

Consumer Health Vocabularies

Ron Nath, MD

Apelon, Inc.

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Topics

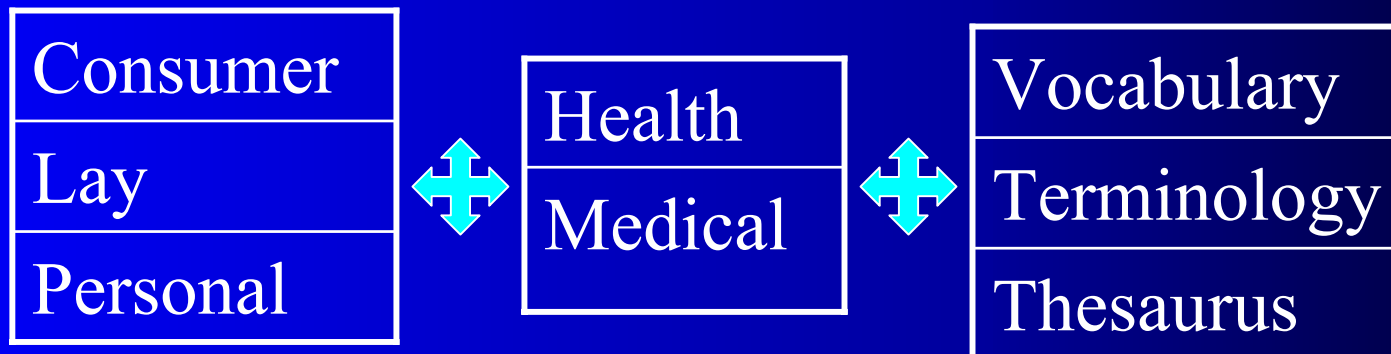
- I. Background
- II. Approach to development
- III. Status
- IV. Applicability to email
- V. Future directions

I. Background

- Previous and related efforts
- Our motivation at Apelon
- Specific goals for the ACHV (Apelon Consumer Health Vocabulary)

Previous and Related Efforts

- Other companies
- UMLS synonyms for medical concepts
- Academic papers



Our Motivation

- Need for a “translation” between MD-speak and common language
- Only available from other commercial sources and of unknown quality
- Added value to our content offerings

Goals for the ACHV

- Provide added value to standard vocabularies without additional licensing
- Appropriate breadth and depth
- Mappings to standard vocabulary concepts

II. Approach to Development

- Identify content sources
- Determine “grade level” of terms
- Consider scope of the terms
 - Areas of coverage - Breadth
 - Level of coverage – Depth
 - Caveats
- Mappings to existing terminologies
- Usage of in-house software tools

Content Sources

- UMLS Metathesaurus
- Consumer oriented medical web sites
- Reverse mappings from “top” ICD, CPT
- NLM searches by consumers

Grade Level of Terms

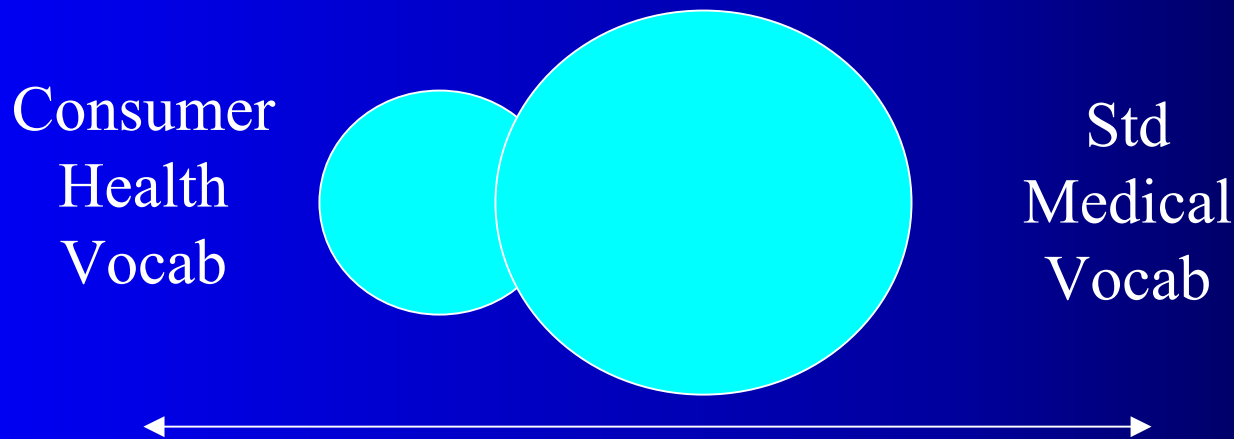
- Minimize use of slang or offensive terms
- Not overly simplistic or childish
- Similar to general newsprint articles- about 8th grade reading level

Scope of Terms - Breadth

- Alternative health
- Anatomy
- Conditions
- Drug types/categories
- People
- Procedures
- General terms

Scope of Terms - Depth

- Goal was between 10,000 – 20,000 terms
- Overlap with standard medical terms
 - Laryngitis, skull, vomit, etc.



Scope of Terms - Caveats

- Consumer terms were often phrases that represented medical concepts
 - Middle ear infection for otitis media
 - Nose bleed for epistaxis
- Consumer terms often mapped to many more precise medical concepts
 - Broken leg = fx of femur &/or fibula &/or tibia

Mappings

- Snomed RT as central map
- Additional mappings to ICD and CPT either directly or through Snomed link
- Difficulty with consumer terms that have no professional term and vice-versa

In-house Software Tools

- Automated, programmatic mining of websites via custom Apelon software
- Apelon CBIR (Concept Based Indexing and Retrieval) software
- Programmatic mappings
- Apelon TDE (Terminology Development Environment) for final human review and mappings by 5 nurse terminologists

III. Status

- Current number of terms and mappings
 - 15k total terms
 - 10k algorithmically mapped
 - 4k human mapped
 - 1k unable to be mapped
- Usage

Number of Terms and Mappings

Category	Total	Algorithm	Human	Residual
Conditions	7000	5000	1800	200
Procedures	4000	2000	1700	300
Anatomy	1400	800	500	100
Drugs	1300	700	400	200
General	1000	200	400	400
Alternative	400	20	80	300
People	300	150	100	50

Usage

- Web portal searches
- Translate from professional to consumer
 - Clinical notes
 - Discharge summaries
 - Explanation of Benefits
- Translate from consumer to professional
 - Personal health records
 - On-line consultations

IV. Applicability to email

- A scenario that Apelon did not initially consider
- Automated email vs. personally written
- Type of provider writing email (MD, PA, APRN, RN, MA, etc.)
- Vocabulary verification by software and potential mapping

V. Future Directions

- Standards
- Participants
 - Businesses, Academics, Private citizen groups, government
- Promotion and adoption by the Government
 - Become a term type within the UMLS Metathesaurus
 - Maintained by NLM