Benefits and challenges of mobile learning in healthcare settings

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Benefits and challenges of mobile learning in healthcare settings

- Multidisciplinary research into mobile learning: 1) uni. students + 2) Westmead Hub ~ Karen (+ Susie Dracopoulos)
- Mobile learning in nursing education ~ David
- Ways mobile learning can facilitate learning and teaching in the new flexible learning spaces ~ Meg
- Questions
Benefits and challenges of mobile learning in healthcare settings

“Technologies... should catalyse change and enable some healthy disruption. If we remain within the bounds of existing practice, then we cannot expect to gain much...

... because these devices belong to the learners, they will use them as they wish with all the unpredictable outcomes that this implies.”

“This new technology offers the potential to enhance learning and patient care, but also has potential problems...

It is important for policy-makers to start a dialogue with users to understand their needs, and to maximize the benefits... while avoiding unintended consequences.”

Background to study

– Collaboration between University of Sydney Medicine and Health Faculties:
  – Dentistry, Health Sciences, Medicine, Nursing and Pharmacy

– University of Sydney Education Innovation Grant ($10K + additional funds from Health Sciences, Medicine, Pharmacy)

– Part 1: Identify learning design patterns for use of mobile devices for learning at the bed-/chair-side in healthcare settings
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- Part 1: Identify learning design patterns for use of mobile devices for learning at the bed-/chair-side in healthcare settings
- Part 2: Explore possibilities for accommodating mobile learning in new multidisciplinary health precinct
Part 1: Learning design patterns

- 2015 online survey:
  - University-employed and affiliated staff
  - Hospital and community health settings
  - Explored current uses of mobile learning at the patient bed-/chair-side
- Data analysis to identify learning design patterns
- Follow-up semi-structured interviews
- Exemplars created
Part 1: Learning design patterns

- 2015 online survey:
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- Follow-up semi-structured interviews
- Exemplars created

- 32 responses > 5 learning design patterns
Mobile learning at the patient bed/chair-side

Evidence-based practice:

- Students encouraged to be "computer assisted" health practitioners
- Check information and look up unfamiliar terms relevant to specific patients
- Clinical guidelines, research reports and apps
- Largest use
Patient movement videos:
- Teachers use mobile device to video-record patient movement
- With students, analyse and monitor mobility and balance issues
- Requires written patient consent and secure storage of files
- Allied health
Self-directed learning:
– Teachers develop tailor-made, self-directed learning resources for mobile devices
– Students can access information relevant to specific patients
– Useful for quiet times on clinical placement
Applying knowledge to practice:

– Teachers use apps to teach specific concepts to students
– Facilitates immediate application of knowledge and skills to specific patients
Guiding clinical practice in the clinical setting:

– Teachers create videos of clinical procedures to inform the practice of students and junior staff (and patients)

– Stimulates recall of how to set up equipment or undertake a procedure
Guiding clinical practice in the clinical setting:

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More from David Pearce later…
Part 1: Conclusions

- Mobile learning at the patient bed-/chair-side is mostly used for referencing existing evidence-based content
- Multiple challenges and limitations
- Missed opportunities for teaching and learning
- Challenges, limitations and opportunities are different for different health professions
Aim: Determine ways in which a multidisciplinary health learning and practice hub comprising multiple hospitals could accommodate:

- use of mobile devices for learning and teaching
- of health professional students and trainees
- at the patient bed-/chair-side
- through intra- and inter-professional learning
Theoretical framework

Community of Practice

– Learning that is socially constructed and acquired in a practice by a community of learners (Lave and Wenger, 1991)

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Theoretical framework

Community of Practice

Learning that is socially constructed and acquired in a practice by a community of learners (Lave and Wenger, 1991)


Methods

Westmead precinct:
– The Children’s Hospital at Westmead
– Westmead Hospital
– Westmead Centre for Oral Health

Participants:
– Nurse Educators
– Senior Allied Health
– Department Heads
– Hospital Executive or delegate
Methods

Data collection:
- June - July 2016
- Interviews (20mins)
- Face to face / telephone

Data analysis:
- Thematic analysis
- Communities of Practice theoretical framework
Results

25 participants

Major themes regarding use of mobile devices for learning and teaching at the bed-/chair-side:
1. Range of current uses
2. Range of potential uses
3. Multiple benefits
4. Many challenges
5. Inadequate institutional policies and procedures
6. Changing culture/vision/educational role
Range of uses

– Evidence-based practice
– Media: images, video, audio, x-ray
– Self-directed learning
– Apps
– Consults
Range of uses

- Evidence-based practice
- Media: images, video, audio, x-ray
- Self-directed learning
- Apps
- Consults

"We use clinical photographs a lot... [with] medical students, but this is a big thing in postgraduate... Whenever you are on call, they are always sending you a picture and they say, ‘What do you think of this?’ or ‘Tell me what you want to do here’... In clinical practice, they send you photos and then you chat about it... It is more acute here in the hospital where it is after hours and you are on call ... [using] phones and tablets” - Dentistry
Range of potential uses

- Multimedia
- Inter-professional learning
- Consistent education

“If you were having a surgical procedure where you can't have students in theatre but we can have a **camera and a little microphone** device,... they can see the operation on their mobile device”

- Nursing
Range of potential uses

- Multimedia
- Inter-professional learning
- Consistent education

“I would really like to see us all working alongside each other with the one goal being optimal patient care… Technology has to play a major role in that, especially as our world’s changing with the medical devices and those sorts of things going in that direction”

- Dentistry
Range of potential uses

- Multimedia
- Inter-professional learning
- Consistent education
Multiple benefits

- Immediacy of access
- Learning accessibility
- Rich media

“It just takes the traditional data access from computers to another space where there is immediate and almost unfettered access to medical knowledge, information – real time. They are not relying on a crusty old lecturer telling them the truth as far as he knows it”

- Medicine
Multiple benefits

- Immediacy of access
- Learning accessibility
- Rich media

"In Dentistry, a picture tells a thousand words...and it's a bit less invasive, too, trying to examine the mouth of a six month old or a two day old, ... having multiple people do it. So the photo just tells you straight up"

- Dentistry
Multiple benefits

- Immediacy of access
- Learning accessibility
- Rich media
Many challenges

- Privacy/confidentiality
- Professionalism issues
- Different health professional cultures
- Restrictions: wifi, infection control

"I do have some concerns about privacy issues... whether patients should be informed that information is being transmitted. Because there is an opportunity for images to be shared and widely disseminated... That's an issue that needs to be thought about and people perhaps should be coached in what is a proper thing... An openness about it would be really helpful."

- Medicine
Many challenges

- Privacy/confidentiality
- Professionalism issues
- Different health professional cultures
- Restrictions: wifi, infection control

“... talking to people about *etiquette*, around using mobile devices in the clinical setting so that patients and relatives are aware that we are using these devices to benefit them and that they are not being used by someone sitting in a room talking to their friend or playing one of the computer games on their phone... *Etiquette* that explains,... ‘I am just currently *using my phone to look up about your care*’”

- Medicine
Many challenges

- Privacy/confidentiality
- Professionalism issues
- Different health professional cultures
- Restrictions: wifi, infection control

We are not allowed to take photos - we have to get consent for photos. **Doctors, I know, take photos** and usually they get **verbal consent** but I do know that there is a **written form** that they are supposed to get done”

- Nursing
Many challenges

- Privacy/confidentiality
- Professionalism issues
- Different health professional cultures
- Restrictions: wifi, infection control
Inadequate institutional policies and procedures

- Current policies
- Practice outside policies
- Inadequacy of policies

“We definitely have a protocol on the nursing staff not having mobile phones on the floor… That is restricted there and the ability for inappropriate use of them, rather than for educational purposes.” - Nursing

“In the hospitals you are not allowed to have mobile devices. They are not supposed to take pictures… patient files, patient records, photographs of the patients… Then you find out later that a patient photo or something was shared on Facebook… There are rules around that say, ‘you shouldn’t and if we catch someone, we do something about it’” - Dentistry
Inadequate institutional policies and procedures

- Current policies
- Practice outside policies
- Inadequacy of policies

"The first word I would have to use: illegally..... We use it extensively but we tend not to acknowledge it... It's a major policy issue."

- Medicine
Inadequate institutional policies and procedures

- Current policies
- Practice outside policies
- Inadequacy of policies

“We are finally catching up to what’s happening around the world and in the community and how the hospital would want staff to relate to [mobile technology]…”

- Medicine
Changing culture, vision and educational role

“We have electronic medical records and electronic medication charts and, as the wards have had all of this installed, we've had super-users trained and we have the education, eLearning packages, to go with it... Everybody has to do their electronic modules, they have to do a face-to-face [training session]... We also have... electronic documentation available on ‘how to’”

- Medicine
Mobile learning and Communities of Practice

Community of practice

Landscape of practice

Inter-professional mobile learning
Inter-professional mobile learning ~ limited

Inter-professional Learning
Part 2: Conclusions

- Intra-professional mobile learning in some health professions (Communities of practice)
- Inter-professional mobile learning is not really happening (in the Landscape of practice)
- Some Local Health Districts/professions have policies around use of mobile devices, others have prohibition.
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Thank you!

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Millard Moment by Kerry Millard

So... how else could you show interest in a patient’s history, besides tweeting?