

Generating Nursing Evidence through Sparks of Innovation and Technology: The Magic of User Collaboration



Kathleen Brandt, RN, BSN , UMSON MS Informatics Student,
GRECC Nurse Manager, Veterans' Affairs Medical Center
Janet Spinks, RN, MSML, CPHQ, Philips VISICU Product
Management

Objectives

After this presentation, the audience will:

1. Identify the process used in the development of the intervention form
2. State the usability evaluation factors used to define the goals and objectives identified for this project
3. Identify the underlying structure of the intervention form (trigger, assessment, action, intervention, and outcome)
4. Acknowledge the difficulties of working with disparate information technologies

The eICU Program

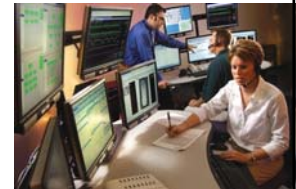
A Comprehensive Critical Care Program

- Centralizes a remote, intensivist-led care team
- Enables continuous monitoring through patented technology
- Leverages intensivist and critical care nurse talent
- Engages clinicians in the redesign and management of ICU
- Standardizes ICU practices



Prove Your Value

- Measures nursing impact on outcomes
- Validates critical thinking efforts
- Provides quantitative proof of value



Usability Evaluation

- Includes four factors: “usefulness, effectiveness, learnability and attitude” (Mandel, 1997, p. 262).
- During the concept development, the goals and objectives of the product usability is defined.

Mandel, T. (1997). The User Interface Design Process. In *The Elements of User Interface Design* (pp. 245-291). New York: John Wiley & Sons, Inc.

Goals and Objectives

- Access from desktop and enter data in a timely fashion (**usefulness**);
- Measure impact of nursing interventions as well as frequency of ICU contacts (**effectiveness**);
- Less than 2 hours of training (**learnability**) and ;
- User satisfaction (**attitude**).

Data Collection Requirements



- Microsoft InfoPath 2007
- Form accessed on each workstation desktop
- Populates a database on the backend
- Easily mineable for reports at different levels

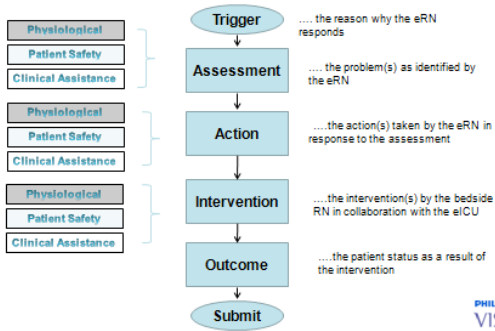
Journey(The process)

- Garbage In Gold Out! (GIGO)
 - Collected and collated what nurses thought they did
 - Defined groupings of terms
 - Identified the critical thinking process
 - Standardized language
 - Tested applicability
 - Applied to patient outcomes
 - Validated Nursing Outcomes



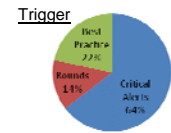
eICU Workflow

Each time the eICU is contacted for assistance, or initiates an intervention, they will complete and submit a form.

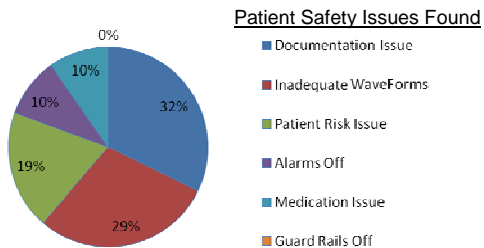


Effectiveness(measurement of outcomes)

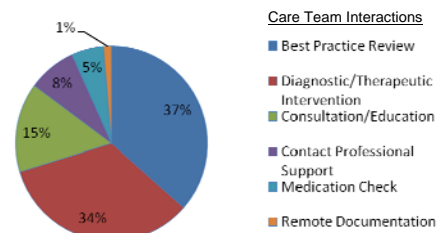
- Across facilities
- Intervention Steps:
 - Trigger
 - Assessment
 - Action
 - Intervention
 - Outcome
- Married to patient outcomes



Effectiveness Making "Failure to Rescue" Obsolete

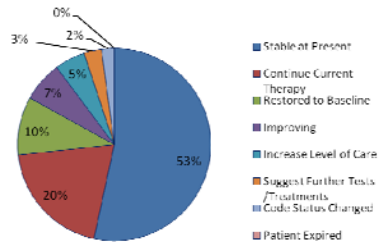


Effectiveness eICU / ICU Collaboration



Effectiveness-Patient Outcomes

- Issue resolved: 83%
- Additional treatment required: 15%
- Status changed: 2%



Usefulness

- Survey Said...
 - User Friendliness (Usefulness)
 - Easy to enter information("easy to use even when I am busy"
 - Readily accessible form
 - Minimal technical difficulties
 - Easy to move through the sections
 - Structure easy to apply
 - Submitting form without hanging
 - "Brief, quick"

Learnability

- Training- Adobe Connect and PowerPoint
- Survey said....
- Training time was adequate
- Practicing on the actual form was helpful
- Easy to learn



Satisfaction (Attitude)

- Survey said....
- Generally very satisfied with the form accessibility and design



Lessons Learned

- Different e-mail systems with firewall configurations
- Different operating systems
- Different versions of infoPath



Questions????

