The Power of UC Data Sharing

UC-Wide Biomedical Research Acceleration Initiative Retreat

10/08/10
Evolution of Data Sharing

Cross-institutional Cohort Discovery

Limited Data Sets

Comparative Effectiveness

Quality of Care

CTSA i2b2 tools

HOMERUN Research Project

Enterprise Level UC-REX tools
UC Davis

• 2,032,031 patients in the system
• first visit in EMR - 2003
  – lab and radiology results first,
  – then clinical documentation with encounters,
  – then medication order entry

- 1,369,104 lab records
- 391,381 patient encounters
- 248,878 medication orders
UC Irvine

- 1,382,167 patients in data warehouse
- Year of first record = 1992
- New patient records/month in 2010 = 3,600
UCSD

- 2 million patient records
- First year on record: 2005
- Inpatient data in Epic since April 2010, but we will be getting data from 2006
- Lab results from 2003
UCSF

• 2.7 million patient records (12 years of data)
• UCSF School of Dentistry EMR to be added soon (500,000 patients)
  – The two MRN schemes are not linked, so we cannot yet determine the overlap
• San Francisco General Hospital to be added next spring (1.3 million patients, 22 years of data)
Cross-Institutional Cohort Discovery

UC Davis

UCF

UC System data sets

UC Davis

UC Irvine

UC System data sets

UCSF

Reference Ontology

UC Davis Researcher
• Research
  – counts
  – associations
  – disease surveillance
  – safety of new
    • Medications
    • Devices
• Data from the Data Warehouse that can automatically be pulled into other applications
  – Disease-specific research registries
  – Clinical trial management systems
  – Biosample repositories
• Data can be shared with other institutions
  – Practice-based research networks
Demo
Cohort Discovery in Context

Data Governance (policy, semantics)

Ontology Management & Data Curation

Epic EMR
Labs
Billing
Genomic
Clinical Trials

Staging Data Warehouse

Researcher
IRB
Data Request Fulfillment
HOMERUN  
(Hospital Re-engineering Network)  

• Comparative Effectiveness Research  
• Compares the results of a hospital’s business processes to the mean exposed on HOMERUN  
• Data use agreement strictly enforces the appropriate use of data collected from the network  
• A web based portal to mask individual hospital performance data when necessary  

PI Auerbach
UC Data Sharing

Cross-institutional Cohort Discovery

Limited Data Sets

Comparative Effectiveness

Quality of Care

CTSA i2b2 tools

HOMERUN Research Project

Enterprise Level UC-REX tools
Bottom Line

UC invested > $500,000,000 to collect patient data through EMRs

< 1% of this needed to enable data sharing initiatives for research and quality improvement