

SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

Children's
HOSPITAL • ST. LOUIS
BJC HealthCare™

**BENEFITS OF EMBEDDING POLICY AND
PROCEDURE DOCUMENTS INTO THE
ELECTRONIC HEALTH RECORD SYSTEM**

**ASPAN'S 41ST ANNUAL CONFERENCE,
PHILADELPHIA PENNSYLVANIA**

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AGENDA

1. Problems associated with locating health care facility policies and procedures
2. Concept of nursing usability as it relates to the electronic medical record
3. Performance testing study that measured nursing EHR usability prior to and following policy and procedure hyperlink insertion into an EHR
4. Questions

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LOCATING AND FOLLOWING HEALTH CARE FACILITY POLICIES AND PROCEDURES

- Database for storing policies and procedures
- Accessing the search engine
- Deciding what text to enter within the search field
- Deciding what policy or procedure is the correct one
- Determining if the policy or procedure is current

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PURPOSE OF THE STUDY

The purpose of this study was to evaluate the effects of implementing clinical decision support (embedded policy or procedure hyperlinks) within intuitive areas of an EHR used by nurses. The researchers sought to determine the impact embedded hyperlinks had on nursing EHR usability and workflow including the ability to locate policies and procedures.

Funded by Two Grants from SIUE & BJC Healthcare

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SELECTING THE POLICIES AND PROCEDURES AND HYPERLINK LOCATION

The research team conducting meetings with the following...


- Chief Nurse Executive
- Legal Personnel
- Peri-anesthesia Nurses
- Clinical Information Systems Department

(Include these meetings at your institution)

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RESEARCH STUDY

- IRB
- Setting
- Performance Testing
(Morae©)



Wed 1/19/2022 10:28 AM
I grant permission to use photos of me for your presentation and anything related to our Children's research project.
Thanks!
Teresa

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USABILITY

The 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.

International standards for HCI and usability, 2001

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Definitions

Effectiveness: The accuracy and completeness with which a user can achieve task goals.

Efficiency: The speed with which a user can successfully accomplish the task at hand.

Satisfaction: A person's subjective response to their interaction with a system.

Belden et. al., 2009

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METHODS

PARTICIPANTS

- Ten registered nurses (average age 38 years; range 30-58)
- Six from PACU, three from oncology, 1 from pediatric ICU
- Worked with the EHR for at least 6 months and had conducted searches for policies and procedures

DESIGN

- Interrupted time series design

INTERVENTION

- Two hyperlinks to each policy and procedure were embedded within intuitive areas of the EHR

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PARTICIPANT TESTING

Pre-intervention testing / Post-intervention testing

Nurses were asked to complete an exam that tested their knowledge of the two policies and procedures

1. Pressure Injury and Wound Assessment and Intervention
2. Accessing, De-Accessing, Implanted Ports and to Guide the Clinician on Appropriate Care and Maintenance Practices

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PARTICIPANT TESTING

Pre-intervention testing / Post-intervention testing

Following the exam nurses were asked to log into the computer and locate the two policies and procedures

Usability was determined by efficiency, effectiveness, and satisfaction

Following hyperlink insertion, the researchers waited 3 months before conducting post-intervention testing in the same manner.

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PARTICIPANT TESTING – METRICS

Efficiency

- Time, Keystrokes, Mouse Clicks, Mouse Movement

Effectiveness

- Ability to locate the policies and procedures within 10 minutes

Satisfaction

- System Usability Scale (SUS) – John Bock 1996

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KNOWLEDGE

Exam Results

No significant difference following the intervention.

Zero nurses could correctly identify the names of either policy or procedure.

Only six (60%) of subjects correctly identified that patients should turn their heads during port-a-cath access.

Additionally, only three (30%) of subjects correctly identified a stage 2 wound.

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CONCLUSIONS

The study results presented support that inserting policy and procedure hyperlinks into intuitive areas of an EHR can improve nursing usability and workflow by improving effectiveness, efficiency, and satisfaction.

Many nurses were not able to recall the correct steps associated with patient care as specified in the policies and procedures. This supports the notion that nurses need to access policies and procedures prior to performing associated tasks to meet the standard of care.

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POST TEST QUESTION 1

The amount of time it takes for a nurse to use a clinical documentation system to locate a policy would be categorized under which component of usability?

- a. Satisfaction
- b. Efficiency
- c. Effectiveness
- d. Learnability

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POST TEST QUESTION 2

Which of the following would be the most important people to consult prior to embedding a nursing policy hyperlink into an electronic health record?

- a. Nursing, Administration, Clinical Information Systems
- b. Billing, Data Warehousing, Pharmacy
- c. Administration, Billing, Legal
- d. Data Warehousing, Clinical Information Systems, Billing

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POST TEST QUESTION 3

Why is it important for a nurse to be able to locate policies and procedures?

- a. Because nurses may not be aware of recent policy or procedure updates.
- b. To reduce the risk of being found negligent in cases that go to court
- c. To provide care that meets the standards of care.
- d. All the above

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BEST PRACTICES

1. What are some policies and procedures you believe would be beneficial to nurses if embedded within the EHR?
2. Who should be consulted to determine optimal locations to embed the hyperlinks?
3. Why is it important for nurses to locate and follow adopted policies and procedures?
4. How would health care facilities go about ensuring policies and procedures are current and congruent within the organization?

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RESEARCH TEAM

Primary Investigators	Team Members
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REFERENCES

Bevan N. International standards for HCI and usability. *International journal of human-computer studies* 2001; 5(4)533-552.

Belden J, Grayson R, Barnes J. Defining and testing EMR usability: principles and proposed methods of EMR usability evaluation and rating. *Healthcare Information and Management Systems Society* 2009.

Brooke, J. (1996). SUS-A quick and dirty usability scale. Usability evaluation in 159 industry, 1996;189(194), 4-7.

Sauro J. Measuring usability with the System Usability Scale. <https://measuringu.com/sus/>. 2011 (accessed 19 Jan 2022).

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QUESTIONS



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