Information close at hand: Mobile Knowledge Access Project in HENCEL

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This presentation:

- Overview of the Mobile Knowledge Access Project and MedHand
- How the process worked
- Baseline survey results
- MedHand usage
- Feedback
- Lessons learned and next steps
Mobile Knowledge Access Project in HENCEL

• Began September 2013, ran for one year
• 9 HENCEL NHS Trusts, 500 foundation and core psychiatry trainees
• Aimed to support patient care and work-based learning by providing mobile access to information
• Building on previous projects at Brighton (Davies et al, 2012) and Cardiff (Hardyman et al, 2013)
• Used the MedHand Dr Companion app
What is MedHand?

- App for storing and accessing e-books
- iPhone or Android
- Resources included:
  - 3 Oxford Handbooks
  - BNF and BNFc
  - Harrisons Manual of Medicine
  - local guidelines & hospital specific information
Browse a title

- Can add notes and bookmarks
Search across all titles

• Results are shown beneath each title
Check diagnoses

Diagnosis

- The diagnosis can usually be made based on the characteristic clinical picture without the need for laboratory tests.
- Rapid diagnostic tests (PCR, direct fluorescent antibody) are the diagnostic methods of choice if available. PCR has the highest sensitivity and real-time methods can distinguish vaccine strain from wild-type.
- VZV can be detected by PCR or isolated by culture from scrapings of a vesicle base during the first 3–4 days of eruption. Isolation from other sites is less sensitive.
- Determination of specific IgG antibody in serum can be useful to retrospectively confirm the diagnosis. These antibody tests may be false-negative and are not as reliable in immunocompromised people.
- Determination of specific IgM is not reliable for routine confirmation of acute infection, but positive results indicate current or recent VZV infection.
Check dosages

**Metformin biguanide**

*Dose* initially: 500mg/24h PO with breakfast; *after 1wk*: 500mg/12h PO; *after further 1wk*: 500mg/8h PO if required (max 2g/24 in divided doses) *Indication* type 2 DM, polycystic ovarian syndrome *CI* hepatic or renal impairment *Caution* ketoacidosis, potential increased risk of lactic acidosis, iodine-containing contrast, general anaesthesia *SE* GI disturbance, metallic taste *BNF* 6.1.2.2.
Calculators

Age Calculator

Calculate the age based on the Date of Birth and another date (default is the current date).

Date of Birth: 12/31/2006
Age at This Date: 11/6/2014

Age = 7 years 10.2 months
= 94.2 months
= 409.6 weeks
= 2867 days

Dates should be entered in the US format mm/dd/yyyy, using four digits for the year.
Promoting MedHand

- Emails to trainees
- Publicity material
- Promotion at induction events
Process

- Users filled in baseline survey
- RO e-mailed library each time survey filled in
- Local library contacted users and gave them licence key with instructions
- User then downloaded the app and the books
Challenges

• Organisational concerns about uploading local guidelines
• Distribution of codes between Trusts
• Technical problems – librarians liaising with MedHand
• Administering access codes
• Interpreting usage statistics
Baseline survey results

- **44** completed surveys from Homerton
- **115** completed surveys from Barts Health
- All but one had smartphone, tablet or other mobile device
- **89.2%** already used their device for work, education or training
- BNF app was most frequently used (72.5%)
- **94.9%** wanted app access to Trust guidelines, **87.2%** textbooks and **84%** to revision aids
Expectations of app access

- 87.2% agreed or strongly agreed that mobile access to resources would reduce worry
- 50% expected to feel comfortable using a mobile device in front of a patient
- 25% expected to need training to use the resources
- 94.9% felt it would improve their confidence
- 73.7% expected to feel comfortable using a device in front of senior colleagues
Usage

• Barts Health (over 200 FYs) issued 106 codes out of 130
• 54 of the 106 codes were used (50.9%)
• Homerton (ca. 65 FYs) issued 40 codes out of 53
• 37 of the 40 were used (92.5%)
• Usage includes title launches, accesses within a title and searches
• Barts: 10 users accounted for 60.5% of usage
• Homerton: 10 users = 75.7% of usage
Usage by type of phone

- **IPHONE**
  - Barts: 20000
  - Homerton: 15000

- **ANDROID**
  - Barts: 5000
  - Homerton: 2000
Usage by resource

- OH Clinical Medicine
- OH Foundation Programme
- BNF
- OH Clinical Specialties
- Harrison's Manual of Medicine
- OH Clinical and Laboratory Investigation
- Foundation Doctor E-Handbook
- BNFC

Usage:

- Barts
- Homerton
Usage levels by month

- **Usage**: The cumulative usage levels for Barts and Homerton hospitals by month from September 2013 to September 2014.

**Graph Details**:
- **Month**: September 2013 to September 2014.
- **Usage Levels**: Ranges from 0 to 3500.
- **Comparison**: Barts (blue bars) and Homerton (red bars).

**Month-wise Comparison**:
- **September 2013**: Barts and Homerton have low usage levels.
- **October 2013**: Barts shows a slight increase, while Homerton remains low.
- **November 2013**: Barts shows a significant increase, while Homerton remains moderate.
- **December 2013**: Barts shows another significant increase, while Homerton's usage level is moderate.
- **January 2014**: Barts shows a slight decrease, while Homerton shows a stable usage level.
- **February 2014**: Barts shows a further increase, while Homerton remains moderate.
- **March 2014**: Barts shows a decrease, while Homerton shows a slight increase.
- **April 2014**: Barts shows a stable usage level, while Homerton shows a slight increase.
- **May 2014**: Barts shows a decrease, while Homerton shows a moderate usage level.
- **June 2014**: Barts shows a slight increase, while Homerton shows a stable usage level.
- **July 2014**: Barts shows a decrease, while Homerton shows a slight increase.
- **August 2014**: Barts shows a further decrease, while Homerton shows a stable usage level.
- **September 2014**: Barts shows a slight increase, while Homerton shows a moderate usage level.

**Outcomes**:
- Throughout the year, Barts hospital shows a steady increase in usage, peaking in December 2013 and June 2014.
- Homerton hospital shows a moderate usage level with slight fluctuations throughout the year.

**Conclusion**:
- Barts hospital's usage levels significantly outperform those of Homerton hospital, particularly in December 2013 and June 2014.
Usage

Nearest hour

Time of use

Barts

Homerton
Exit survey feedback

Medhand is more useful when on call or working alone (e.g. on nights/unsupervised) – 100% agreed or strongly agreed

Medhand is useful for accessing 'just in time information' in the workplace – 100% agreed or strongly agreed

I will miss the use of Medhand – 100% agreed or strongly agreed
“...on my smartphone at work I use: NICE BNF app, work email daily. Medhand app, Antibiotic policy app - several times a week. Internet browser, consented medical photography, clinical calculator apps - once or twice a month. I expect that in the future these utilities will expand as more hospital & national guidelines become available as apps.”
Future role of smartphones

“will continue to replace all other info esp once integrated into hospital system”

“quick accurate information needed when necessary and when unsupported or busy”

“Access to resources 'on the go' Communication - currently informal but I think use of smartphones for handover and other communication will become increasingly important.”
Problems

“Unfortunately the app crashed on my iPhone and I wasn't able to use it.”

“...resources seemed 'clunky' and difficult to navigate.”
Lessons for the future

• Better promotion and follow-up
• Most frequent use by a small number of users
• Addressing non-use of codes
• Also consider:
  – App provision of specific resources
  – Trust guidelines app
  – Learning from trainees about preferred apps
Next steps

• LETB funding for license codes in HENCEL
• Covers all Foundation Year doctors
• Simplified administration process
• Users have smaller package and get to choose two books:
  – BNF and BNF for Children
  – Oxford Handbook of Clinical Medicine
  – Oxford Handbook of the Foundation Programme
  – Two further books chosen by user
References


Thank you!

Any questions?

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