

Handhelds in Nursing

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Objectives

- Identify the current clinical uses of PDA's
- Discuss the importance of reference material used on the PDA
- Describe the importance of initiating a user support group and it's benefits to clinical staff

Overall use of PDA's

- Contact management (names and addresses) PIM
- Scheduling (calendar)
- To do list
- Note-taking
- Beaming
- Email
- Access to the Internet
- The ability to play MP3 files
- The ability to read electronic books
- Word processing
- Spreadsheets
- Cell phone
- Games

Things to consider

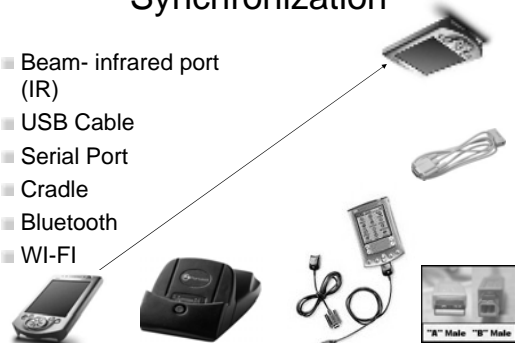
- Memory
 - A small novel or a 3.5 floppy disk
 - 10MB = complete works of Shakespeare
 - 50MB = a digital mammogram
 - 500MB = a CD-ROM
 - 1 gigabyte = truck filled with paper
 - 100 GB = a floor of academic journals
 - 32 to 516MB!
- Batteries
 - Permanent rechargeable batteries fixed into the PDA
 - Rechargeable batteries
 - Standard alkaline batteries that need to be replaced regularly

Memory Cards



Synchronization

- Beam- infrared port (IR)
- USB Cable
- Serial Port
- Cradle
- Bluetooth
- WI-FI



Who in Health Care is using PDA's?

- Nurse practitioner program at UC Davis requires all their NP students to have a PDA (Many schools are)
- Physicians, PA's, Pharmacists, RNs
- Forrester's Consumers Technographics 2003 North American Bench Mark Study: 559,800 nurses use PDA's

Study by Skyscape on use of PDA's (10-04)

- >50% of medical professionals indicated PDA use reduces their medical errors by more than 4 percent. Among internists, 24 percent indicated it reduces their medical errors by more than 10 percent.
- 78% of respondents have at least three medical references on their PDA.
- Drug references are highest use: 88% use them for drug references, cardiologist & internists (38%) use drug interaction checks.
- Almost 92 % of the doctors concluded that PDA's help them improve their efficiency.

What do nurses do with them?

- References
 - Drug Database
 - Abbreviation list
 - 5 minute medical consult
 - Lab references
 - Document Reader Software (iSilo, Adobe)
- Email
- Calculators
 - IV drip rate, kg-lbs
- Notes
 - Can be done in most drug databases
- Reminders
 - Alarms
- Bedside documentation (future at JHH)
- Research
 - Database software

Rated use of PDAs (by RNs)

- From highest to lowest
 - current drug database and nursing reference
 - manage patient and procedure information
 - bedside data entry
 - data collection for research and teaching
 - patient health management
 - improved team communication

Davenport, PDA Cortex

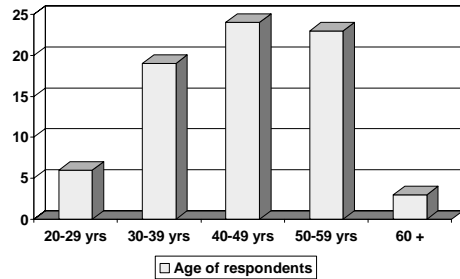
My Favorite Software (wish list)

- Lexi-Comp Complete
- HanDBase
- Documents to Go
 - Word Processing
 - Spreadsheets
 - Presentation
- One system for emailing/calendar/contacts
- Wi-Fi

Top 5 PDA Drug Reference Software Developers PDA Cortex (July, 2003)

- 53.04% of respondents report having an ePocrates drug reference currently loaded on their PDAs
- 28.66% have Skyscape products
- 25.61% have Lexi-Comp drug guides
- 15.24% have PEPID nursing references
- 14.63% have Tarascon's Pharmacopoeia

Use of PDAs; Survey by Davenport (n=75)



Drug Information Software Study

Enders, 2002

- Examine breadth, clinical dependability and ease of use of drug databases
- Looked at nine programs and based responses to 56 questions
 - Dosing-What is the infliximab dosing range for treatment of Rheumatoid Arthritis?
 - Administration-What are the proper dosing instructions for alendronate?
 - Indications-What are the indications of niacin?

Program	Breadth%	Clinical Depend %	Mean time (sec)	Mean Screens (no.)	Cost \$	Size (mb)
Lexi-Comp Platinum	75	100	16.6	4.2	49.95	2-4
Tarascon Not for card	57.1	90.6	15	3.3	Free	0.9
Mosby Drugs	49.8	84.3	17.7	4.6	64.95	2.3
eProcrates Not for card	41.1	91.3	13.9	3.6	Free	1.3
Davis's Drug	37.5	80.0	12.1	3.0	75.00	1.9
PDR 2001 Not for card	37.5	85.7	29.2	8.5	129.95	6.4
Physician's Drug Handbook	35.7	95.0	19.6	6.3	75.00	2.1
A to Z	33.9	78.9	18.4	3.7	49.95	1.8
Mobile Micromedex Not for card	32.1	66.7	14.9	3.6	74.95	1.4

Evaluation of drug databases

Clauson, Seamon, Clauson, Van (2004)

- Scope = presence or absence of an accurate answer
- Completeness = comprehensiveness of the correct answer as rated on a 3-point scale where 3 was the highest in completeness.
- Ease of use = how many links were needed to find desired information

Results

- Broadest Scope
 - Lexi-Drugs Platinum (75.3%)
 - eProcrates Rx Pro (67.8%)
 - Clinical Pharmacology OnHand (65.8%)
 - Tarascon (65.8%)
 - Most limited: Triple i Guide (35.6%)
- Completeness
 - Triple i Guide (89.1%)
 - A2Z drugs (88.7%)
 - Clinical OnHand (88.3%)
 - Tarascon (88.5%)
 - Lexi-Drugs Platinum (85.5%)
 - Least: Pocket PDR (78.4%)

Results, cont.

- Ease of Use (Least links used)
 - A2Z (avg. # of links 1.98)
 - Lexi-Drugs (2.0)
 - Pocket PDR (2.03)
- Highest # Of links
 - Triple i Drugs (4.23)
 - AHFS Drug Information

Conclusions of the study

- Lexi-Comp Platinum most consistent and that A2Z was the only one that had wrong data
- Installation was no problem with either Palm or Pocket PC. mobileMICROMEDIX had difficulties with installation, stability and removal
- Palm was consistently faster than Pocket PC.
- Using a reader was more time-consuming but was able to be independent of the PDA's main memory.

Barriers to Handhelds

- Confidentially issues
- Lack of Standards
- Small Screen/hard to read
- Inadequate technical support
- Organizational Costs & Personal Costs
- Risks of damage or loss
- Data input & transmission problems

Benefits of Handhelds

- Drug Databases saved time during information retrieval
- Was easily incorporated into the workflow
- Improved decision making
- Improve safety
- Helps with bedside teaching
- Portability of data!

What one nurse can do!

- Vicki Vallejos, RN, BSN. IS Clinical Systems Manager at Clark Memorial Hospital, Jeffersonville, IN
- Project to provide each nursing unit with a PDA, pre-loaded with free applications
- 70% of the RN's purchased PDA (72% respiratory therapists also)
- Set up was done with contacts of the hospital, software (Chosen by committee)

Here at JHH/JHU

- Hopkins Mobile Computing Program
 - <http://nts.jhmi.edu/desktop/mcp/>
- Nurses using different models of PDA's with different levels of experience
- Had a PDA User's Group, plan on restarting this group. Will begin again with first meeting of user's group on October 29th, 10:00 to 11:00 room 201, main nursing administration. November 19, 2004 & December 17, 2004

What we need to do here at JHH/JHU

- Standards for Handhelds for nursing
- Need to "recommend" a drug database and clinical references for all clinical staff.
- Need the committee structure to develop guidelines for Handhelds which include Pharmacy, IT & IT security, and clinical staff.
 - There is a Mobile committee with Steve Sears in JHMCIS.
 - Nursing Computer Systems Advisory Council (NCSAC)

What we need to do here at JHH/JHU, cont.

- Talk with your peers
- Compare drug databases
- Get involved with the PDA User Group
- Experiment with a PDA
- Join a PDA Listserve

Health Care Links

- Welch PDA Information
 - <http://www.welch.jhu.edu/internet/pda.html>
- RNPalm is a nice page that has a listserv for PDA Nursing
 - <http://pdacortex.com>
- Skyscape has lots of software all health care types
 - <http://www.skyscape.com/index/home.asp>
- Lexi-Comp, whole suite of software (see vendor)
 - <http://www.lexi.com/web/>
- American Association of Critical Care Nurses PDA Center
 - <http://aacn.pdaorder.com/welcome.xml>
- Pepid has lots of software all health care types
 - <http://www.pepid.com/>

PDA Information Links

- Comparison between Palm & Pocket PC (done by palm)
 - <http://www.palmone.com/us/products/compare/palmos-vs-pocketpc.html>
- The Palm Website
 - <http://www.palmone.com/us/>
- The Pocket PC Website
 - <http://www.microsoft.com/windowsmobile/pocketpc/default.msp>
- Good magazine that covers Palm OS & Pocket PC
 - <http://www.palmtop.co.uk>
- Website for lots of software
 - <http://pda.tucows.com/>
- Health Care Website
 - <http://www.pocketinformatics.com/>

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