THE OHIO STATE UNIVERSITY

COLLEGE OF NURSING

Innovative Strategies for Integrating an Electronic Health Record (EHR) into Nursing Education

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Disclosures

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Learning Objectives

1. Discuss strategies & priorities when selecting an EHR for an academic nursing program
2. Describe innovative methods for utilizing & evaluating an EHR as an educational tool for undergraduate & graduate students
3. Describe recent experiences related to integration of EHR at OSUCON

Background

- Adoption of EHR is critical for patient safety
- EHRs promote quality, improve outcomes & reduce costs
  (HealthIT.gov, n.d.)
- EHRs provide timely, comprehensive access to patient's health information
- EHRs offer decision support systems to facilitate accurate, prompt diagnoses & treatment plans
- EHR use can decrease errors & improve outcomes through:
  - Prompts
  - Alerts
  - Reminders (Nguyen et al., 2014)

Background Evidence

- Pediatric immunization prescribing errors & adverse events reduced through age-specific EHR alerts (Rogers et al., 2016)

- EHR use linked to significantly higher care quality in four ambulatory measures
  - Hemoglobin A1c testing for DM
  - Breast cancer screening
  - Colon cancer screening
  - Chlamydia testing (Kern et al., 2013)

- Bedside nursing EHR documentation linked with reductions in:
  - Falls
  - Catheter-associated urinary tract infections (CAUTIs)
  - Central line-associated bloodstream infections (Walker-Czyz, 2016)

HITECH Act of 2009

Mandated that health care providers:

1. Adopt EHR's

2. Show meaningful use

3. Demonstrate improved safety/efficiency through use of HIT (health information technology)

(Health IT.gov, n.d.)

Implications for Nursing Educators

- AACN Core Competency for Baccalaureate and Masters Graduates: "Efficient use of electronic health records"

- Multiple agencies calling for nursing grads to be competent, efficient, and effective in use of IT

- Push to integrate theory and practice of Information Technology into nursing curricula

Utilizing "Academic EHRs" (AEHRs) in Nursing Curricula

- To access "patient" data

- To document and synthesize "patient" information
  - Accurate/prompt recognition of clinical cues (prelicensure)
  - Accurate/prompt clinical diagnosis/treatment plans (APRN)

- To plan safe and quality care
  - Based on detailed clinical findings

(Pobocik, 2015)

Barriers to AEHR Adoption in Nursing Education

- Time
- Money
- Space
- Lack of knowledge
- Lack of skills
- Workflow disruptions
- Lack of evidence re: effective adoption methods

(Nguyen et al., 2014; Sorensen & Campbell, 2016)

Process for AEHR Adoption at OSUCON

2013-2014: Problem Identified

– Faculty survey indicated obsolete AEHR & frustration

– Faculty reverting to paper charting during simulations

2014-2015: Alternatives Explored

– Simulation Task Force screened/observed 10 AEHR's

– Compared 10 criteria
  - cost, access, inpt/outpt cases, end-user training time, new record building, adding 'real time' data, interdisciplinary collaboration, resemblance to 'real' EHR, IT support, start-up time

Process for EHR Adoption (cont'd)

2015-2016: AEHR Chosen

IHIS Learn

- Mimics OSU Medical Center's EHR (called IHIS)
- Looks/acts exactly like IHIS (including barcoding/scanning features)
- Tested in COM for 4 years

2016-2017:   Implementation of IHIS Learn as our AEHR

Users totaled approx. 525 students and 45 faculty

<u>Summer '16</u>

- Grads (FNP students), one simulation

<u>Autumn '16 and Spring '17</u>

- Undergrad and Grad Entry students
    - » 22 acute care simulations (med/surg, OB, psych, fundamentals)
- Grad students
    - » 3 primary care simulations (FNP)
    - » 1 primary care Objective Structured Clinical Exam (OSCE) (FNP)

Other EHR uses in OSUCON

- UG and Grad Faculty use IHIS Learn to review, assess, and document case studies in multiple courses in classroom and in lab (Pharmacology, Physical Assessment, Clinical Practicums)

- Remediation Specialist uses IHIS Learn with at-risk students

- IHIS Learn links students to clinical decision support systems (e.g. Micromedex, UpToDate, Clinical Practice Guidelines) in planning evidence-based care

Assessed Benefits

- Application of theory into practice in 'real time'

- Actual practice, immersion in electronic documentation

- Skill building with efficiency and effectiveness in use of IT in healthcare

- Any level or program of student can use (undergrad and graduate levels)

One Year Post-Initiation: Evaluation of IHIS Learn

- Quantitative and Qualitative Data

- SET-M tool used since 2015 to evaluate sims

  – Two qualitative questions re: perceptions of new EHR

  – Separate tool added for feedback from graduate students

  – Results overall positive (see next slides)

Undergrad and Grad Entry Students:
Simulation Effectiveness Tool – Modified (SET-M)

Autumn 2016 – Spring 2017, **n = 337**
Key: Strongly Agree = 3, Somewhat Agree = 2, Do Not Agree = 1

Item #	Question	Average
21	How much do you agree with the following statement "the use of IHIS-LRN enhanced the realism of the simulation?"	2.7
22	Do you have any comments about IHIS LRN in simulation?	See below
	Students most often cited : 1. Realism of experience because of IHIS LRN 2. Applicability/similarity to EHRs on units 3. Ability to increase proficiency "Allows us to practice charting just like in a real situation" "Seems more like real life" "I will feel more comfortable with charting in the hospital" "Felt much more real" "It is better preparing me" "Better simulates an experience in the hospital"	

NP Student AEHR (Academic EHR or IHIS LRN) Evaluation: Summary

Item (Rating scale: 1 Least to 5 Most)		Average
AEHR was realistic compared to clinical setting charting		3.94
AEHR charting was helpful in learning documentation of the NP-pt. encounter		3.74
AEHR charting helped me focus on patient needs		3.29
How satisfied are you that the AEHR office visit charting helps you meet pt. safety and quality care priorities		3.26
I need more training on the AEHR		3.18
I recommend that the specialty NP program continue to offer this AEHR experience		3.91
Item (Responses: Yes, No)	**Yes**	**No**
Did you find the use of the AEHR helpful in the group simulation assignment?	81%	19%
Item (Responses: Yes, No)	**Yes**	**No**
Did you find the use of the AEHR helpful in learning NP documentation during the Objective Structured Clinical Exam (OSCE) assignment?	79%	21%

Several students indicated that although their clinical sites used an EHR, they did not have access or could not fully document all components of the encounter in their own name.

A few students were at sites that used paper charts

Evidence suggests a minimum of 5 encounters with AEHR needed for skill mastery

Significance and Implications

1. Documentation using evidence-based practice (EBP) tools available in the EHR at the point of care delivery improves decision-making, critical thinking, & patient outcomes (Walker-Czyz, 2016)

2. All nursing graduates must acquire basic informatics competency to fully participate and use EHRs across all pt. care settings (Choi et al., 2016; Sorensen & Campbell, 2016)

Significance and Implications (cont'd)

3. Using multiple educational strategies enhances skills, knowledge & attitudes for all levels of nursing students

4. These attributes equip students for smoother transition into practice in technology-savvy environments where EHR use must be efficient & effective

5. Benefits health system & patients r/t improved outcomes and reduced costs

Summary

1. Faculty & students have found value integrating the use of an academic electronic health record (AEHR) into our undergraduate and graduate clinical courses

2. Using multiple active educational strategies to interact with the AEHR leads to more confident nursing graduates

Summary (cont'd)

3. Multiple national organizations, government agencies, and accrediting bodies have identified the need for nursing graduates to achieve basic informatics competency

4. Employers are demanding nursing graduates that can quickly and effectively successfully transition into practice

5. Skillful utilization of EHR features can improve health outcomes and reduce costs

"The intent is to create a way of thinking about technology… that is 'out-of-the-box'…………yet another tool in our toolkit for improving the quality of care we deliver"

McBride & Tietze, 2015

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Questions?