

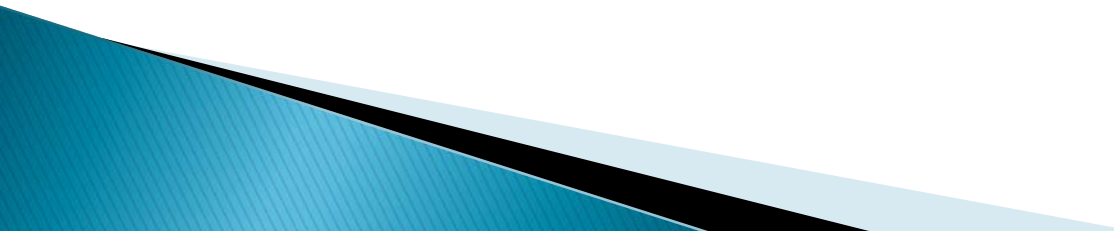
NIST – EHR Usability Program

Matt Quinn

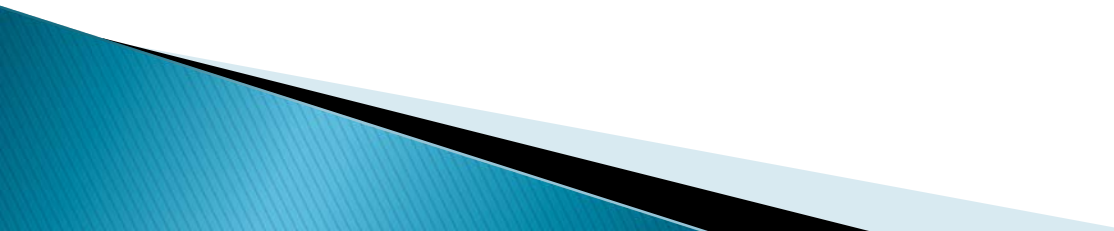


matt.quinn@nist.gov

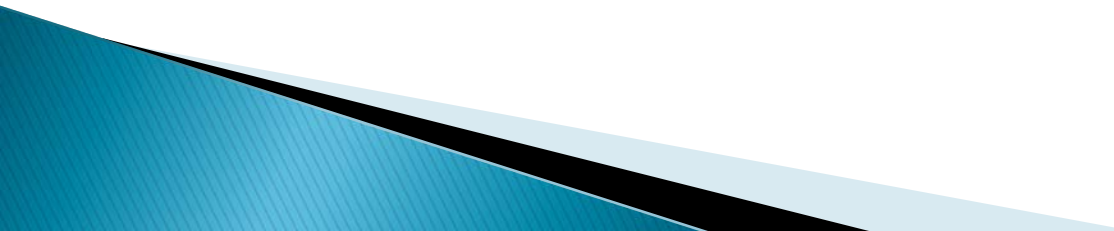
Agenda

- ▶ Mission and Role of NIST in EHR Usability
 - ▶ Applying the Science
 - ▶ Advancing the Science
 - ▶ Establishing the Metrology
 - ▶ Moving Forward
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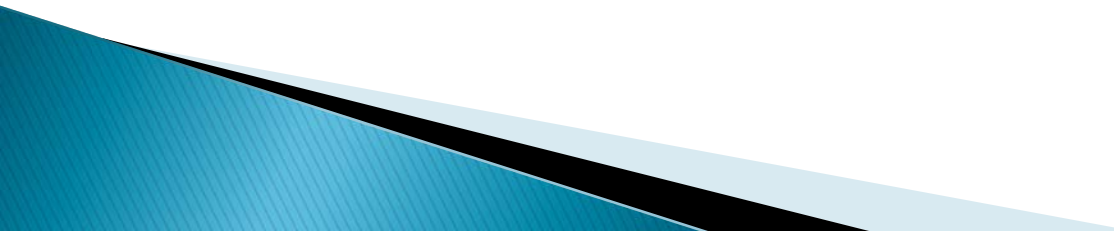
Mission and Role of NIST

- ▶ 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
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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
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Standards Development at 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
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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

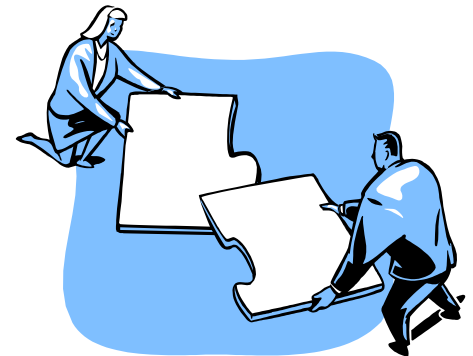
Advancing the Science

Establishing Metrology

NIST Activities

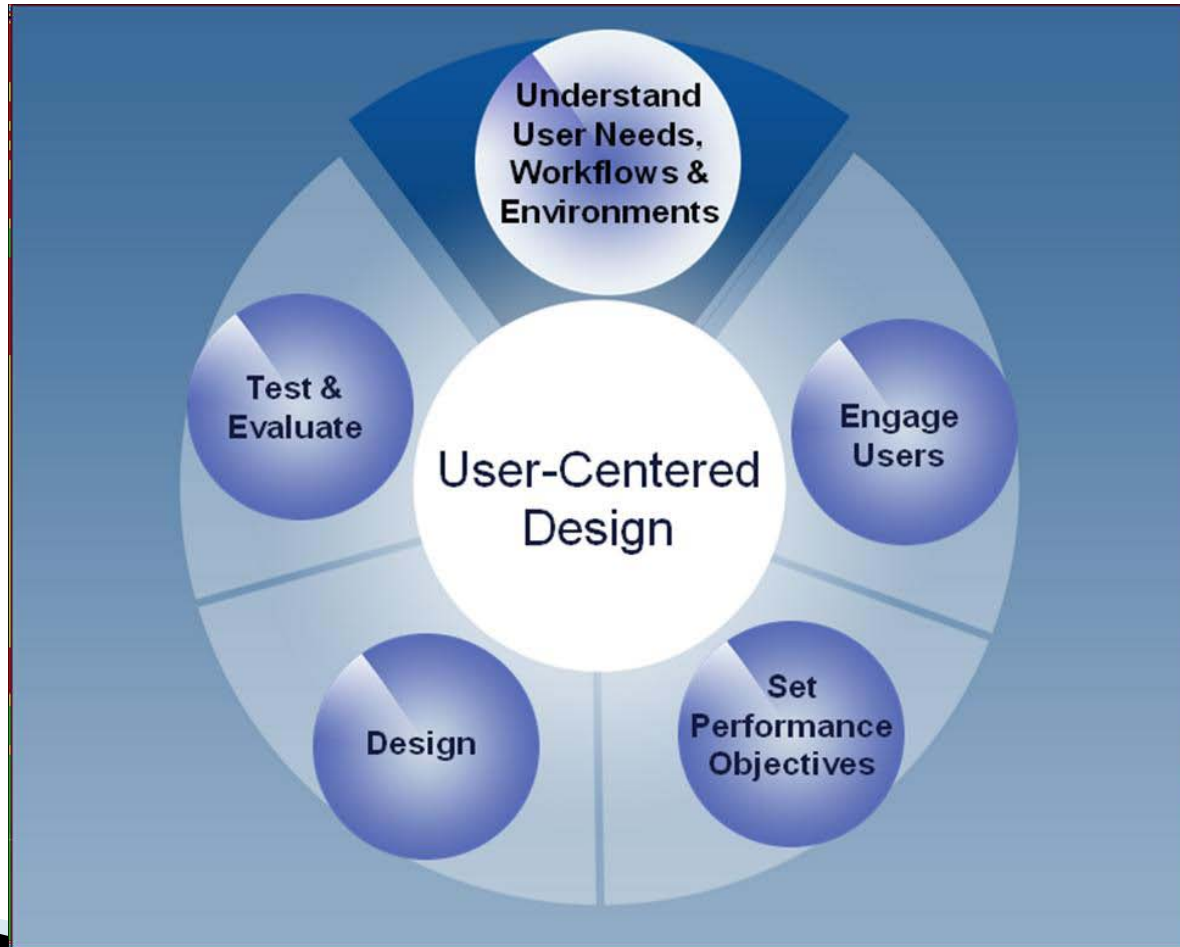
Applying the Science

- ▶ 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



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

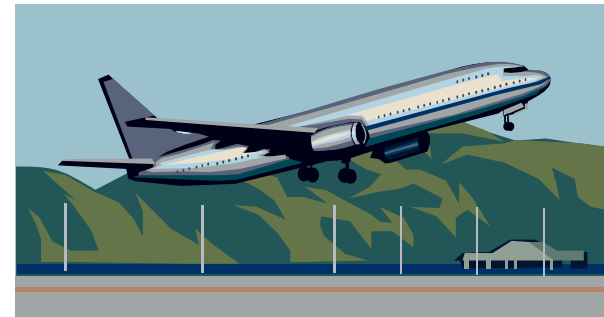
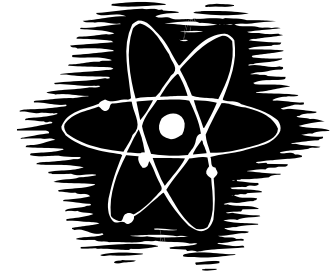
Establishing the Metrology

- ▶ 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