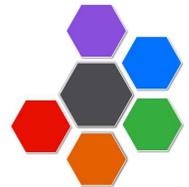


Insights to Inspire 2021

Informatics: Journey to Interoperability



Adam Wilcox, PhD
University of Washington



The Language of Informatics

Objective: Provide definitions and examples of common Informatics terms/phrases.



Definitions and Real World Examples

- Informatics
 - Governance
 - Provenance
 - Maturity Model
 - Interoperability
 - Optimization
- Infrastructure
 - Extract, Transform and Load
 - CDM
 - Data model(s)
 - Brief description of most popular similarities/differences



Informatics

- “The science of processing data for storage and retrieval; information science.”
–Oxford English Dictionary
- “Informatics is the science of how to use data, information and knowledge to improve human health and the delivery of health care services.”
– American Medical Informatics Association
- “Informatics is the study, design, and development of information technology for the good of people, organizations, and society.”
– Information School, University of Washington
- “Informatics transforms raw number data obtained from large-scale experiments into actionable decisions in chemistry and biology.”
– National Center for Advancing Translational Sciences
- Biomedical informatics
- Bioinformatics
- Health informatics
- Public health informatics
- Cancer informatics
- Clinical research informatics



Governance

- “the act or process of governing or overseeing the control and direction of something.”

-Merriam-Webster Dictionary

- “...it involves the answers to three key questions: How are decisions made? Who has a voice in making these decisions? Ultimately, who is accountable?”

-Institute on Governance

- “...a system for defining who within an organization has authority and control over data assets and how those data assets may be used.”

- CIO

- Data governance
- Information technology (IT) governance



Provenance

- “The beginning of something’s existence; something’s origin.”
–Oxford English Dictionary
- “‘data provenance’ refers to a record trail that accounts for the origin of a piece of data (in a database, document or repository) together with an explanation of how and why it got to the present place.”
–Encyclopedia of Database Systems
- “Data provenance is the documentation of where a piece of data comes from and the processes and methodology by which it was produced.”
– Hazeline Asuncion, University of Washington
- Data provenance



Maturity Model

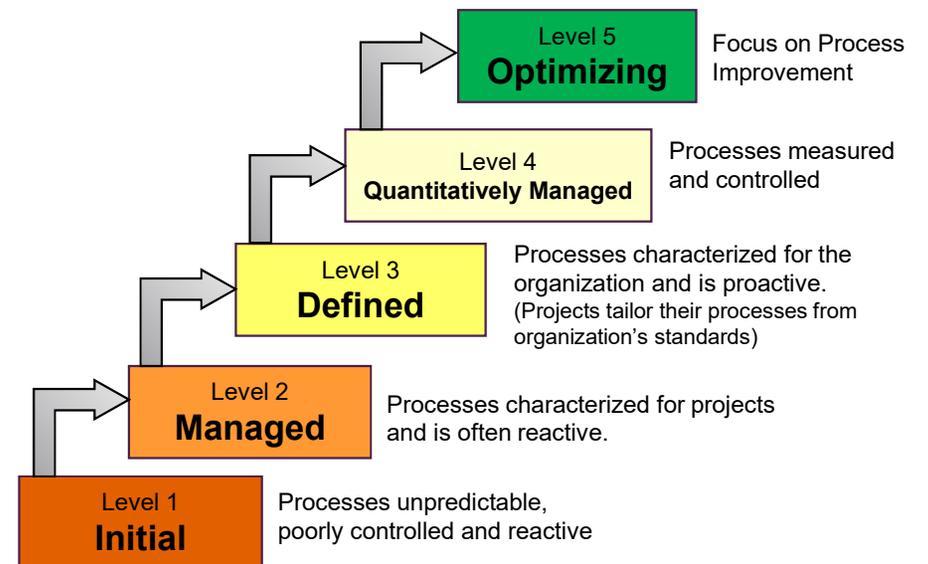
- “a set of characteristics, attributes, indicators, or patterns that represent progression and achievement in a particular domain or discipline”

–Software Engineering Institute, Carnegie Mellon University

- Related terms:
“Adoption Model”
“Deployment Index”

- Capability Maturity Model

Characteristics of the Maturity levels





Interoperability

- “the ability of two or more systems to exchange health information and use the information once it is received.”
–Office of the National Coordinator for Health Information Technology

- Health interoperability



Optimization

- “the process of refining an install of HER (electronic health record) software to serve a practice’s own needs and which tends to focus on clinical productivity and efficiency.”
–EHR Intelligence
- EHR optimization



Infrastructure

- “the underlying foundation or basic framework (as of a system or organization)”

–Merriam-Webster Dictionary

- “IT [information technology] infrastructure is the system of hardware, software, facilities and service components that support the delivery of business systems and IT-enabled processes.”

-Gartner

- Health IT infrastructure



ETL (Extract, Transform, and Load)

- “ETL is short for **extract**, **transform**, **load**, three database functions that are combined into one tool to pull data out of one database and place it into another database.”
 - Vangie Beal, Webopedia
- “Extract Transform Load refers to a trio of processes that are performed when moving raw data from its source to a data warehouse, data mart, or relational database.”
- Database ETL

- Informatica



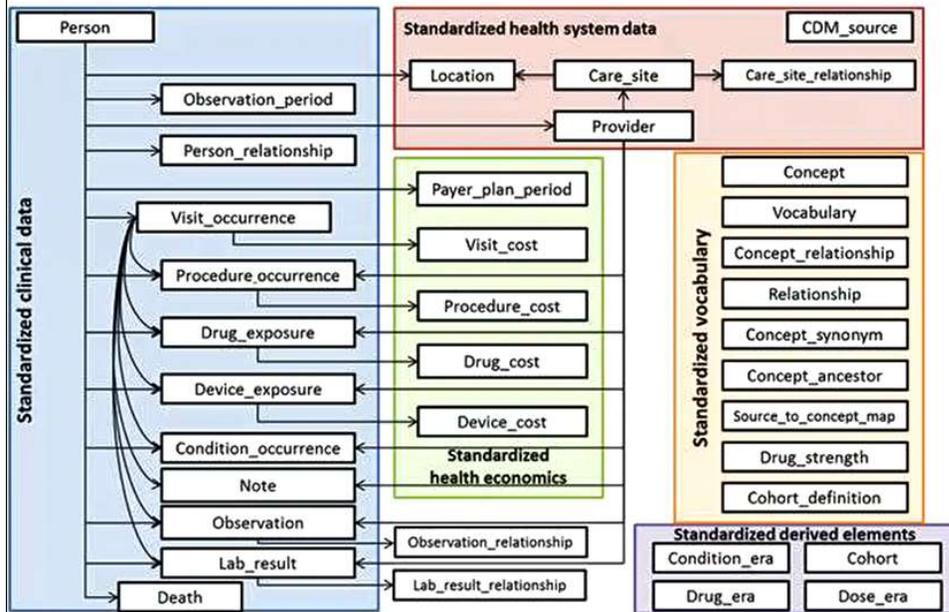
CDM (common data model)

- “The Common Data Model is a declarative specification, and definition of standard entities that represent commonly used concepts and activities across business and productivity applications, and is being extended to observational and analytical data as well.”
–Microsoft
- “A common data model (CDM) standardizes the definition, format and content of data across participating data partners so that standardize3d applications, tools and methods can be applied.”
- PCORnet
- Microsoft CDM
- OMOP CDM
- PCORnet CDM



Data Model(s)

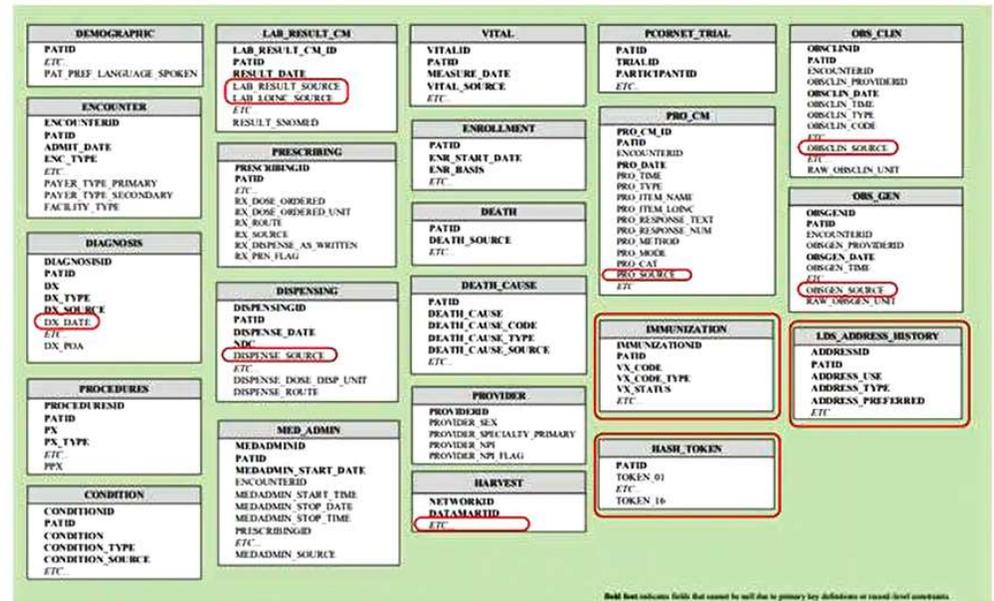
OMOP CDM



PCORnet CDM

PCORnet Common Data Model v5.1

New to v5.0



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Takeaway Points from Webcast

- Informatics language includes concepts that describe methods, characteristics and tools that are generally used in the field
- Each concept discussed has a specific application in the practice of informatics
- There are major concepts in the field that represent significant activities in “data, information and knowledge”



What's Next...

- We encourage you to view these webcasts as they provide foundational information for the rest of the series:
 - Language of Informatics
 - Introduction to Informatics
 - Importance of Interoperability
 - Introduction to Maturity Models
- After that, please view the remaining webcasts in the order of your choice by searching CLIC_CTSA on Vimeo or YouTube



Thank you for viewing
The Language of Informatics

