Coding Medical Constructs

Creating Chaos Out of Order

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Assumptions

- Creating data structure for electronic use
- Codes themselves are not important
- How constructs are presented for use and how they are linked over time are key

The Primary Players

- International Classification of Disease
- International Classification of Primary Care
- Systematized Nomenclature of Medicine – Clinical Terms
- Medcin
- Current Procedural Terminology
- Logical Observation Identifiers Names and Codes
- RxNorm

Quick Thoughts

- LOINC – Initially developed as a standardize approach for transmitting laboratory results
  - Publicly available
  - Overly specific for most clinical users
- RxNorm – US National Library of Medicine developied system to classify medications
  - Not fully developed
  - Not incorporated into commercial medication systems

Quick Thoughts

- Current Procedural Terminology
  - Designed to transmit billing data
  - Groups or splits based on reimbursement issues – not clinically relevant issues
    - Chemistry test single component
  - Codes reused over time
  - Not designed to be a clinical system

Quick Thoughts

- Medcin
  - Commercial nomenclature (270,000 base codes)
  - Extensive “clinical hierarchies”
    - Unclear utility in primary care
    - Developed through “expert” review instead of use
  - Highly detailed – breast cancer returns 200+ options
  - Trying to deal with patient variation at the code level

Quick Thoughts

- SNOMED CT – granular system designed to codify all clinical data – 370,000 terms
  - Relationships are handled by a separate database – not through code hierarchies
  - Has incorporated and mapped to many other systems – LOINC, ICD, ICPC
  - A reasonably good nomenclature is not a data structure

Quick Thoughts

- ICPC – specifically designed to include items of reasonable frequency in primary care
- Organ system oriented
- Only system to specifically identify the reason an individual seeks care and requests for care
- Incorporates episodes of care (i.e. time)

Boulders, Rocks and Gravel

- A decade of debate over “coverage” of various systems related to “medical concepts” – SNOMED v Read
- Ordering concepts initially linear – SNOMED, Read
- Next generation of systems moved to relational approaches based on “clinical” considerations – SNOMED CT, Medcin

Crushing Rocks is not Sculpting

- Moving from tens of thousands of codes to hundreds of thousands of codes does not improve order

Still Holes

- Even with 370,000 codes there are areas not well covered by SNOMED CT –
  - Allergies
  - Patient preferences
  - Guideline exception tracking
  - Adverse event tracking
  - Medical decision making