Survey of pharmacy preceptors' use of hand-held electronic devices

Maria D. Kostka–Rokosz and William W. McCloskey

Abstract

Objectives: To describe pharmacy preceptors' use of personal digital assistants (PDAs)/hand-held electronic devices and drug information (DI) software for these devices and to determine whether preceptors believed that training students to use DI software for these devices was important.

Methods: We initially pilot tested the survey to 10 Massachusetts College of Pharmacy and Health Sciences (MCPHS)–Boston pharmacy practice faculty representing different practice areas. The questionnaire was modified based on faculty feedback. The final survey was prepared using eListen software and e-mailed in early January 2007 to 356 preceptors with an accompanying letter explaining the project. Preceptors were requested to reply by the end of January. Responses and free-text comments were recorded and descriptive statistics compiled.

Results: 152 preceptors responded (43% response rate). An equal number reported currently using a PDA in practice compared with those not using one. Of those not using a PDA, 71% reported having other DI databases at their site. Preceptors believed that the PDA was most useful for general DI, scheduling and planning, and performing calculations. Free-text comments suggested that students need to be able to evaluate DI software and not rely on it as the sole DI resource. The majority (96%) of preceptors believed that students should be trained on DI software.

Conclusion: Hand-held electronic devices were used by preceptors for a variety of reasons, and the majority of preceptors believed that training students on the use and evaluation of DI software was important.

Keywords: Personal digital assistants, electronic devices, software, preceptors.

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Hand-held electronic devices such as personal digital assistants (PDAs) have improved the portability and availability of medical information and have proved to be a valuable resource for clinicians.[1] A systematic review of PDA usage surveys estimated that between 45% and 85% of health care professionals (including pharmacists) use PDAs, with younger physicians and residents and those working in larger hospital based practices more likely to use one.[2] Although no specific information is available regarding the estimated number of pharmacists who use PDAs in their practice, pharmacists have reported using hand-held electronic devices for activities such as accessing drug information (DI), documenting clinical interventions, and supporting cost-savings initiatives.[3–8]

Hand-held devices have become a popular tool in medical training, and an estimated 60% to 70% of medical students and residents use PDAs for educational purposes or patient care.[9] Medical residents report using PDAs as an electronic pharmacy reference and for clinical calculations.[10] The nursing literature also reports the use of PDAs to enhance the training of nurses, and they have been shown to be an effective learning tool in the clinical setting, particularly for accessing reference materials.[11]

Despite the perceived value of PDAs in training physicians and nurses, their use in pharmacy education remains largely unexplored. Based on 2002 survey data, none of 40 pharmacy schools responding had incorporated PDAs into the curriculum and only 30% of respondents had plans to do so in the next 5 years.[12] Since that survey was conducted, a report was published describing a schoolwide implementation of PDAs at Samford University McWhorter School of Pharmacy, although at the time of publication, PDA use at the school was not consistently integrated across the curriculum.[13]

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Objectives

Based on the increasing use of PDAs by health professionals, we wanted to determine whether we should incorporate this topic into our PharmD curriculum. To obtain baseline information on how these devices are used by practicing pharmacists familiar with our curriculum, we surveyed all preceptors for our Introductory/Early and Advanced Pharmacy Experience Program students to determine whether they used PDAs. If preceptors reported using PDAs, we sought to determine the specific purposes for which the devices were used and to determine preceptor opinions regarding whether student pharmacists should receive training on DI software for these devices.

Methods

Before distribution to preceptors, a 12-question multiple choice survey was developed and piloted to 10 Massachusetts College of Pharmacy and Health Sciences (MCPHS)–Boston pharmacy practice faculty representing different practice areas. Based on their feedback on the nature of the questions, a final 13-question survey (Appendix 1 in the electronic version of this article, available online at www.japha.org) was prepared using eListen software (Scantron) for survey development and reporting. In addition to collecting demographic data, the survey requested information about whether preceptors used PDAs and, if so, what types of devices they used and for what specific purposes. If they did not use a hand-held device, we asked the primary reason for not using one. For those who used a hand-held device, we asked how long they used one, what DI software programs they used, and which program they used most frequently. We asked all preceptors whether they believed it was important (very important, moderately important, or unimportant) for student pharmacists to receive training with PDAs as part of the curriculum. Survey respondents also had the option of entering free-text comments.

Eligible study participants were pharmacists with an active e-mail address who were included in the MCPHS Office of Experiential Education database as preceptors for students in the Introductory/Early or Advanced Pharmacy Experience Program. The list included preceptors from all three MCPHS (Boston, Worcester, and Manchester) campuses.

The survey was e-mailed in early January 2007 to 356 preceptors with accompanying text explaining the project. Preceptors were requested to reply by the end of January, and an e-mail reminder was sent in the third week of January. Survey responses and free-text comments were recorded, and descriptive statistics were compiled. The study was approved by the MCPHS Institutional Review Board.

Results

A total of 152 preceptors responded to the survey, resulting in a 43% response rate. Demographics of the pharmacy preceptors are reported in Table 1. The majority of preceptors (85%) were younger than 55 years and practiced in an inpatient care setting (47%). Respondents served as preceptors in the Advanced Pharmacy Experiences (41%) or both Introductory/Early and Advanced Pharmacy Experiences (51%).

Table 1. Demographics of pharmacy preceptors in survey assessing use of hand-held electronic devices

Characteristic	No. (%)
Age (years)	
25–34	44 (29)
35–44	37 (24)
45–54	48 (32)
>55	23 (15)
Gender	
Men	83 (55)
Women	69 (45)
Practice site[a]	
Inpatient	72 (47)
Community	34 (22)
Ambulatory care	14 (9)
Other	32 (21)
Students precepted	
Introductory experiences	9 (6)
Advanced experiences	63 (41)
Both	77 (51)
None in previous 5 y	3 (2)

[a]Due to rounding, percentages may not equal 100%.

Trends in PDA use

One-half of responding preceptors used a PDA in their practice, and one-half did not. The majority of those not using a PDA did not need to do so because other desktop DI databases were available at their site (71%). Preceptors who used a PDA in practice had done so for more than 3 years (63%) and cited the Palm as the hand-held electronic device used most often (59%). Preceptors were asked to select all activities for which they used their PDA; accessing general DI (97%), scheduling/planning (76%), and performing calculations (72%) were the most frequently reported activities. Few preceptors used a PDA for documenting pharmacy interventions (12%), accessing the Internet (8%), or for e-mail (16%), while 37% reported using a PDA for "other" activities. In response to a question rating the importance of a PDA for these activities, accessing general DI and scheduling/planning were the most important. When asked to rate the importance of using a PDA for documentation of pharmacy interventions, 15% reported this as being very important, 25% moderately important, 12% unimportant, and 48% not applicable.

Table 2. DI software programs used by pharmacy preceptors

DI software program	All DI software programs used No. (%)[a]	Most frequently used DI software program No. (%)[b]
A2Z Drugs	1 (1)	0
AHFS Drug Information	7 (9)	2 (3)
Clinical Pharmacology	13 (17)	4 (5)
Epocrates	39 (51)	24 (32)
Lexi-Drugs	39 (51)	33 (43)
mobileMicromedex	28 (37)	9 (12)
MosbyDrug	3 (4)	2 (3)
Other	17 (22)	2 (3)

Abbreviation used: DI, drug information.
[a]n = 147; more than one option could be selected.
[b]Due to rounding, percentages may not equal 100%.