

The Relationship between Health IT Usability and Patient Safety: Towards an EHR Usability Safety Framework

Rationale and Goals

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US Healthcare System

“Best in the World”

Current Challenges

- Prevalence of Chronic Disease
 - Long term Clinical Management + Self management
- Burgeoning of the Senior population
 - Ambulatory and community based care models
- Inequality in Quality
 - Population differences and disparities
- Rising Healthcare Costs

Health IT

- Significant promise and potential
- Significant challenges to be overcome
 - Meaningful Use Stages 1 & 2
 - Adoption, Utilization
 - Meaningful Use Stage 3
 - Patient engagement and Population Health
 - “Electronic self manag. tools for high priority pts”
- **Success depends on response to challenges**
 - Problems could get worse

Health IT Reality Check

- If EHRs are simply electronic versions of paper records, then we will achieve the same results we now see...only faster.
- There is also potential for unintended consequences of Health IT that create new problems or exacerbate existing issues. (Providers and Patients)

Health IT Reality Check

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Research Paper ■

Disparities in Use of a Personal Health Record in a Managed Care Organization

DOUGLAS W. ROBLIN, PhD, THOMAS K. HOUSTON, II, MD, MPH, JEROAN J. ALLISON, MD, MSc,
PETER J. JOSKI, MSPH, EDMUND R. BECKER, PhD

- “...suggests that factors other than education, computer literacy, [socioeconomic factors] and computer access are driving the difference.”
- “...unanticipated consequence of these tools may be a resulting widening of disparities due to unequal ...use.”

Roblin, Houston, Allison et. Al.

Addressing the Challenges

- CMS
 - Staged roll out of Meaningful Use
- ONC
 - Develop EHR certification standards and specifications
- AHRQ
 - Research on EHRs & pt. safety, EHRs & under resourced settings, Consumer Health Informatics
- NIST
 - Guidance on relationship between usability and safety
 - Human Factors guidance to reduce disparities

Goals of the Usability-Safety Framework

- Provide practical, evidence based guidance to enable an understanding of the interaction between EHR usability and patient safety
- Provide guidance on those critical elements of usability that have an impact on patient safety

Goals of the Usability-Safety Framework

- Provide a conceptual basis for supporting EHR design, innovation and evaluation in a way that proactively maximizes system benefits to the users and eliminates as many system harms to providers and patients as possible.

The Way Forward

The choice is ours.

The Project Team

- **Lana Lowry, PhD** Human Factors Engineering
- **Matthew Quinn, PhD** Human Factors Engineering
- **Ben-Tzion Karsh, PhD** Human Factors Engineering, (EHRs)
- **Emily Patterson, PhD** Human Factors Engineering, (EHRs, Veterans Administration)
- **Bob Schumacher, PhD** EHR Usability, Cognitive Psychology
- **Patricia Abbott, RN, PhD** Human Factors Engineering, Nursing, Community Health
- **M. Chris Gibbons MD, MPH** Population Health, Healthcare Disparities, Consumer Health Informatics, Medicine

The Project Team

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