Evaluating Usability in Clinical Documentation Systems

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Creating More Independence

Key Learning Objectives

- ✓ To develop awareness of the need for and benefits of end-user **engagement in designing** effective clinical systems
- ✓ To identify the use of **usability testing** in validating system design
- ✓ To develop familiarity with **evidence based best practice guidelines** and **heuristics** for clinical applications
- ✓ Leave you feeling **inspired** to improve your clinical application systems!

Agenda

Background

What are the Benefits & Challenges of EMRs?

Usability Evaluations

What is Usability? What is a Usability Test?

How can I Conduct a Usability Test?

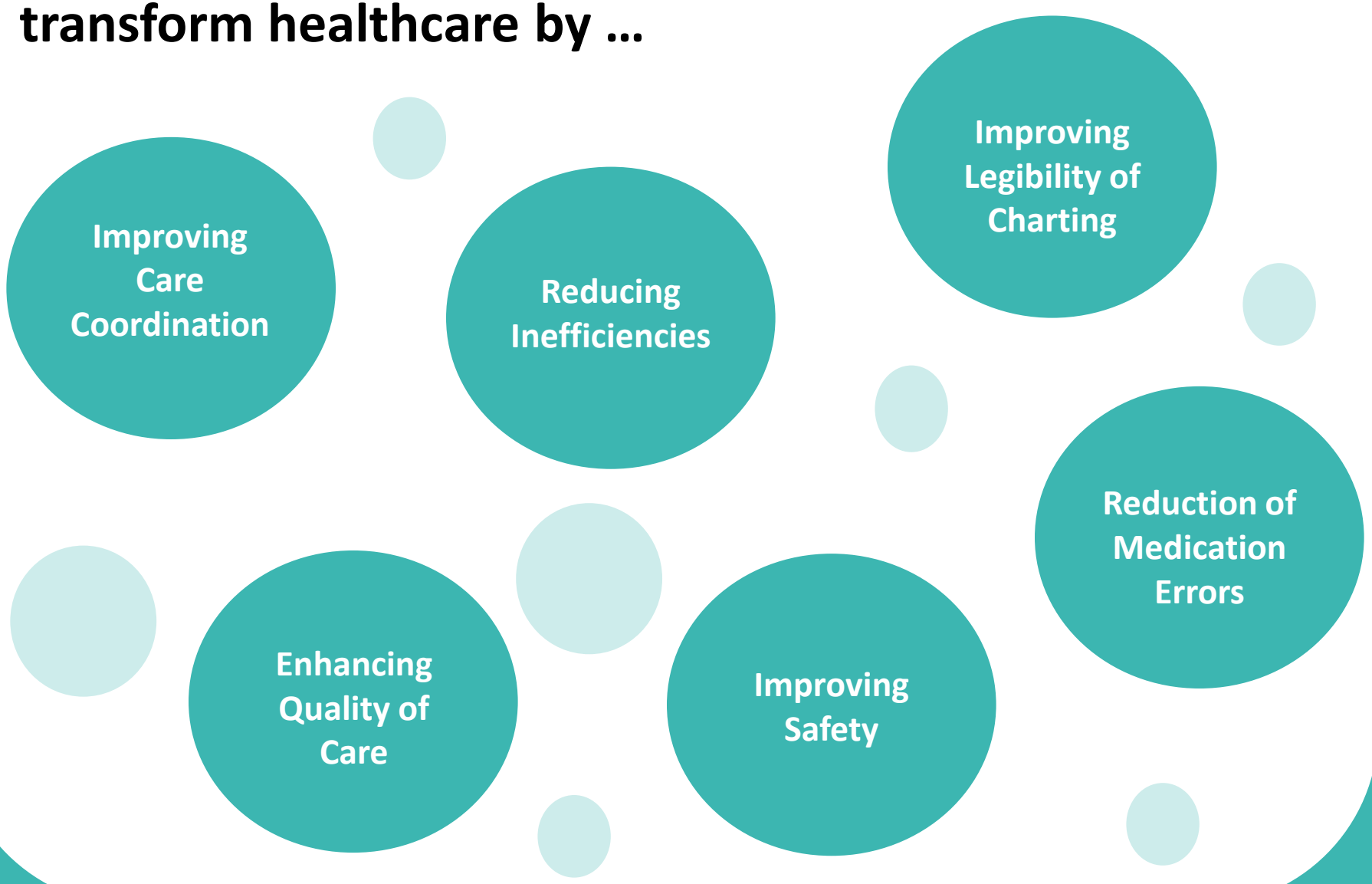
Designing Good Healthcare Technologies

What are good design principles?

Discussion – Q&A

Background

Electronic medical records have the potential to transform healthcare by …



Despite the known benefits, the implementation of these systems has faced numerous challenges including …

- Poor Workflow Integration
- Poor End User Adoption
- End User Frustration

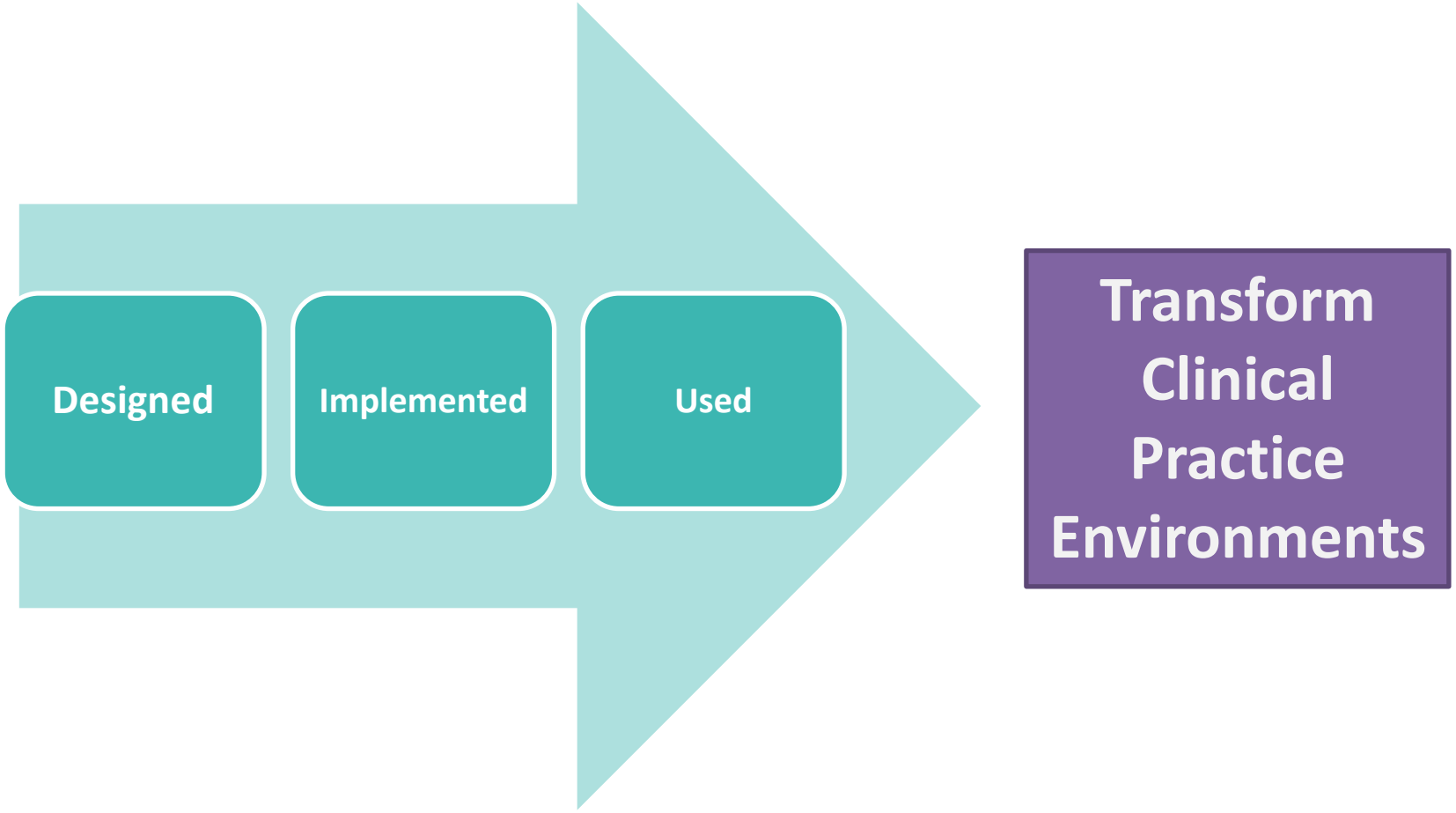
Photo credit: http://metacare.ca/2015/11/5-ways-to-prevent-ehr-failure/

Poor Workflow Integration

Poor End User Adoption

End User Frustration

Inadequate investment into interface design & software build


Designed
Implemented
Used
Transform Clinical Practice Environments

Usability

How many of you have heard of the word “Usability”?

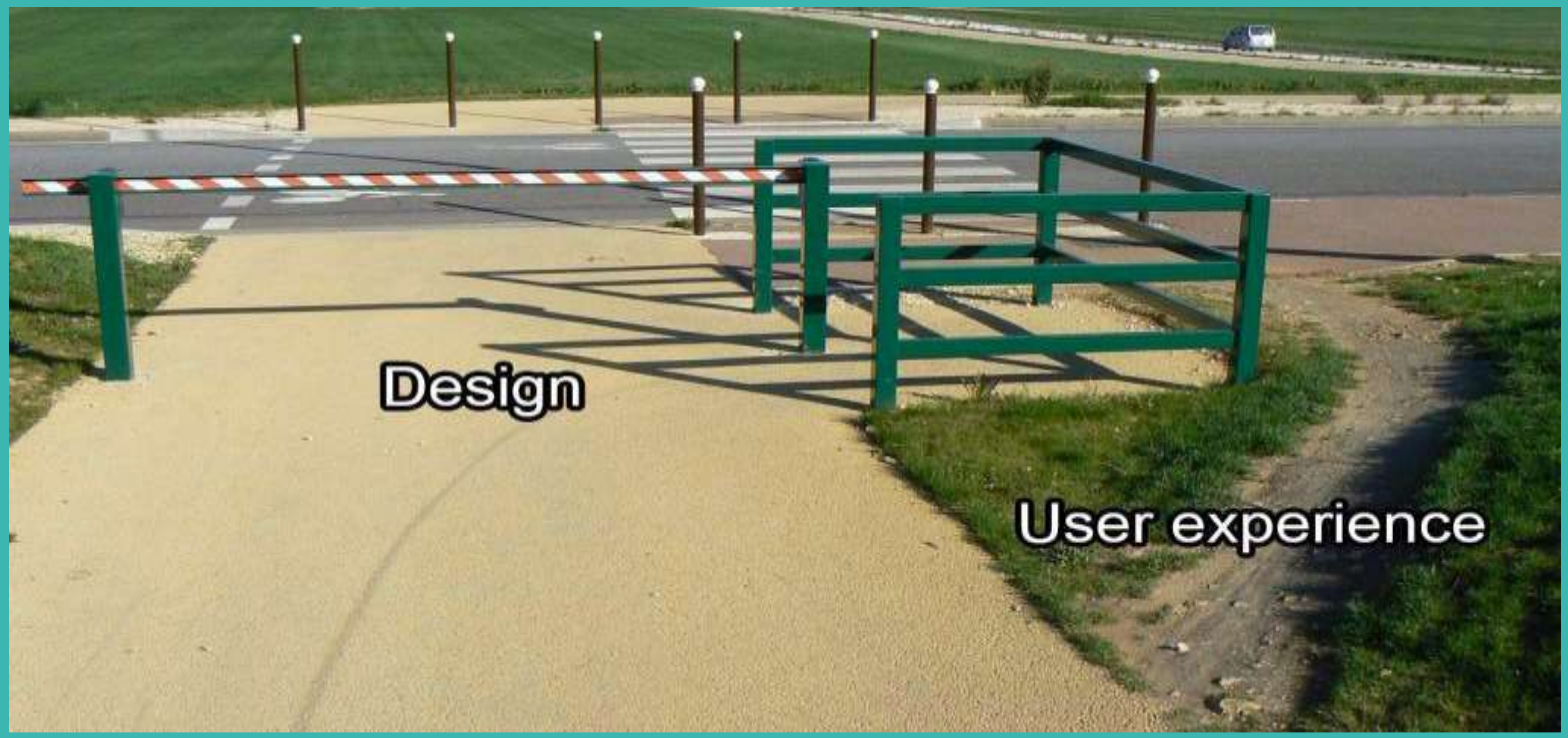


Photo Credit: *http://image-store.slidesharecdn.com/e85a6e90-db52-4ab7-9ca3-099cfe8eb4e0-large.jpeg*

Makes the right thing to do the easiest thing to do

Usability

The most effective way of understanding what will work & what doesn't is to see how people use it

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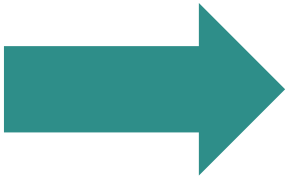
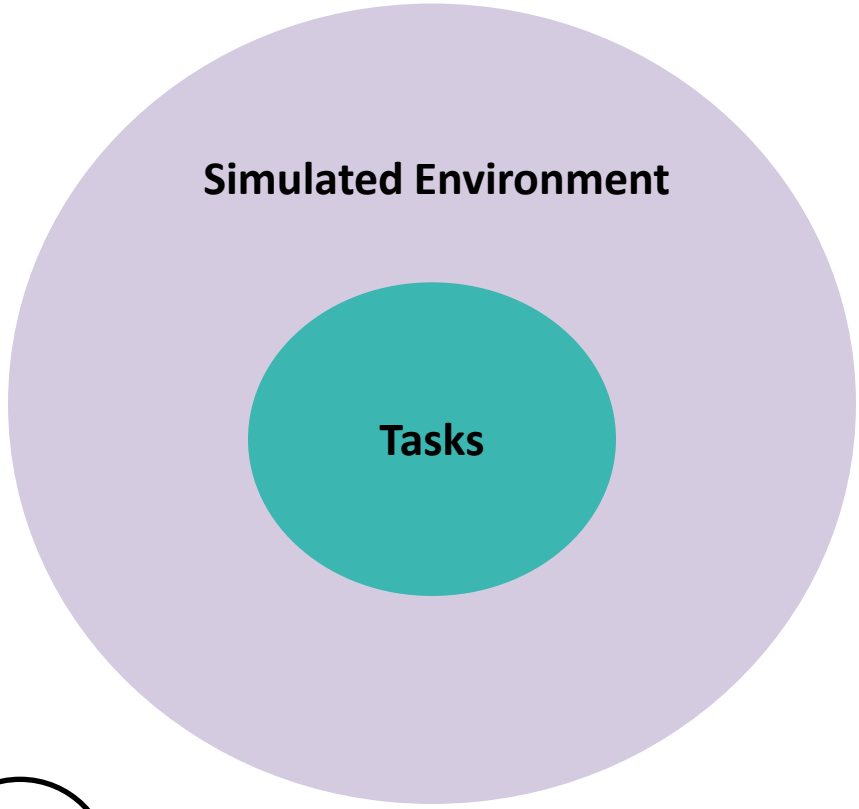
Usability Testing

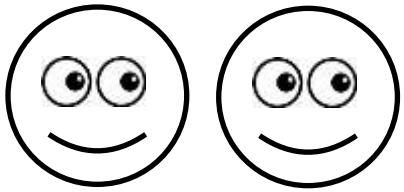
Evaluating Usability

VHA's Approach

VHA Service Providers
"End Users"







Observers

Phases

Orientation

Review purpose, objectives & methodology with participant and obtain consent.

Training

Provide minimal training such as a brief introduction to the application being tested

Usability Tasks

Have participants perform a series of representative tasks using the “Think Aloud Method”. Observe interaction & engage with user as necessary.

Debriefing

Completed debrief questionnaire and ask open-ended questions

Analysis

Observation Notes

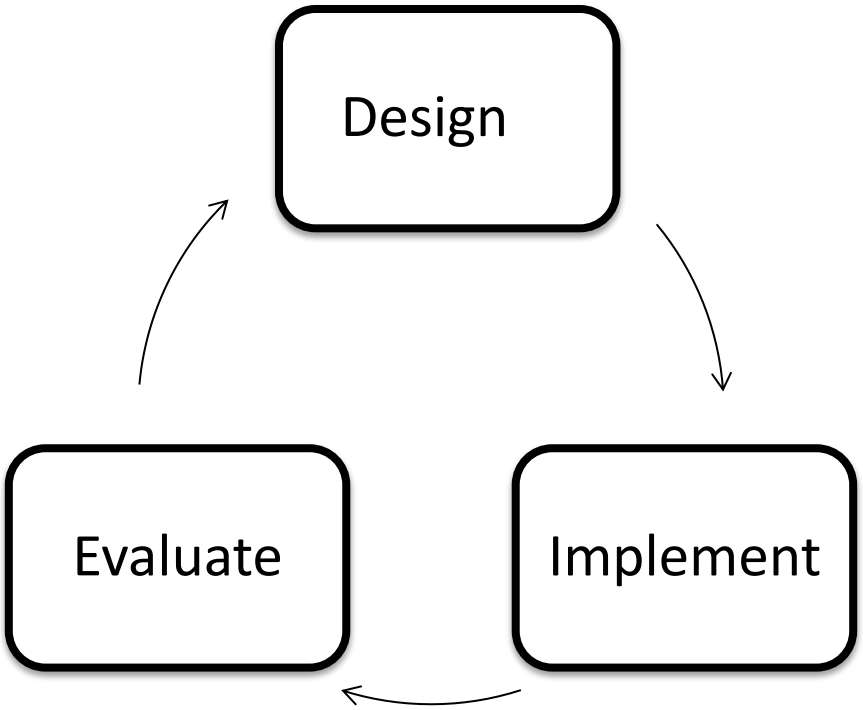
Usability Criteria
(Buckets)

Prioritize

Assess Feasibility

Collaborate

Iterative Design Process



Designing good healthcare technologies

What are the qualities of good technology?

heuristic (n)

- a simple, efficient rule of thumb
- an intuitive judgment
- common sense

Usability Heuristics

1. Visibility of system status
2. Match between system and real world
3. User control and freedom
4. Consistency & standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility & efficiency of use
8. Aesthetic & minimalist design
9. Error recovery
10. Help & documentation

Visibility of System Status

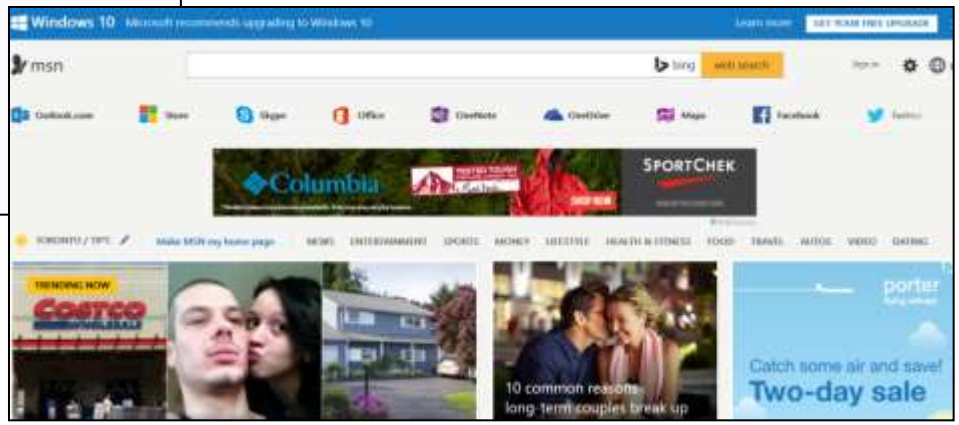
The system should always keep users informed about what is going on through timely feedback

Match between system and real world

Can you design it in a manner that the user knows what to do just by looking: no picture, no label or instructions?

Ensure the system tries to match with User's mental model of how things interact in the real world.

Aesthetic &
Minimalist Design



So what now…

- Get **Involved**!! It is essential that clinicians play an active role in the selection, design, deployment and evaluation of health IT solutions → advocate for solutions that integrate with your workflow, practices and needs at the point of care

Sit at the table & participate!

- Provide encouragement & incentives for **nurses' involvement** in Health IT initiatives

- Look for opportunities to improve usability & **learn more** about usability testing

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Thank You!

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