



# Freedom of Clinical Expression Vs. Terminology Standardization

*We speak the language of healthcare*



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# Intersecting Initiatives

- Satisfy Stage 2 Meaningful Use Requirements
  - SNOMED CT for problem lists (ICD-9 is no longer an option)
  - SNOMED CT for inpatient procedures
- Continued Support of ICD-9-CM for Billing
- Transition to ICD-10-CM (Oct 1, 2014)
  - Discharge or visit diagnosis
  - Basis for reimbursement
- Plan for ICD-11

# The Problems with Problem Lists

- Some clinical vendors are not at all familiar with SNOMED CT
- Change in clinician workflow, even for veteran EHR users
- Gap between ICD/SNOMED and common clinical expressions, search terms
- Simultaneously support problems (SNOMED) along with billable diagnoses (ICD-9 today)

# The Problems with Problem Lists (cont.)

- ICD-10-CM may change the workflow and approach
- Vocabulary search algorithms are difficult for clinical vendors to develop
- Clients may have specific, unique needs
- Updates and maintenance of various terminologies

# Searching, Semantic Problem

Clinicians want to search/document with the words and phrases that they are used to...

**PIH**

**Arm Pain**

**CVA**

**Hip Fracture**

**Pituitary Tumor**



# The Solution: SNOMED CT + Interface Terminology



**SNOMED CT + an Interface Terminology**  
can bridge the gap between  
billing/administrative standards and the  
language clinicians use to document care

# The Solution: Additional Synonyms (Cake)

**PIH** ⚙️ SNOMED Code: 198941007

**Arm Pain** ⚙️ SNOMED Code: 102556003

**CVA** ⚙️ SNOMED Code: 230690007

**Hip Fracture** ⚙️ SNOMED Code: 263225007

**Pituitary Tumor** ⚙️ SNOMED Code: 127024001

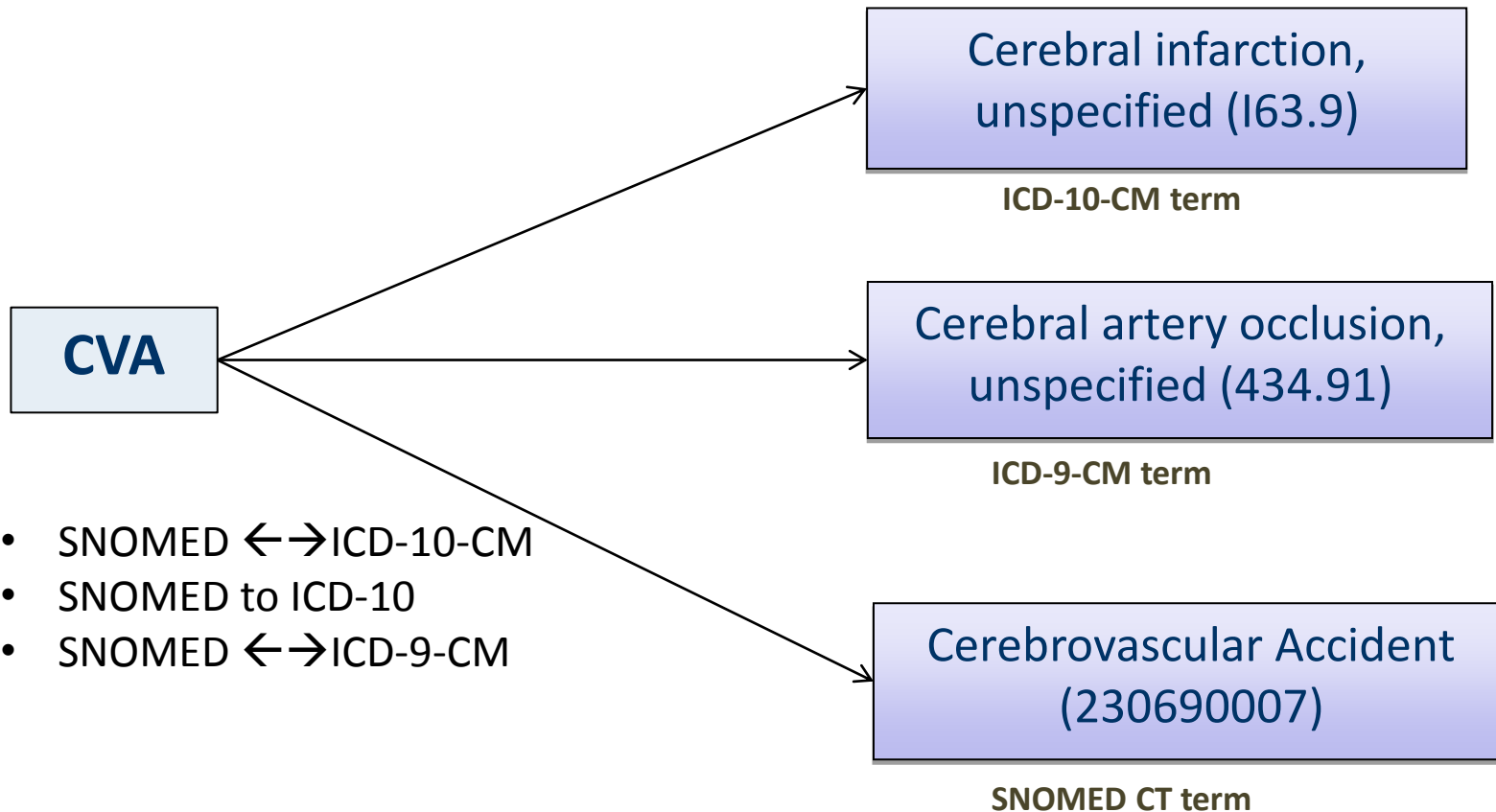
# The Solution: SNOMED CT + Interface Terminology

**“That’s great, but SNOMED-encoded problem lists don’t pay the bills.”**





# The Solution: Use Mappings (The Middle Layer)



- SNOMED  $\leftrightarrow$  ICD-10-CM
- SNOMED to ICD-10
- SNOMED  $\leftrightarrow$  ICD-9-CM

# But My Physicians Really Like Google (Icing)



**Back pain(s)**

**250.01**

**Rad frac**

**Diabetas**


**You searched XYZ, Did you mean?**

# The Problem: Org-Specific Needs

**“That’s great, but my hospital is different and we need new synonyms, concepts, or subsets.”**



# Tools for Client-Specific Terminologies (Coffee)



[Help](#) [My Profile](#) [Sign Out](#)

Content
Browse
List Browse
My Projects

MY PROJECTS

Project List
Orlando Health

All terms
Clear Filter
300 / 300 item(s), 1 selected

Select
More Actions

Add
Map

Term	SCT Concept Id	SCT Display Name	Comments
Diarrhea	62315008	Diarrhea	
Difficulty chewing	162020001	Difficulty chewing	
Difficulty speaking	47004009	Difficulty speaking	
Difficulty swallowing	288939007	Difficulty swallowing	
Diphtheria	397428000	Diphtheria	
Diplopia	24982008	Diplopia	
Discharge	297970000	Skin discharge	
Discharge, ear	300132001	Ear discharge	
Disequilibrium	87235005	Dialysis disequilibrium syndrome	
Dislocations	287096003	Multiple dislocations	
Disturbance of smell			
Diverticulosis	397881000	Diverticular disease	
Dizziness	404640003	Dizziness	
Dribbling	58972000	Dribbling of urine	

Search
Details
Browse

Search

33 results for **smell**

Primary Code	Name
275462005	Disorders of smell
365673009	Urine smell - finding
44169009	Loss of sense of smell
8769003	Abnormal urine odor
167247007	Urine smell normal
164085008	O/E - smell abnormal
164084007	O/E - smell normal
247321007	Unusual smell in nose
366236007	Smell of breath - finding
163177005	O/E - breath smell
106151004	Finding of sense of smell

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# The Problem Tomorrow: ICD-10 Granularity

- ✘ Initial visit?
- ✘ Trimester?
- ✘ Fracture type?
- ✘ Location?
- ✘ Gender?

# Support Problems and Diagnoses in Parallel

- Search for problem (SNOMED)
- Ask questions or use patient information to choose ICD-10-CM

- ▲  Bimalleolar fracture of lower leg
  - ▶  Initial
  - ▲  Subsequent
    - ▶  Routine
    - ▲  Delayed
      - ▲  Open fracture type i or ii
        -  Right
        -  Left
        -  Unspecified
      - ▶  Open fracture type iiia, iiib, or iiic
      - ▶  Closed

# Conclusion: What We've Seen Work

- Use SNOMED CT as an interface terminology:
  - HLI has added synonyms, abbreviations, and colloquial expressions
  - Leveraging IHTSDO/NLM SNOMED to ICD-9-CM and ICD-10-CM Maps
  - Expand the ICD-10-CM/SNOMED maps to support diagnosis to problem list selection
  - Provide tools for customization
  - Wrap the synonyms, mappings, and searching algorithms into a web service with sophisticated searching algorithms



# Health Language, Inc.



A privately held company, Health Language, Inc. (HLI) was founded in 2000 and has offices in the United States, the United Kingdom, and Spain. HLI is headquartered in Denver, CO.

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# Abstract

Finding the balance between the anarchy of open expressivity and the rigidity of controlled vocabulary has been a long articulated barrier to adoption amongst the clinical communities of many IHTSDO Member Nations.

Health Language and a multinational EHR vendor partner will demonstrate how the use of a systematically developed set of 'Clinician Friendly' descriptions mapped to SNOMED CT (and other globally endorsed controlled vocabularies), dynamically served to the user interface, increases the clinical acceptability of vocabulary standards implementation by preserving domain expressivity without compromising the capture of specifically coded content.