NIST – EHR Usability Program

Matt Quinn

matt.quinn@nist.gov
Agenda

- Mission and Role of NIST in EHR Usability
- Applying the Science
- Advancing the Science
- Establishing the Metrology
- Moving Forward
NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

NIST Laboratories conduct research that advances the nation's technology infrastructure and is needed by U.S. industry to continually improve products and services.
Why EHR Usability at NIST?

- Important, acknowledged issue
- AHRQ panel: “Specific best practices and standards of design, testing, and monitoring of EHR products not used or readily available”
- Applicable expertise in usability / HF
- Funding by ONC and NIST
Developing standards is a consensus based process.

NIST traditionally works with all stakeholders to develop standards, and then to ensure that the standards are harmonized and industry is able to implement them.
NIST Interacts and Collaborates with:

- Federal Partners
- Healthcare Community
- Industry
- Academia
- Workshop participants
Key Recommendations from (last year’s) NIST Workshop

- Usability is often misunderstood and the health IT community needs education now

- Human factors knowledge and expertise on usability (and accessibility) can provide guidance now

- Usability can be measured
NIST Activities– EHR Usability

- Applying the Science
- Advancing the Science
- Establishing Metrology
NIST Activities
Applying the Science

- NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records (NISTIR 7741)
- Customized Common Industry Format Template for Electronic Health Record Usability Testing (NISTIR 7742)
- Human Factors Guidance to Prevent Healthcare Disparities with the Adoption of EHRs (NISTIR 7743)
- Methodology of EHR Usability Evaluation Protocol (EUP)
NIST IR 7741 – UCD Processes

- Guidance on best practices for user-centered design

![Diagram](image-url)
NIST IR 7742 – CIF – EHR Edition

- ISO standard for reporting usability findings…adapted for HIT: allows users to reliably compare application performance with user testing

- Common Industry Format (CIF) for Reporting Summative Usability Studies
  - Assist vendors in demonstrating evidence of usability in their final product in a format that allows both independent evaluation of a single product and comparison across multiple products.
NIST Activities
Advancing the Science

- The Relationship Between Health IT Usability and Patient Safety: A Human Factors Engineering Framework for Action (Incorporated in EUP)

- Collaboration with SHARP–C (Work–Centered Design of Care Process Improvements in HIT)

- Health IT Usability Framework Research
  - Contract awarded to Wiklund, UW – Madison, Vanderbilt
NIST Activities

Establishing the Metrology

- EHR Evaluation Protocol (EUP)

- Health IT Usability Framework Research
  - Establishing a framework that defines and establishes measures for health IT usability
Where Do We Go From Here?

- Gain feedback on EUP
- Support collaboration
- Work closely with stakeholders
  - Government
  - Industry
  - Academia
  - Healthcare providers
Contact Information

Matt Quinn
matt.quinn@nist.gov
phone: 301-975-5936