What do the Data Tell us about EHR Usability?

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Usability and User Centered Design

- Extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use
- Usability is measurable
- User centered design is a process for developing usable systems

ISO 3407
The Two Bins of Usability

1: User Interface Design
- Context Independent
  - Screen Design
  - Clicks & Drags
  - Colors & Navigation

2: Cognitive Task Support
- Context Dependent
  - Smart Data Visualization
  - Support Cognitive Work
  - Usefulness

Photo credit to Bob Wears, MD, PhD
Foundations

• Usability is critical to the effective, efficient and safe use of technology
  – Nearly every high risk industry invests heavily in usability (except healthcare)

• Usability is a science with clear principles and metrics
  – Benefits from specialized training

• Usability requires significant investment and extensive resources
  – Engagement from multiple stakeholders
Reported UCD Process

Summative Test Participant Demographics

MedStar/AMA Usability Framework

- Many use cases lack rigor
- Metrics are inconsistent
- Risks identified through testing are rarely described

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Major Gaps

• Implementation:
  – What are the critical decisions during implementation that have the biggest impact on EHR usability and safety?

• Safety Surveillance:
  – What processes can we put in place and how can we leverage this knowledge to improve products?
Collaborators

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