Using Mobile Devices to Access Evidence-Based Information in a Rural Health Clinic

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touching lives

Background

- Nurses must be prepared to access evidence-based resources at the point-of-care
- Reliable and credible evidence-based (EB) applications are available and can provide quick access to valuable nursing information

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Significance

- Limited literature describing systematic roll-outs of mobile devices providing evidence-based resources exists
- Little to no guidance regarding teaching nurses how to use mobile devices and applications occurs
- Mobile devices may offer an opportunity to connect learning and evidence to clinical care

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Study Aim

This study aimed to describe the feasibility and usability of a mobile device and selected electronic evidence-based information programs (EEIBP) used to support clinical decision making in a rural health clinic.

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Information Literacy

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Mobile Devices in Nursing & Healthcare

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Rural Health Clinic

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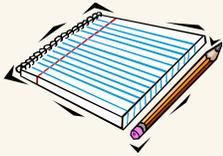ALABAMA
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Target Population

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Design

- Qualitative, descriptive design

Data Collection

- Interviews
  - Audio recorded
- Instruments
  - Semi-structured interview guide
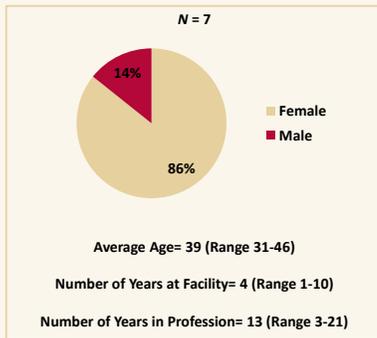 - Demographic questionnaire

Data Collection

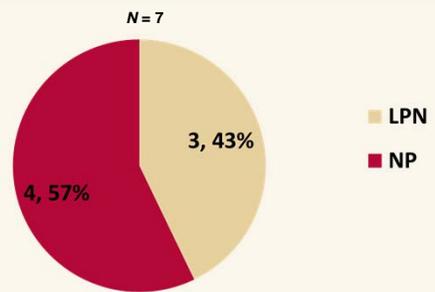| Baseline Interview	Educational Intervention	Formative Interview	Summative Interview
X	O	X	X

Recruitment

Nurses Providing Direct Patient Care

Potential Participants Contacted PI

Sample

N = 7

14%

86%

- Female
- Male

Average Age= 39 (Range 31-46)

Number of Years at Facility= 4 (Range 1-10)

Number of Years in Profession= 13 (Range 3-21)

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Professional Role

N = 7

3, 43%

4, 57%

- LPN
- NP

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Mobile Device Interface

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Apps

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Educational Intervention

- 1-hour training session
- Collaboration between a nursing faculty and a health sciences librarian to plan objectives
- Innovative teaching plan
- Use of FaceTime to connect with librarian at a distance during training
- On site training & demo in using mobile devices
  - Navigation basics
  - Resources from Skyscape
  - iPad2 Starter Guide in iBooks
  - Instructions on updating iPad

skyscape

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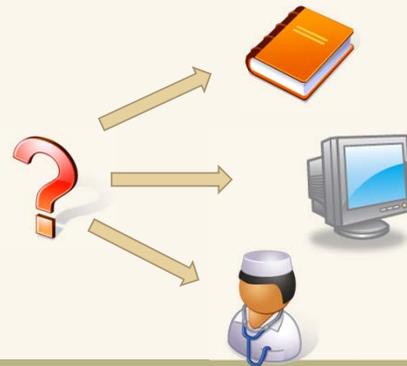ALABAMA
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Analysis

- Researchers reviewed transcribed audio files from interviews
- Investigators discussed initial impressions and identification of emerging themes and codes
- Coded data inductively
- Qualitative data analysis software was used to aid in data management
- Descriptive statistics summarized participant demographic information

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Coding

- First Level Coding
  - Preliminary code list
- Second Level Coding
  - New code list
  - Edited codes

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Where is Information Found?

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Preferred Electronic Resources

RXAssist
Medscape AmericanAcademyofPediatrics UpToDate
Epocrates
Skyscape CDC Google
PubMed MayoClinic

Describing Evidence-Based Practice

- Variations in exact description
- Some described as an "*effective treatment*" or an "*effective way*"
- Some were not clear - *"I'm confused about it."*

Common Uses For Mobile Devices In Clinical Setting

- Medication Inquiry
  - Dosage
  - Indications
  - Interactions
  - Contraindications
  - Side Effects
  - Dilution Information
  - Frequency of Administration
  - Route
  - Action
- Information about Disease Process(es)
- Calculator

Medication Related Questions

Approval of Co-Workers

Past Experience

Comfort with the Program or System

Diagnosis Related Questions

- Past Experiences
- Reputation of Source
- Validation of Information

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Where Is Information Found on Mobile Device

- Skyscape
- Epocrates
- Google
- Calculator
- *Other Nurses

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Benefits of Mobile Devices

- Vivid Images to Help with Patient Teaching:
  - *"…it's like an ah ha moment almost."*
  - *"And the fact that I can pull up pictures or something really fast and actually show it to the patient, that's a plus."*
  - *"…I love that I can go and take it and show things to patients and the parents um on the iPad in the room. Its very easy. Um they can see it a whole lot clearer versus um just a printed picture from me sitting at a desktop and printing off a picture of something. I mean they can see it right there in front of them."*

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Benefits of Mobile Devices

- Easy and quick to locate information:
  - *"…it has a main search tool that you just type in something and it pulls up everything it has on that."*
  - *"…just easy and fast to look up versus having to go look up a big drug guide where you have to hunt for everything."*

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Benefits of Mobile Devices

- Portability:
  - *"…it's small… you can take it with you, you can take in the room and let them look at it. You know if it's a picture example or read the definition if it's something needs to be explained."*
  - *"…it's handy, I don't have to be sitting there at the desk I can just use it and walk off with it."*

Challenges to Using Mobile Devices

- Expense
  - *"…that I don't have because it's a paid app, it's like an expensive paid app…*
  - *"…I just don't have the app because I have the hard back book and it's so expensive to buy the app."*

Challenges to Using Mobile Devices

- Not connected to a printer:
  - *"It would probably be more helpful if I was able to hook up to a printer and print things out for patients."*
  - *"One thing that I can't do on it that I have to go my computer for is print. And so if like I want print a picture or something like that then I have to pull it up on my computer."*

Challenges to Using Mobile Devices

- Lack of EHR Integration
  - *"Your optimal situation would be to have these resources on the same platform, device, … along with your EHR."*

Learning Experience with Technology

- Most had not had a dedicated computer training course
- Most of the training related to technology was done on site or related to the EHR system

Planning Learning Experiences with Mobile Devices

- More information on how to use specific applications:
  - *"Its funny how we use software all day long every day and nobody take the time to say how do we do this…"*
  - *"The Skyscape is kind of big, as much resources as we put in there. So I think we might need more training on how to use Skyscape."*

Planning Learning Experiences with Mobile Devices

- Preferences:
  - *"…you could stand there and talk to me all day long its not going to help. If I don't actually get it out and you know search on it and do it myself, so you have done as much as you can do for me."*
  - *"…then I think for the most part they have to get their hands on it and you know…have some…just like how we do in class give them some sort of assignment that makes them navigate through it and all the different resources that are available on that."*
  - *"…I've been able to you know move pretty freely through...easily. It was second nature to me."*

Additional Findings

Thoughts about impact on practice:
- *"I think it gives you more confidence in the knowledge that you're passing along to the patient …for reassurance."*

Thoughts from Participants

Implications

- Nurses proficient using mobile devices outfitted with EB resources can access important information quickly
- Lack of training and time can be a barrier to use

Future Research

- Use of more objective measures such as surveys and questionnaires
- Integrating access to EHR into device
- Involving end users in the application development process

Acknowledgements

For Any Questions

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