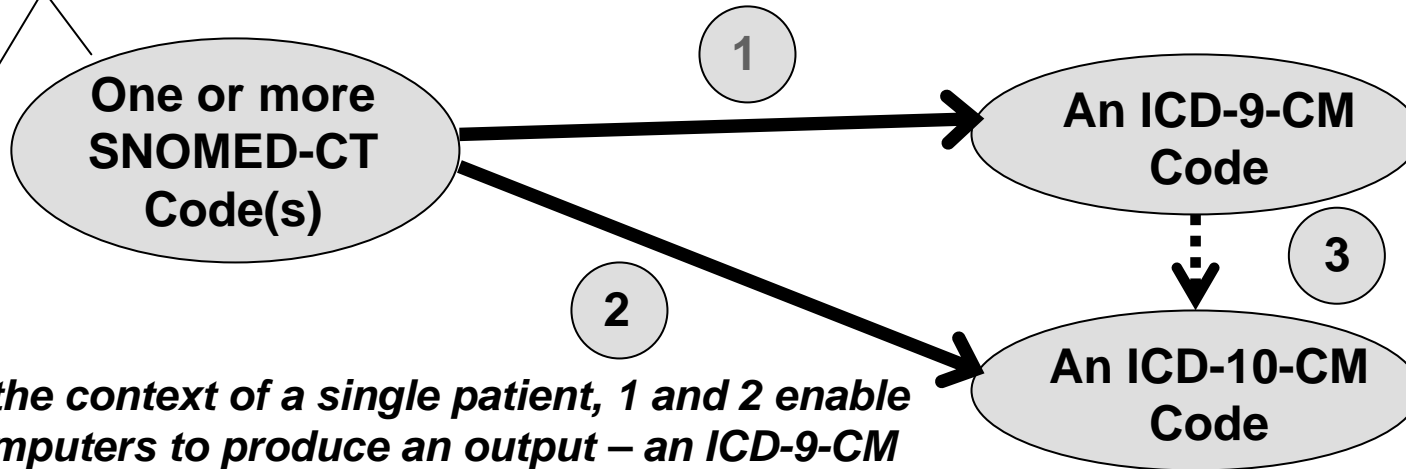
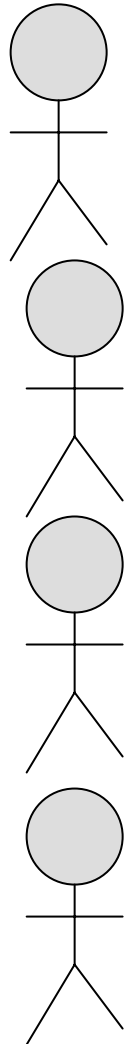
- Pragmatic approach good, per Leavitt, but ...
  - Avoid painting oneself into a corner by trying to understand what you're doing
    - Models are good – Reference Terminology, Classification, ...
    - Leavitt like the “railroad” analogy
  - Adjust plan in response to lessons learned
  - Plan for graceful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

Patient



# The “point” of today ...?

Stakeholders



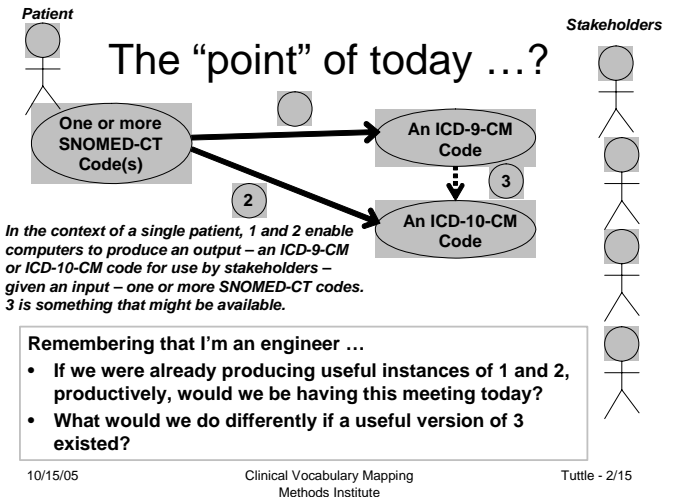
*In the context of a single patient, 1 and 2 enable computers to produce an output – an ICD-9-CM or ICD-10-CM code for use by stakeholders – given an input – one or more SNOMED-CT codes. 3 is something that might become available.*

**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?**

# More engineering questions ...

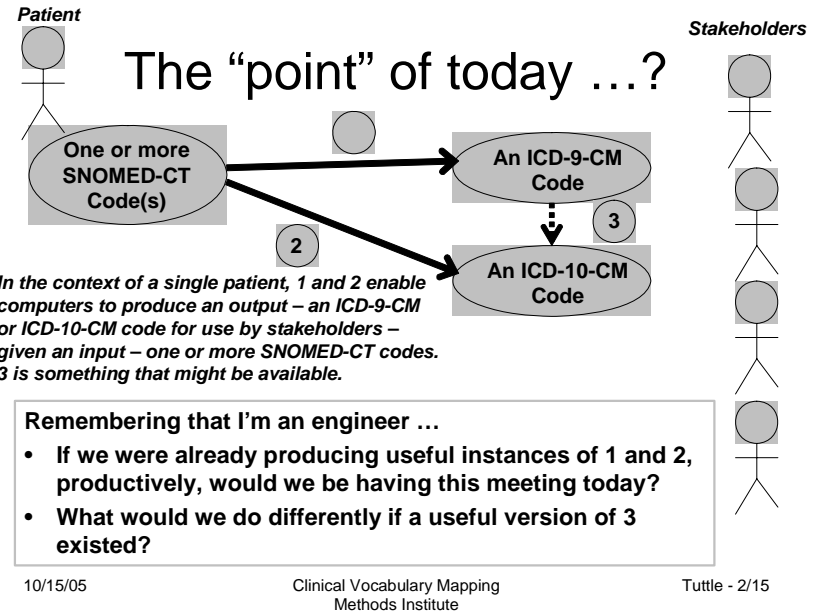
- (T/F) 1,2, and 3 are primarily *means not ends*?
- (T/F) 1,2, and 3 will in and of themselves represent new science?
- (T/F) Creating 1,2, and 3 is primarily a process and workflow management problem?
- (T/F) I am more comfortable with a “top-down” – authoritarian - approach, than a “bottom-up” – Web-ish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



- (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.

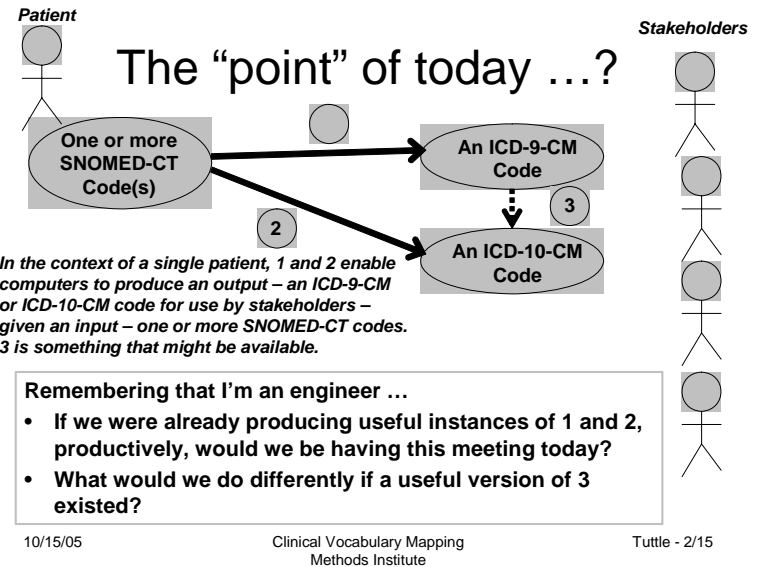
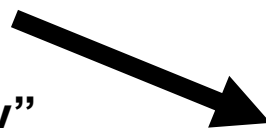


- The differences between a REFERENCE TERMINOLOGY and a CLASSIFICATION are exploitable by computer, at least potentially.



# “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!

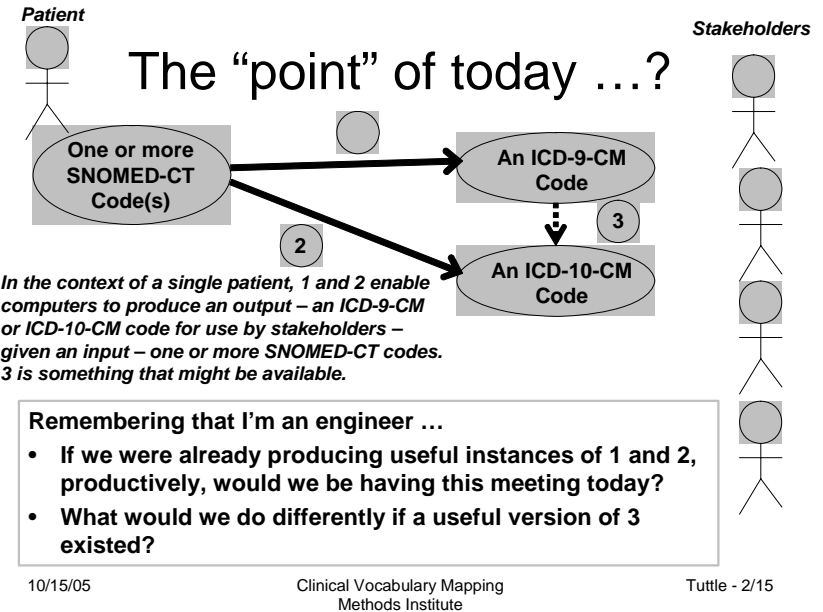


**Paul Patient**

- <Demographics>
- <Problem List>
- <Allergies>
- <Labs>
- <Meds>
- <HX>
- ...

# “Issues” ...

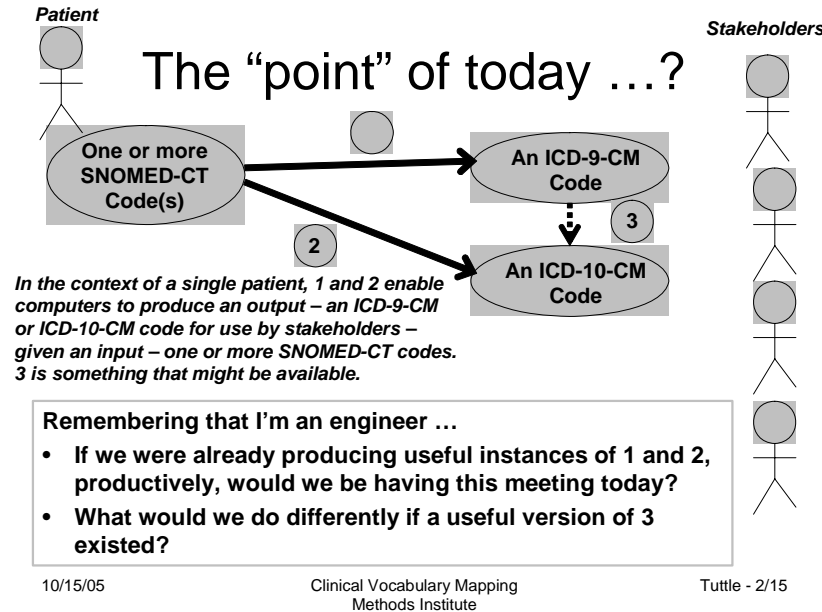
- **(Deep)** It’s an hypothesis to be proven that EHRs will contain SNOMED-CT codes sufficient to generate ICD-9/10-CM codes!
- **(Lack of Semantics)** 1, 2 and 3 lack a normative definition.
- **(Operational Semantics)** 1, 2 and 3 could be valid for reimbursement and compliant with regulation; is that 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” ...

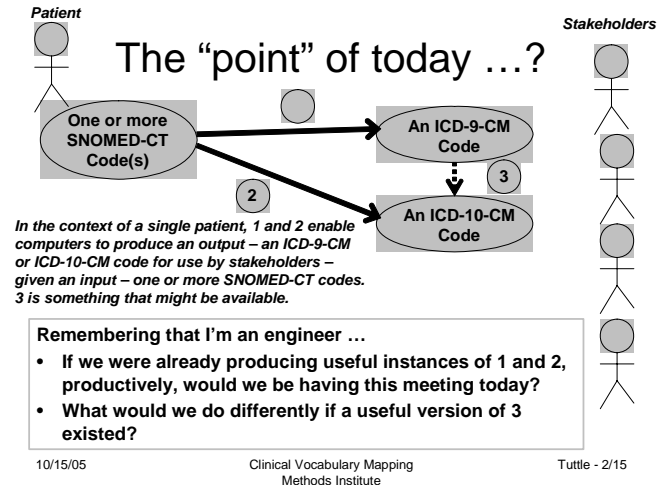
- **We lack experience ...**
  - creating authoritative maps
  - widely deploying tools known to be helpful
  - choreographing maintenance of 1, 2 and 3 with SNOMED-CT and ICD-9/10-CM
  - supporting users of authoritative maps
  - making pragmatic tradeoffs
  - using SNOMED-CT for this purpose in an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



- The scale of this problem dwarfs even AHIMA
- Pragmatic leader yet to emerge

# Technical solutions ...(!)

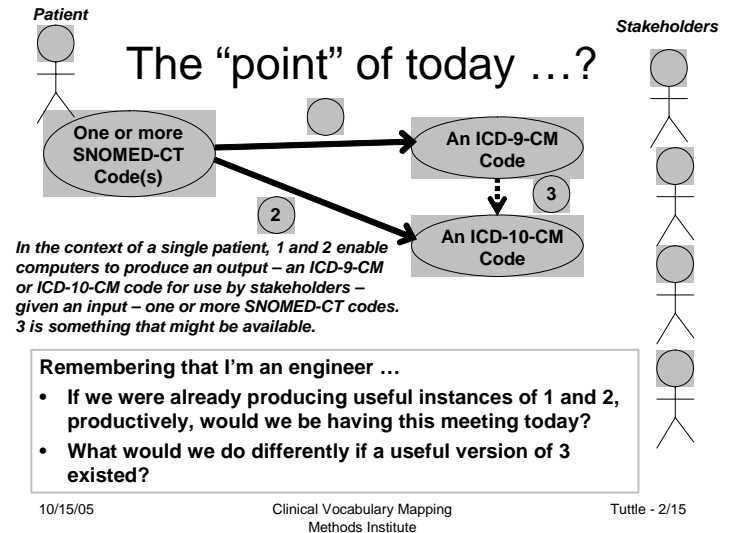
- **TermWorks** – Brings terminology matching in support of mapping to desktop; leverages UMLS.
  - <http://www.apelon.com/products/termworks.htm>
- **MRMAP** – Represents kinds of maps known to be important in the Metathesaurus.
  - Requires RRF
  - <http://www.nlm.nih.gov/research/umls/metab.html>
- **caDSR** – Cancer research support for metadata and terminology mapping.
  - <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/>



- **Wiki** – Web server software that supports bottom-up consensus development, e.g., Wikipedia.
  - <http://wiki.org/wiki.cgi?WhatIsWiki>
  - <http://www.wikipedia.org/>
- **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 ...

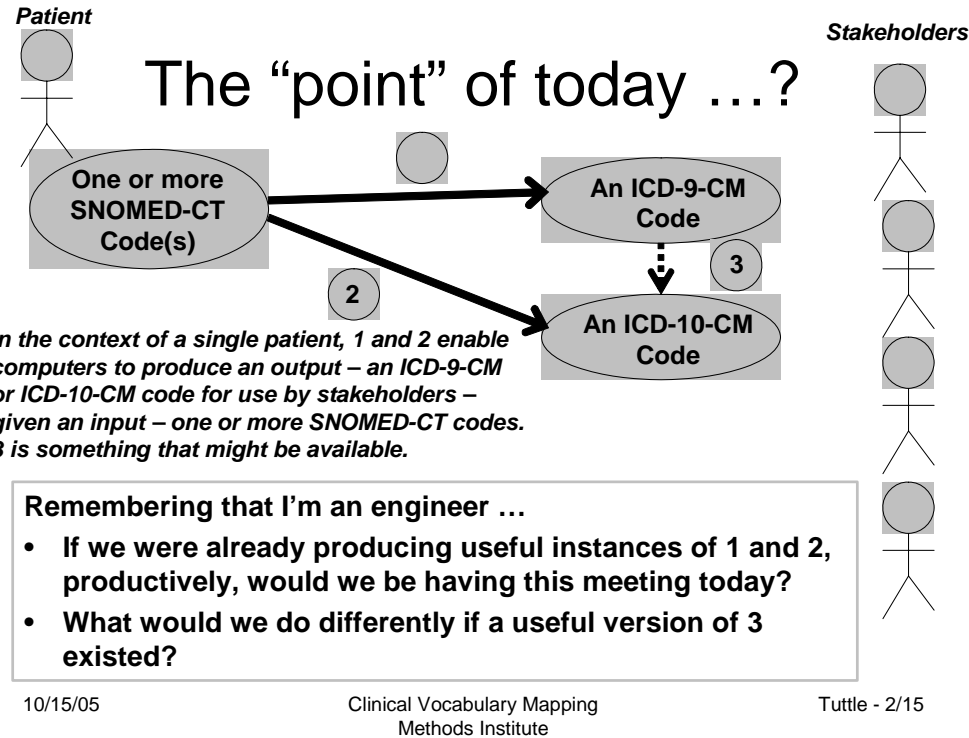
- Get started!
- AHIMA can provide a much needed empirical and experiential foundation
- Plan for a scalable, national effort
- Find the low-hanging fruit and near-term ROI.
  - What can be accomplished by Summer, 2006?



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

# 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.



- End-to-end solution needed
- AHIMA can lead with “reality”.



Clinical Vocabulary Mapping Methods Institute  
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