Power in your pocket: the application of PDAs in Rural Medical Education

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CYBRARY
We link people with information

Abstract

Power in your pocket: the application of PDAs in Rural Medical Education

Through funding provided by the Australian Department of Health and Ageing, the University of Queensland (UQ) Cybrary in partnership with the UQ School of Medicine, is undertaking a project to evaluate the use of PDAs by students and staff located in the Medical School's Rural Clinical Divisions. During 2003 - 2004 approximately 100 PDAs will have been be distributed to students and staff. The PDAs were preloaded with information resources including medical textbooks and drug information and local tools such as academic calendars. Early feedback from the post pilot survey indicates that the PDAs have a positive impact on studying medicine in the rural environment. Eighty-six percent of respondents agreed that 'access to reference materials on the PDA contributed to [their] educational experience. Additional surveys and focus groups are being undertaken and will investigate the impact of having resources on hand at the point of need.. This presentation will outline our experience of this innovative application of technology in medical education, provide results of the evaluation of the project and the impact this technology has had on access to information. Additional topics addressed will include technical and support issues, training, licensing of information resources, issues for Libraries supporting mobile technologies and recommendations for future PDA usage at UQ Cybrary will be addressed.

Presenter: Andrew Heath, Senior Librarian, Herston Medical Library, University of Queensland Cybrary

Andrew has been employed as a Health Librarian with the University of Queensland Cybrary since 1998 and is currently working as Senior Librarian, managing the activities of the Herston Medical Library. He was the PDA Project Coordinator for the Cybrary and the School of Medicine during 2003-4. Andrew has had an ongoing interest on the application of information and communications technology in Libraries and Information Services and has had a range of related appointments including Digital Projects Coordinator, State Library of NSW and Systems Librarian at Ryde City Council. His qualifications include a Masters in Librarianship from the UNSW and a Bachelor of Human Movement Studies from the UQ.

Outline

- Background
- PDA Project objectives and overview
- Pilot phase
- Project phase
- Findings to date
- Issues for the future

UQ School of Medicine

- Operates throughout Queensland and Brunei
- Offers the post graduate medical (MBBS) degree
- Clinical Divisions carry out School's teaching, learning and research activities in:
  - Central Division
  - Southern Division
  - Rural Clinical Division

Background

- **Issues of access to information in rural and remote areas**

- **Successful PDA implementations**

- **No significant trials in Australian Medical Schools**

- **Funding opportunity arose**

Project Objectives

- Provide access to **authoritative, evidence-based information** to medical students at their **point of learning**

- Contribute to a **positive rural medical education experience** and address equity issues for students in **remote or isolated areas** and have limited access to information and technology infrastructure

- Optimise the **application of contemporary information and telecommunications technologies** in healthcare education and to prepare students for the practicing medicine in 21st Century

- Provide a platform for the University of Queensland, School of Medicine to **evaluate** and report on the applicability of this technology to the **teaching and learning environment**

- Provide the University of Queensland, School of Medicine and the University Cybrary with **experience** in the provision **resources, training and support** for PDAs

Funding

- Australian Government Department of Health and Ageing funded $72 000 hardware
- UQ Cybrary funded $30 000 information resources
- UQ Cybrary funded $15 000 part-time Project Coordinator

Staff involved

- Project Coordinator: Senior Librarian
- Project Reference Group
- School of Medicine IT expert
- Library Technology Services
- RCD Librarians located in Rockhampton and Toowoomba

Pilot Phase

- Pilot phase (October to December 2003) provided PDAs to 40 students, academic and library staff
- Determine:
  - Suitability of hardware, software, operating systems and peripherals – i.e. technology mix
  - Appropriateness of information resources
  - Appropriateness of training
  - User support arrangements
- Evaluation – survey

Hardware

- PDA (Hewlett Packard iPAQ H2200) Pocket PC 2003
- Synchronization Cradle
- Power pack
- Software (Outlook and ActiveSync)
- Case with belt clip
- 128MB Secure Digital (SD) expansion card
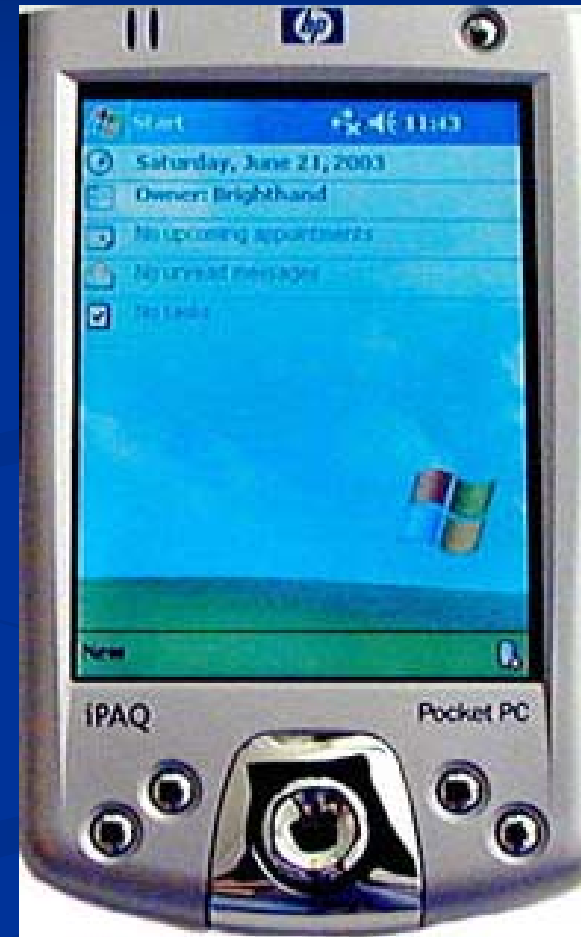
Administration

- Formal terms and condition agreement
  - QH Privacy conditions
  - Loss and damage provisions
- Asset management by RCD Librarians

Pilot lessons

- Technical issues
  - Resource installation and synchronization
  - Security and firewalls
  - Delayed distribution
- Resources & licensing issues
- Training
- Support
- Resource selection
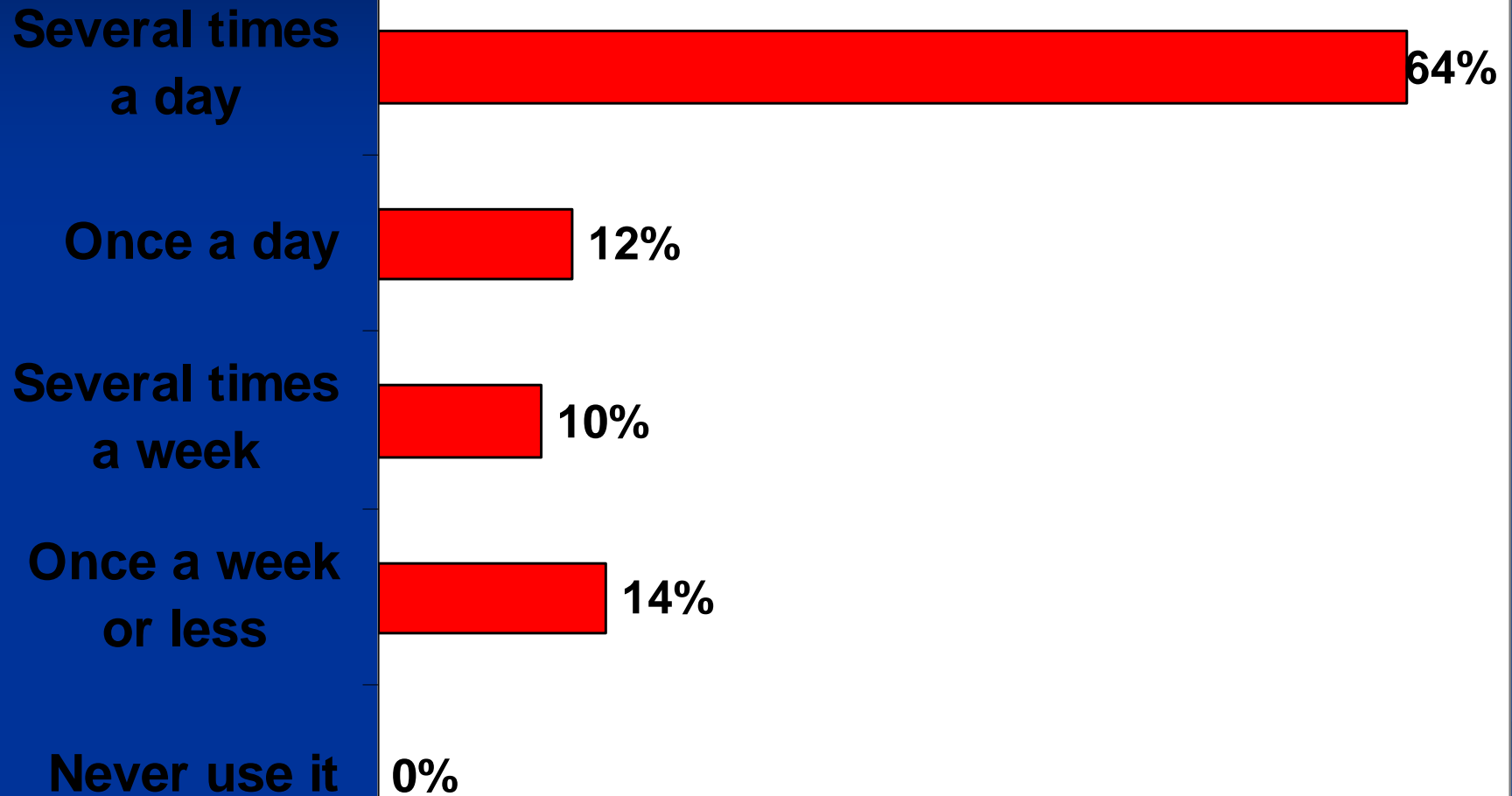
Project phase

- Timeframe - March to December 2004
- 95 units distributed
- Participants - 3rd and 4th year medical students in the Rural Clinical Division regions Queensland, Australia
- Initial training provided in major locations

Project Resources

- *MIMS for PDA* (including *MIMS Interact*) (Australian Drug Index)
- *Micromedex (drug information database)*
- Textbooks
    - *Oxford handbook of clinical medicine*
    - *Oxford handbook of clinical specialties*
    - *Oxford concise medical dictionary*
- *Archimedes (*Clinical calculator)
- *Clinical Evidence*
- **UpToDate*
- **Harrisons on Hand*
- *Adobe Acrobat* and the *Mobipocket* readers were loaded on every PDA to allow viewing of PDF documents and textbooks.
- Outlook contacts and academic calendar

*trialed on three units or less

Ease of use

Needed personal instruction to get started and to continue to use the device	Learned to use it with some assistance and have required support on a regular basis	Learned to use it with some assistance and have required minimal support	Learned to use it with some assistance and have not required support	Learned to use it without assistance and have not required support
0%	6%	46%	32%	16%

Functions used

	Not at all	Once a week or less	Several times a week	Once a day	Several times a day
Address/phone book	31%	38%	17%	4%	10%
Calendar	10%	10%	16%	8%	56%
Drug reference	4%	17%	15%	19%	46%
Medical Calculator	41%	33%	13%	10%	3%
Medical reference (eg textbooks)	6%	9%	28%	15%	43%
Recording patient information	41%	29%	8%	12%	10%
Taking notes	25%	25%	17%	15%	19%

Information Resources

	Not useful	Somewhat useful	Undecided	Useful	Very useful
Oxford Concise Medical Dictionary	8%	14%	10%	46%	22%
Archimedes medical calculator	24%	22%	20%	22%	10%
MIMs on PDA	6%	12%	4%	22%	56%
MIMs Interact on PDA	17%	13%	23%	29%	19%
Oxford Handbook of Clinical Medicine	6%	4%	2%	28%	60%
Oxford Handbook of Clinical Specialities	4%	8%	2%	24%	61%

Perceived value of technology

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
The PDA would improve my performance as a clinician?	0%	4%	20%	52%	22%
The PDA optimises my access to contemporary information at my point of need.	0%	4%	4%	63%	29%
The PDA assists in optimising my organisational efficiency.	2%	6%	14%	28%	50%
The use of a PDA improves access to information resources for students placed in remote or isolated areas.	0%	6%	18%	45%	31%
The use of a PDA enables me to spend more time on wards.	0%	30%	34%	26%	11%
The PDA helps me to address diagnostic questions effectively.	0%	18%	20%	47%	14%

Do you think that access to the reference materials on the PDA contributes to your educational experience?

- 86% (42/49) of responses where positive. The most common thread (50%) related to the ability to look up information at the point of need and in the correct context. For example:

    - "Yes. It can make clinical situations teaching moments when questions can be explored with the clinician in combination with PDA resources"

    - "Access information quicker and still in the clinical context, therefore it is more relevant. I am more likely to look something up if I don't have to remember to look it up later"

    - "Allows me to find the answers when I want to know them – I would have probably forgotten about them by the time I got time to look them up otherwise"

UQ Cybrary Future

- Evaluation and provision of additional Evidence Based Healthcare PDA information resources.

- The creation of PDA specific resources such as Evidence-based Healthcare guides.

- The creation of a PDA compliant website (including catalogue).

- The ongoing implementation of wireless infrastructure within branch libraries (security and authentication issues)

UQ Cybrary Future cont'd

- Lobbying and negotiation with vendors and publishers to address the lack of site licensing options for PDA resources and paying twice for a resource

- Provision of PDA training and education opportunities.

- Provision of technical support and advice to users.

- The development of a PDA Website to provide information and support to users.

- The promotion of PDAs use through user groups.

UQ School of Medicine Future

- Ongoing usage of PDAs within the MBBS program
- Development of Teaching and Learning applications e.g. Clinical Logbooks
- Integration with the online teaching environment
- Privacy and security information within Hospital environment

Outstanding

Conclusion