Interoperability and Data Standards

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The Multiple Dimensions of Interoperability and Data Standards
Philip Payne,
The Ohio State University Wexner Medical Center

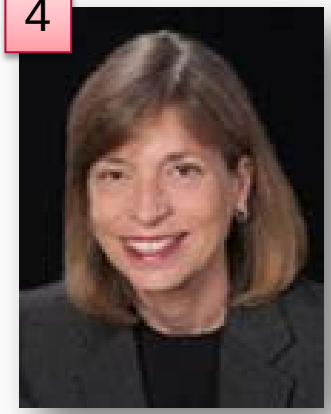
2

Building on Standards to Deliver an "App Store" for Health Care
Stan Huff,
University of Utah and Intermountain Healthcare

3

Fundamental Basis for Data Standards
Chris Chute,
Mayo Clinic

4



Standards Enabling the Conduct of Clinical Research
Becky Kush,
CDISC

The Multiple Dimensions of Interoperability and Data Standards in the Clinical and Translational Research Domains

Philip R.O. Payne, Ph.D.

Chair, Department of Biomedical Informatics

Director, Biomedical Informatics Shared Resource, Comprehensive Cancer Center

Director, Biomedical Informatics, Center for Clinical and Translational Science

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Improving People's Lives

through innovation in research, education and patient care

NCIP Workshop, May 2012

The Multiple Dimensions of Standards and Interoperability

Creating Dynamic, Interoperable Systems

Technology

- Deployment model
- Systems integration
- Extensibility

Lowering Barriers to Adoption

Data Sharing

- Vocabularies
- Semantics
- Knowledge engineering processes

Facilitating Sharing and Integration

Empowering Knowledge Workers

- Tools and best practices
- Governance
- Socio-cultural factors

Solving Real World Problems

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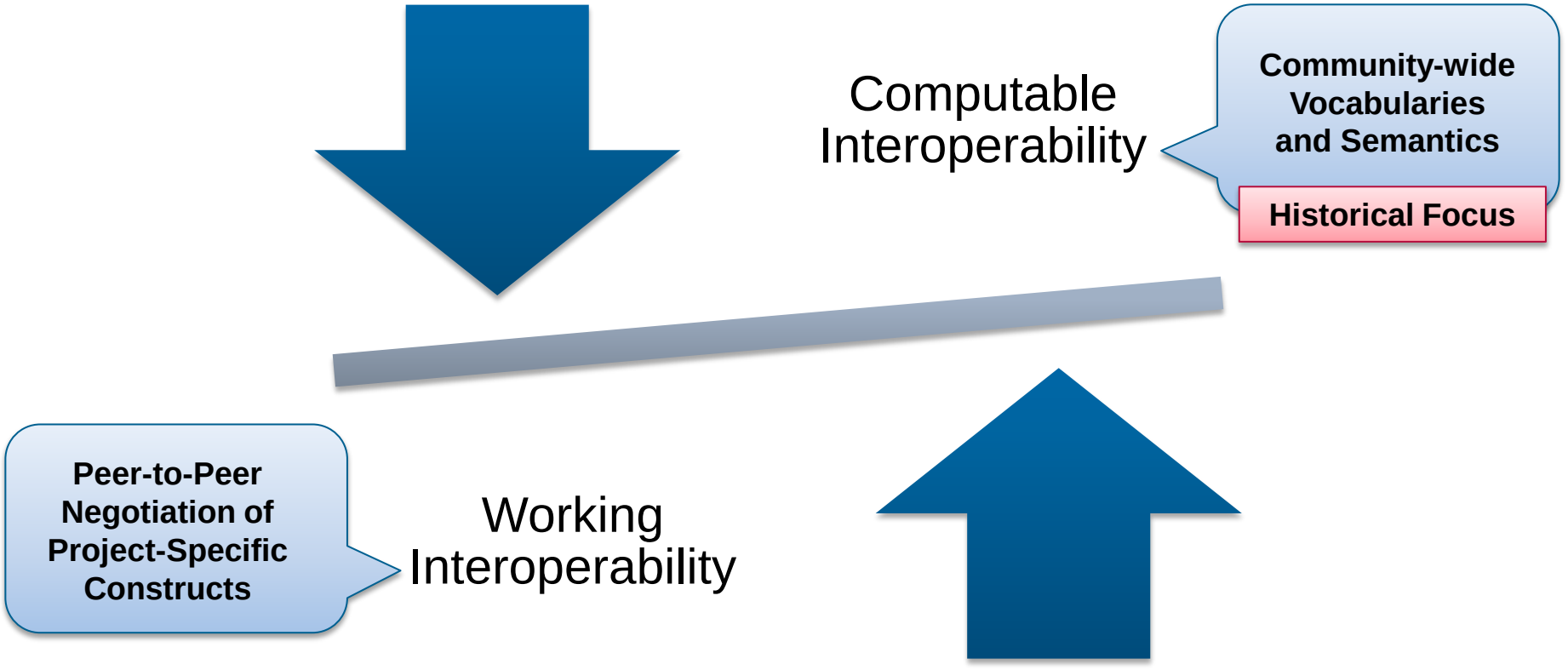
A Balanced Approach to Data Standards and Shared Semantics



Impact on Community-wide:

- ✓ Governance
- ✓ Technologies
- ✓ Software Engineering Approaches

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Empowering Knowledge Workers

Critical Issues:

- ✓ Workflows that enable engegament by Subject Matter Experts
- ✓ Tight coupling of knowledge engineering efforts and research programs that can define "real world" driving problems
- ✓ Facilitation and support of interdisciplinary, team science models (including basic and translational scientists, clinical researchers, <u>and</u> informaticians)

Biomedical Informatics ≠ Engineering

Systems-level Approaches To Interoperability and Usability Are Essential

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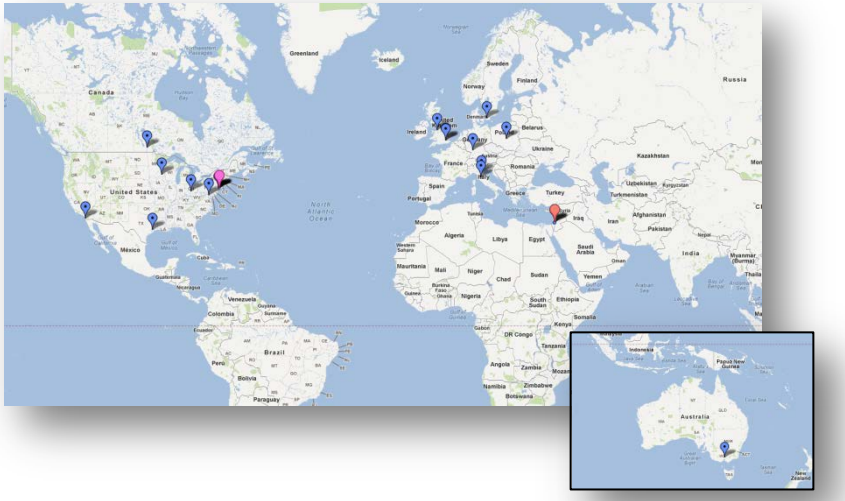
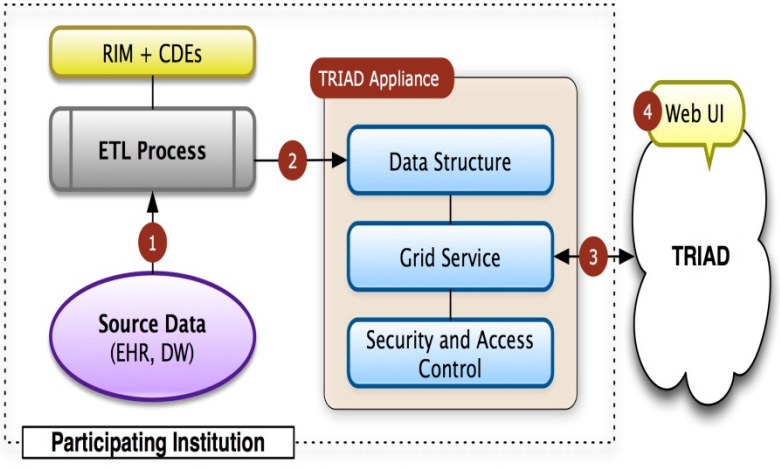
A Real World Example: The HCLRC

- **HCL Research Consortium (HCLRC)**
  - International group of 18 sites
  - Focus on basic science and clinical research related to HCL
    - Access to data and tissue is critical
  - “Centers of Excellence” for patient community
  - Patient and provider information portal
    - www.hairycell.org
- **An Informatics Solution**
  - Simple, appliance-based technology deployment model
  - SME-defined reference information model and mappings to common data elements (using openMDR)
    - Harmonized with major data standards
  - Federated query via TRIAD derivative of caGRID
  - Easy-to-use Google Web Toolkit based query portal
  - Initial focus is on 3 pilot adopter sites, with 12-18month consortium-wide deployment plant





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Thank you for your time and attention!

- philip.payne@osumc.edu
- http://bmi.osu.edu/~payne