Interoperability: Where are we now and where are we going?
STANDARDS AND INTEROPERABILITY: HARD IN THE CONCRETE, IMPOSSIBLE IN THE ABSTRACT
Interoperability only makes sense in the context of what you want to DO

Interoperability (IEEE)
- Ability of two or more systems to **exchange** information
- Ability of those systems to **use** the information that has been exchanged
THERE WILL NEVER BE ONE MODEL TO RULE THEM ALL
Different information models of the same information

Clinical Care

- Patients
  - Visits
  - Lab tests
  - Results

Research Data warehouse

- Tests
  - Results
  - Patients

Clinical Studies

- Studies
  - Arms
  - Patients
  - Results
Technical stack

- **Meaning**: How should well-defined values be coded so that they are universally understood?
- **Content Structure**: How should the message be formatted so that it is computable?
- **Transport**: How does the message move from A to B?
- **Security**: How do we ensure that messages are secure and private?
- **Services**: Purpose-specific APIs and services that leverage the 4 other building blocks

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THE ONLY STANDARD YOU NEVER CHANGE, IS A STANDARD YOU NEVER USE

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Standards life cycle

You are here

New and emerging

Mapping?

Current state-of-the-art

Widely adopted, but declining value
A PATH OF LEAST REGRET: THREE THINGS WE NEED
BUILD DOCUMENTS FROM DATA, NOT THE OTHER WAY AROUND
What is needed: A common format for granular data

- Quality Measures
- Clinical Decision Support
- Registries
- Common data formats for
  - Text data
  - Categorical data
  - Numerical data
  - More...
FULL EXPORT OF THE PATIENT RECORD (AND NARRATIVE)
Restore the importance of the narrative and unstructured text

- Move patient between vendor “ecosystems”
- Precision medicine
- Restore the balance of power for access to data
- Maintain the importance of the narrative in the medical record
TEST BOTH SIDES OF EXCHANGE
Postel’s principle

• When you send, conform to the standard
  – Pick a set of options and make sure it conforms to a valid instance of the standard

• When you receive, accept ANY version that conforms to the standard
  – Any variation that is valid

• Create the conditions of interoperability when you create the standard, rather than when you implement it