Transforming Health and Life Sciences through Advanced Analytics

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The Library at Alexandria

- Opened around 300 BC
- Unknown quantity, but likely ~300,000 scrolls
- Created a papyrus shortage and the promotion of parchment

Could anyone find anything?

Image from Wikipedia.org
Where are your analytics looking?

Image courtesy of http://www.flickr.com/photos/urbanwoodchuck/3941783849
Innovation Opportunity Abounds

- Telemedicine
- Genomics
- Value-based Business Models
- Non-traditional Data Sources
- High-performance Analytics
- Open Innovation
- Cloud Computing
- Pervasive Computing
- EMR
- Permutation Computing
- SAS®
You and 49 friends, enemies, and strangers
One pen flashlight each
One exit hatch somewhere
Hatch is weight activated (over 5,000 lbs.)
Emerging from the Dark

Alignment of Incentives & Goals

Shared Data & Insights

Structural Organization
Convergence

The transformations needed in the healthcare ecosystem require shared data and insights across previously siloed markets (payers, providers, regulators, and pharma)

An era of collaboration around health analytics
Health analytics is the domain of advanced analytics focused on providing strategic insights into the interdependencies in health outcomes, profitability, and customer preferences and behaviors. *

* Burke, J (2011) “The Next Era is Here”, A Shot in the Arm, SAS Institute
A “Target Rich Environment”

Example:
National Collaborative for Bio-Preparedness
Other Examples

- Clinical Trials Optimization
- Bundled Payment Analytics
- Contract Effectiveness
- Health Risk Stratification & Optimization
Do we care about “big data” or “big insights”?

Image courtesy of http://www.flickr.com/photos/strangrthancandy
DATA Issues
Storage
Structure
Timeliness
Semantics & Language
Validity
Reliability
Triage
Pedigree

INSIGHT Issues
Innovation
Health Outcomes
Profitability
Productivity
Translational Science
Customer Intimacy
Risk
Value

Image courtesy of http://www.flickr.com/photos/jdhancock
In an industry with more than 1,000 measures, how will we know which ones actually matter?
DEPARTMENT OF HEALTH AND HUMAN SERVICES

Agency for Healthcare Research and Quality

Request for Information on Quality Measurement Enabled by Health IT

AGENCY: Agency for Healthcare Research and Quality (AHRQ), Health and Human Services (HHS).

ACTION: Notice of Request for Information (RFI).

SUMMARY: The Agency for Healthcare Research and Quality (AHRQ) requests information from the Public, including diversified stakeholders (health information technology (IT) system developers, including vendors; payers, quality measure developers, end-users, clinicians, health care consumers) regarding current successful strategies and challenges regarding quality measurement enabled by health IT. Quality measurement—the assessment of the timeliness, completeness and appropriateness of preventive services, diagnostic services, and treatment provided in health care—has been most generally conducted via paper chart information capture, manual chart abstraction, and the analysis of administrative claims data.

DATES: Submit comments on or before August 20, 2012.

ADDRESSES: Electronic responses are preferred and should be addressed to HIT-PTQ@AHRQ.hhs.gov. Non-electronic responses will also be accepted. Please send by mail to: Rebecca Roper, Agency for Healthcare Research and Quality, Attention: HIT-Enabled QM RFI Responses, 540 Gaither Road, Room 6000, Rockville, MD 20850, Phone: 301–427–1535.
The End of Theory: The Data Deluge Makes the Scientific Method Obsolete

By Chris Anderson 06.23.08
Hypothesis- or Data-Driven?

HISTORICAL VIEW

- Theoretical Framework
- Testable Hypothesis
- Empirical Study
- Data Investigation

ALTERNATE VIEW

- Data Investigation
- Testable Hypothesis
- Theoretical Framework
- Empirical Study
Example: Health Outcomes Analysis
What Happens with “Patients Like This One”
Policy- or Practice-Oriented?

- Genetic
  - Genomic Profile
  - Genetic Markers
- Demographics
- Co-Morbidities
- Subscriptions
- Social Media
- Website Traffic
- TV Habits
- Geography
- Medications
- Drug Response
- Adherence
- Credit Information
- Purchasing Patterns

Broad Groups

Individuals
Complexity Exceeds Cognition

Image courtesy of http://www.flickr.com/photos/wonderlane
Contact Information

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