

Comparable and Consistent Content and Context

Terminology and Information Models

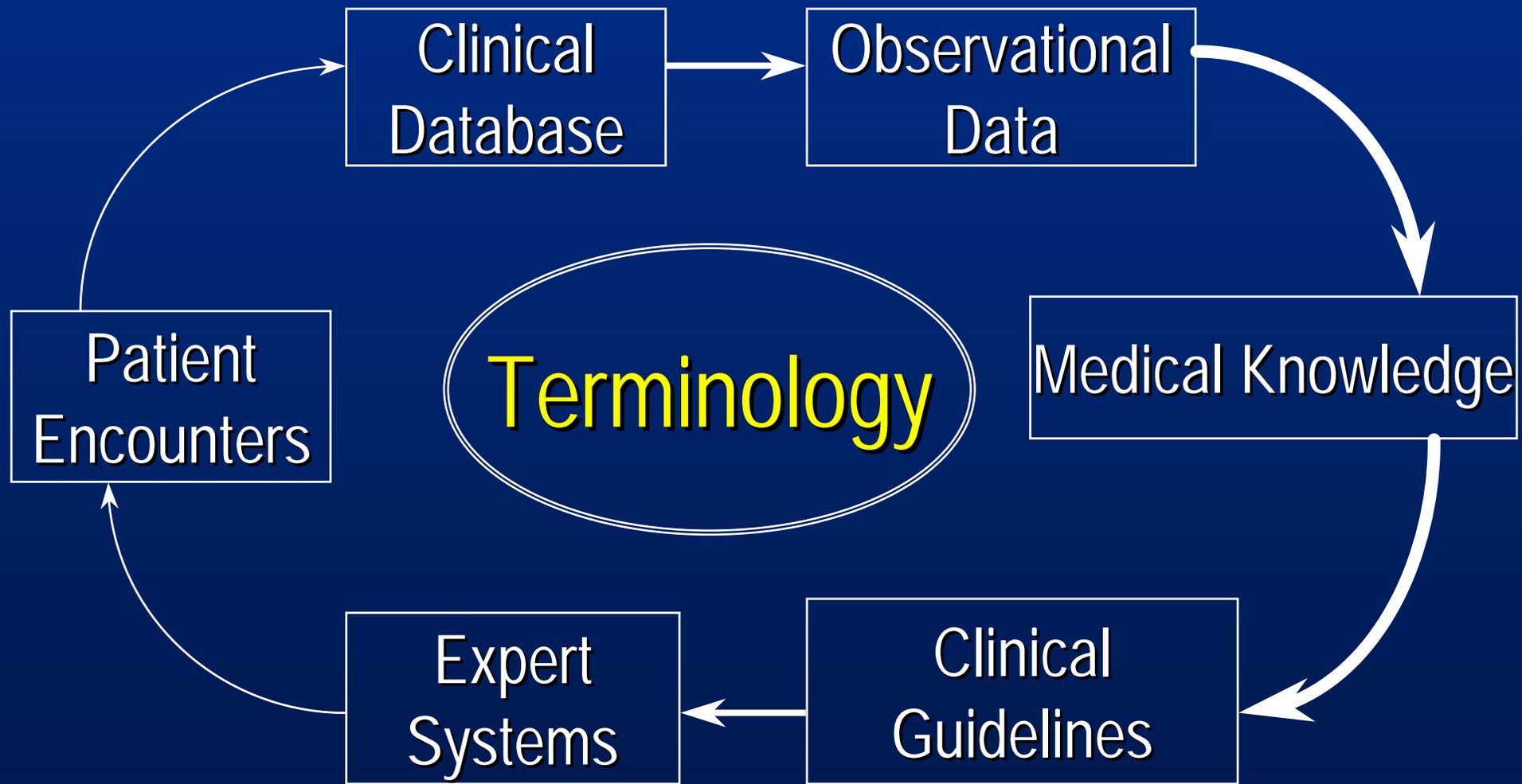
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Potential Inherent in Patient Data

- Disease Natural History
- Treatment Response (non-RCT)
- Basis for Guidelines, Clinical Paths, Best Practice – Error Reduction
- “Just in Time” Source for Decision Support
 - ◆ Have *we* seen a patient just like this...
- **Efficient and Effective Care Delivery**

Necessary Component: Content

Central Role of Terminology



Content is Not Sufficient: Has Context in "structure" of Record

- Family History of Breast Cancer
- Family History of Heart Disease
- Family History of Stroke

VS.

Family History

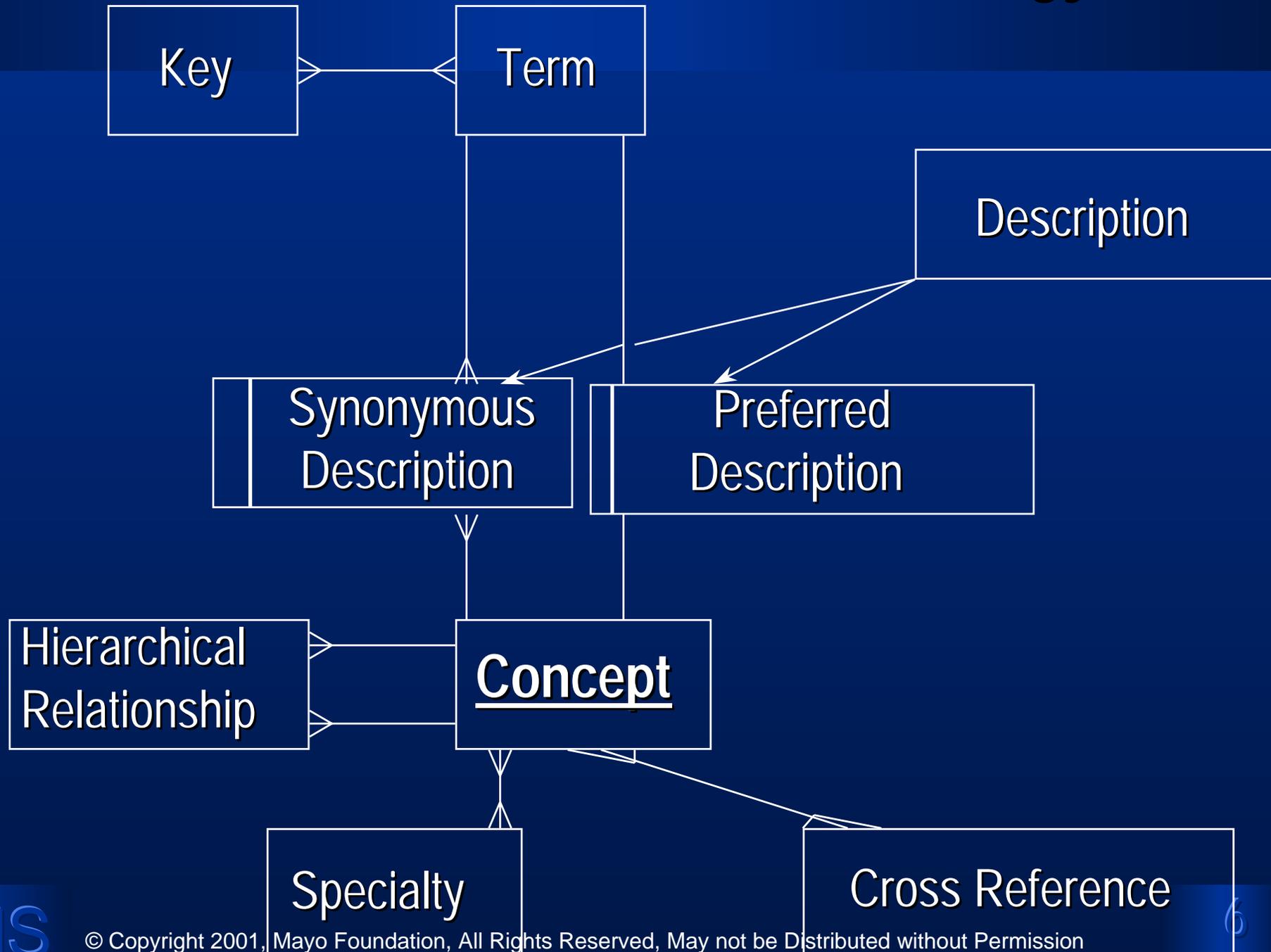
Breast Cancer
Heart Disease
Stroke

Message: Content and Context Boundary Between Terminology and Models

- Acknowledge Multiple Uses of Patient Record to Improve Care
- Heritage of Advocating **Comparable** and **Consistent** Data (Content) Representation
- Recognition that **Context**, as Manifest in **Information Models**, is Crucial

NHS Clinical Terms V 3 Structure

An Information Model of A Terminology



Unified Medical Language System Information Model

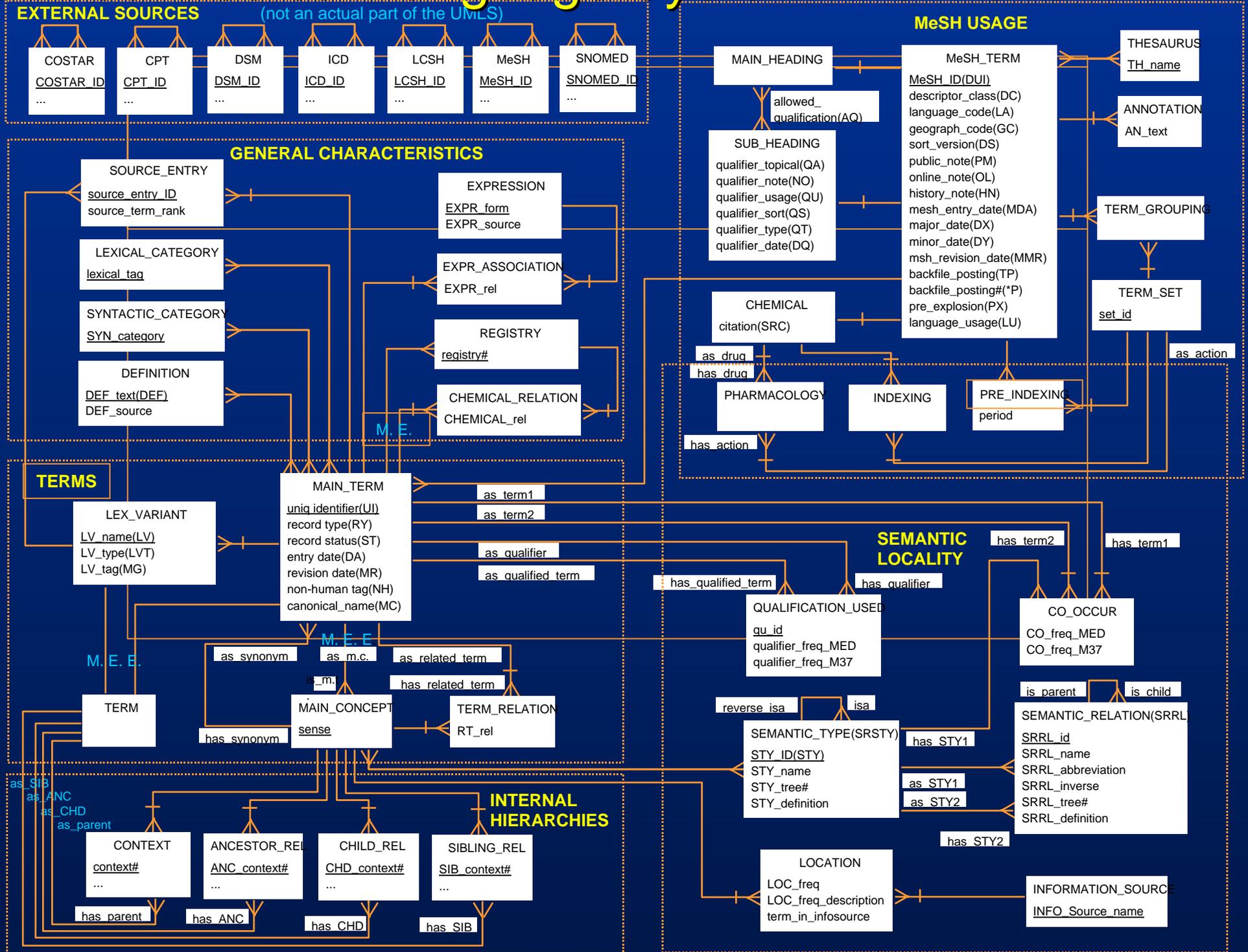


Figure 2. LDS of UMLS (Sept'90 CDROM version)

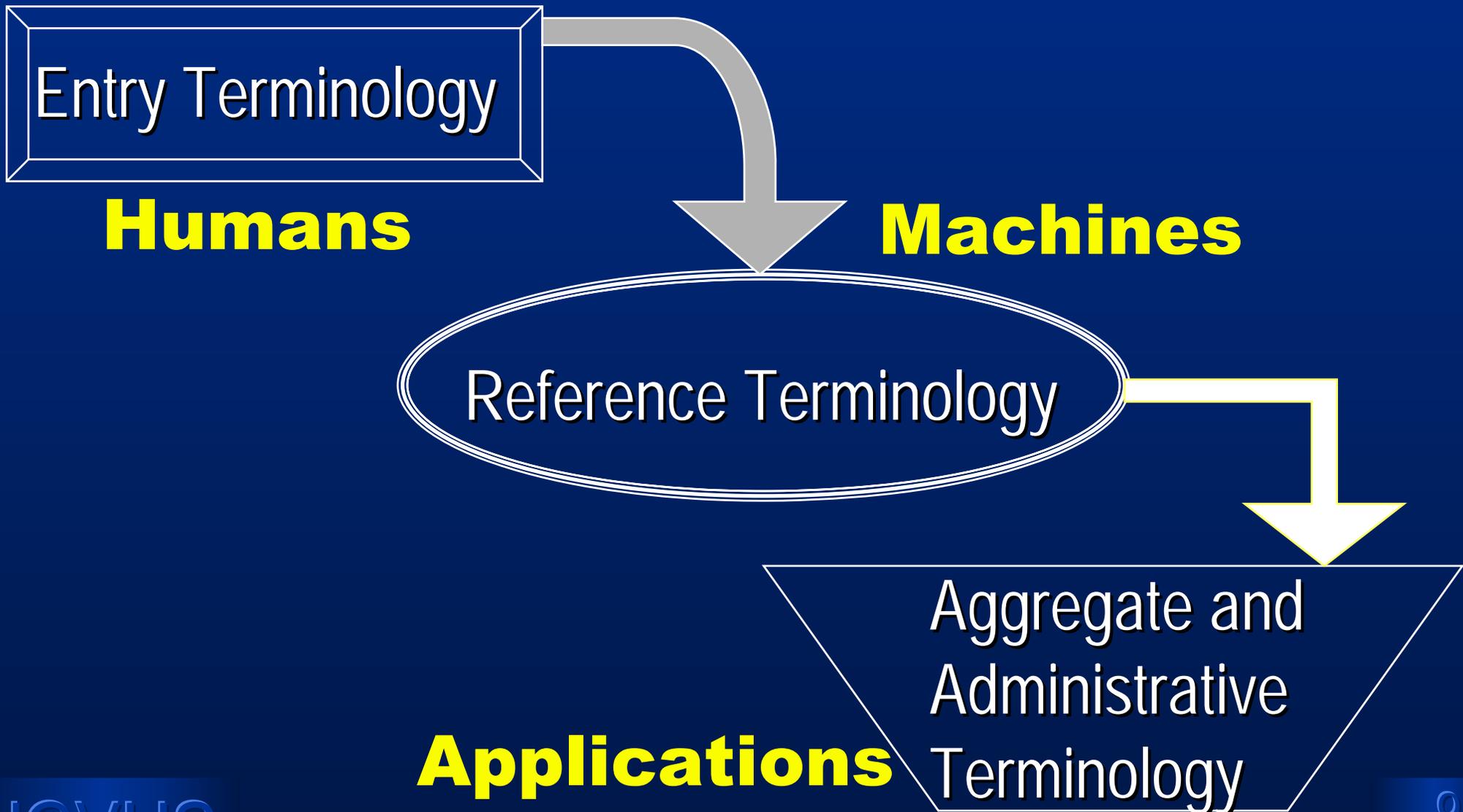
Familiar Points Along Continuum

Simple Notion of Meta-Context

- Nomenclature – Highly Detailed Descriptions (SNOMED)
- Classification – Organized Aggregation of Descriptions into a Rubric (ICDs)
- Groupings – High Level Categories of Rubrics (DRGs)



Terminology Systems Relationships Functional Role in Use



What Then, is an “Information Model”

- A Logical Structure that Asserts the Roles and Relationships Among Parts of the Medical Records
- A Practical Resource that Helps to Define the Context (in the record) of A Piece of Health Information

Recall That Interpreting Information is Dependent on Context

- Family History of Breast Cancer
- Family History of Heart Disease
- Family History of Stroke

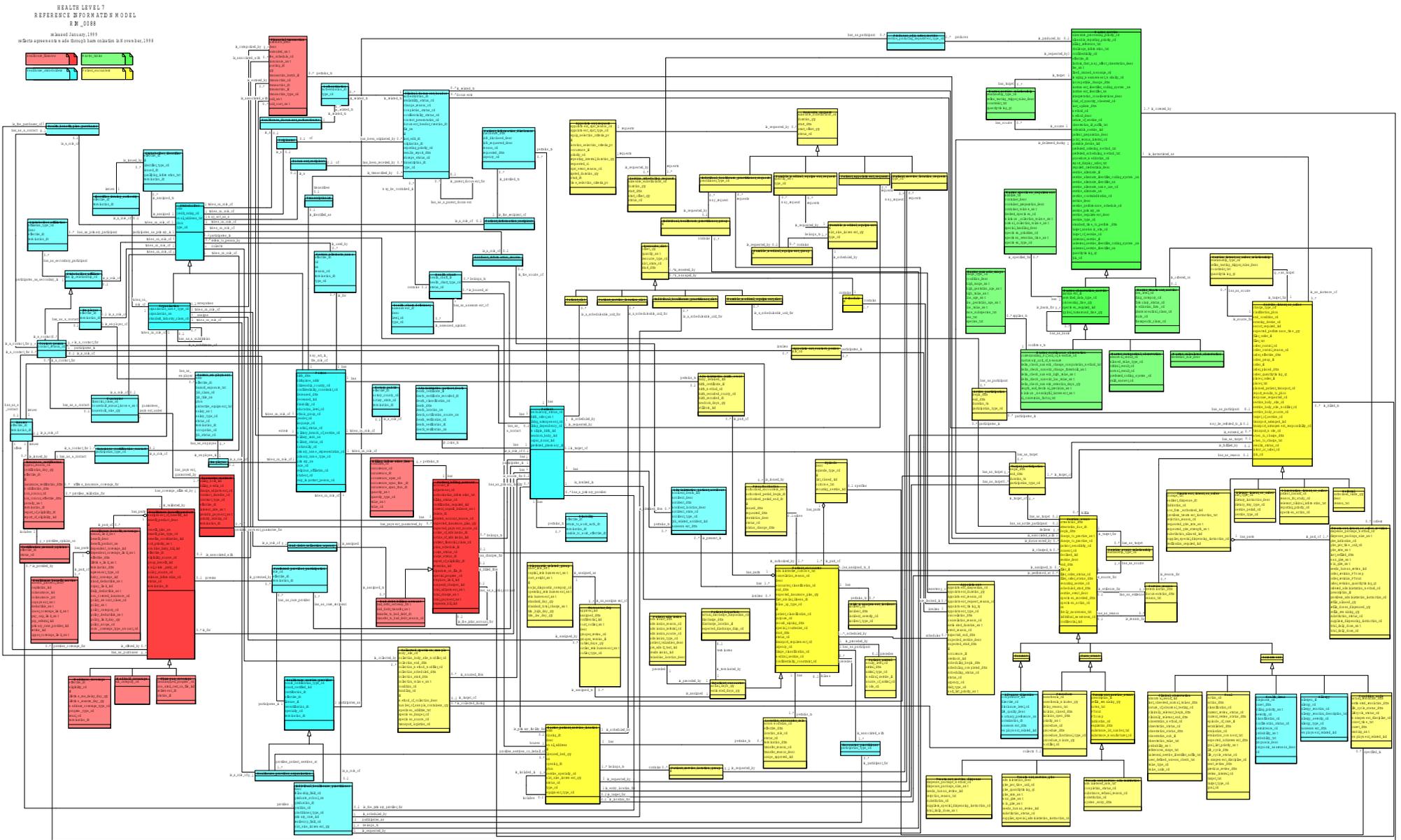
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Data Model Standards

The HL7 Reference Information Model



How Do We Keep All This Straight?

Comparable and Consistent, Content and Structure

The Role of MetaData

- Metadata is Data About Data
 - ◆ Names of Data Elements – Correspondence
 - Sex maps to Gender
 - ◆ Values of Data Elements
 - 01 maps to Female maps to F
 - ◆ Can Include Structure of Data

The US Health Information Knowledgebase USHIK

- Metadata About Health Information Standards – Content and Structure
- Vocabularies, Messaging Standards, Information Models
- Illustrates Correspondence Across Overlapping Standards
- Begins to Define the Big Picture

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