Learning to Use Information for Patient Care: Assessing Resident’s Knowledge and Education in Medical Informatics

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Background

- 1,049 residents
- Clinical training conducted at 2 UCSF facilities and 2 affiliated hospitals
- 40%+ clinical teaching activities at SFGHMC
- 225 residents at SFGHMC at any one time
Current Informatics Training

- MEDLINE/PubMed MEDLINE searching
- CINAHL searching
- HTML/web authoring
- Presenting with PowerPoint
- Bibliographic management software
Why this study?

- Residents do not attend regular informatics classes
- Online explosion of medical information
- Literature reveals an expectation of skills

Questions:
- What are residents’ computer skills?
- What are they using in rotations?
- What are their informatics training needs?
Survey Methods

- First-year residents
- Electronic Survey
  - Solicit via e-mail
  - Questionnaire on the web
Electronic Survey

PLUS

• Geographically dispersed population
• Easy to complete and return
• Data returned in an electronic format

MINUS

Residents:
• may not read e-mail regularly
• may not be proficient with a web browser
Finding the Residents

- Contact information for directors and program coordinators collected
- Cooperation was solicited via a form letter
  - Purpose of survey
  - Request for residents’ e-mail addresses
- 22 programs contacted
- 16 programs agreed to participate
- 3 programs had no first-year residents
- 170 residents
Online Questionnaire

- Facilitate
- Two week pilot
  - Initial solicitation sent via e-mail
  - Follow-up sent a week later
- Respondents prefer pull-down menus to filling in empty boxes
The Survey

- Listserv of first-year residents
- Carried out for two weeks
  - Initial solicitation sent via listserv
  - Follow-up sent a week later
Questions

- Rate your skills with different computer applications (5 point Likert)
- Which of these computer skills do you use in rotations?
- Are you using a Palm in rotations? What for?
- Would informatics training be relevant?
- How should training be offered?
Results

- Residents from 10 programs responded
- Response rate was 14 %
Computer Skill Ratings

High skill level:
- Word processing
- E-mail
- Literature searching
- Internet searching

Medium/Low skill level:
- Creating presentations
- File transfer
- Using CE programs
- Spreadsheets
- HTML/web authoring
- Database management
- Bibliographic management software
# Skills Used in Rotations

<table>
<thead>
<tr>
<th>Skill</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Literature Searching</td>
<td>96%</td>
</tr>
<tr>
<td>E-mail</td>
<td>96%</td>
</tr>
<tr>
<td>Internet Searching</td>
<td>83%</td>
</tr>
<tr>
<td>Word Processing</td>
<td>75%</td>
</tr>
<tr>
<td>Presentations</td>
<td>67%</td>
</tr>
<tr>
<td>File transfer</td>
<td>54%</td>
</tr>
<tr>
<td>Using CE programs</td>
<td>33%</td>
</tr>
<tr>
<td>Spreadsheets</td>
<td>25%</td>
</tr>
<tr>
<td>BMS</td>
<td>17%</td>
</tr>
<tr>
<td>Database Mgmt</td>
<td>17%</td>
</tr>
<tr>
<td>HTML</td>
<td>13%</td>
</tr>
</tbody>
</table>
Palm Usage

Using a Palm in rotations 67%

Schedules 80%
Lecture notes 83%
Patient information 53%
Information for presentations 38%
Other Palm Applications

- Drug information
- Medical references
- “peripheral brain”
Training

- Training was relevant for all areas, regardless of current skill level
- Training sessions should be short (1 to 2 hours)
- Online training highly ranked
- Time should be set aside in rotations to learn these skills.
Discussion

- What training are residents currently getting?
- What do we really know about their skills?
- More concrete measurements of skills are needed
- They would like more training, regardless of skill level
Conclusions

- Methods for getting a better response rate
- Work more closely with residency programs
- Residents have no time for computer training
- Expand survey to additional residency populations
Questionnaire Link

http://babar.library.ucsf.edu/4DAction/FC/accessDoAsynchTop?reavie**2/33