Advancing Research to Improve Patient Safety through Health IT

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HL7 Annual Plenary Meeting
September 11, 2017
Agenda

- Agency background
- Patient safety highlights from AHRQ’s health IT research portfolio
- AHRQ’s clinical decision support initiative
- Questions and suggestions
HHS Organizational Focus

NIH
Biomedical research to prevent, diagnose, and treat disease

CDC
Population health and the role of community-based interventions to improve health

AHRQ
Long-term and system-wide improvement of health care quality and effectiveness
AHRQ Mission

To produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and to work within HHS and with other partners to make sure that the evidence is understood and used.
To produce evidence about how health IT can make health care safer, higher quality, more accessible, equitable, and affordable, and to work within HHS and with other partners to make sure that the evidence is understood and used.
Health IT Research

• Current health IT research portfolio
  – Approximately 125 active grants
  – Approximately $126 million across all grants and project periods
  – Range of mechanisms and sizes

• Wide spectrum of topics
  – Clinical decision support
  – Mobile health and telehealth
  – Health IT design and implementation
  – Health IT safety
Special Emphasis Notice for Research on Health IT Safety

• NOT-HS-16-009 published March 2016

• Encourages research applications on safe health IT practices, specifically
  – design, implementation, usability, and safe use of health IT
  – all users, including patients

• Applies to range of funding mechanisms and opportunities
Measures of Health IT Safety

• Wrong Patient Retract-And-Reorder Measure (NQF #2723)
  – Jason Adelman, MD (Columbia University, New York-Presbyterian Hospital)
  – Guiding policy on multiple records open in EHRs
  – Identifying wrong dose, wrong medication, wrong route, wrong frequency errors
  – Providing evidence for patient photographs in EHRs to reduce wrong patient errors

Safe Performance of Health IT

• Updating Leapfrog’s EHR “flight simulator”
  – David Bates, MD (Partners Healthcare, Brigham and Women’s Hospital)
  – Further developing the Computerized Physician Order Entry (CPOE) Assessment Tool currently administered via the Leapfrog Hospital Survey
  – Measuring national progress on test performance
  – Updating the test’s platform, formularies, and evidence-base
  – Adding new modules

Design/Usability of Health IT

• Automating detection of patient safety hazards related to health IT in reported events
  – Raj Ratwani, PhD (Medstar)
  – Using natural language processing and machine learning to identify health IT-related patient safety events
  – Categorizing health IT-patient safety events as design or implementation related
  – Developing and disseminating a user-centered design guide with implementation guidance

See https://healthit.ahrq.gov/ahrq-funded-projects/developing-evidence-based-user-centered-design-and-implementation-guidelines#h=ratwani developing
Encouraging Use of Standards in Research Applications

• Example: Clinical Quality Language (CQL) for use in clinical decision support
  – Developing New Clinical Decision Support to Disseminate and Implement Evidence-Based Research Findings (R18) (PA-17-261)
  – Scaling Established Clinical Decision Support to Facilitate the Dissemination and Implementation of Evidence-Based Research Findings (R18) (PA-17-260)

See https://www.ahrq.gov/funding/fund-opps/index.html
Clinical Decision Support Initiative (http://cds.ahrq.gov)

Accelerating evidence into practice through CDS and moving CDS closer to becoming more shareable, health IT standards-based, and publicly-available

Four main components:
1. Engaging a stakeholder community
2. Creating prototype infrastructure for sharing CDS and developing CDS
3. Advancing CDS through demonstration and dissemination research
4. Evaluating the overall initiative
Concept of Operations

- Trusted Contributor
- CDS Community
- Researchers
- Front End
- Back End
- CDS Repository
- Administrator
- Authorized Consumer
- EHR System
- CDS Community
- Healthcare Provider

CDS Connect

Concept of Operation (CONOP)
Patient-Centered CDS Learning Network
Analytic Framework for Action

1. PRIORITIZING
   Evidence for Dissemination via PCCDS

2. MEASURING
   PCCDS Impacts

3. AUTHORING
   PCCDS Interventions

4. IMPLEMENTING
   PCCDS Interventions

5. GOVERNANCE

6. MARKETPLACE

7. LEARNING

8. LEGAL

9. POLICY

AHRA
Agency for Healthcare Research and Quality
“Realizing the Potential of Patient-Centered Clinical Decision Support”

October 3, 2017 in Crystal City, VA (just outside DC)

https://pccds-ln.org/
Questions and Suggestions

• Incorporating standards into our funded research
• Leveraging CDS Connect to build and disseminate patient safety-related clinical decision support
  – CDS authoring tool
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