Residency Education

Documenting Procedures and Deliveries During Family Practice Residency: A Survey of Graduates’ Experiences, Preferences, and Recommendations

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Background and Objectives: The University of Washington Family Practice Residency Network (UW Network) is in the process of implementing a Palm Pilot-based procedure and delivery documentation system throughout 16 residency programs. Our study examined the experiences of past UW Network graduates in obtaining hospital privileges and in documenting procedures and deliveries. Methods: A survey was mailed to 201 1999 and 2000 UW Network graduates, asking them questions about their experiences obtaining hospital privileges after graduation and documenting procedures and deliveries during their training. Results: A total of 124 surveys (62% response rate) were analyzed. Ninety-four percent of the respondents had applied for hospital privileges, and 84% received all the privileges they requested. Forty-four percent indicated they had to provide some written documentation to get hospital privileges, but only 7% had to provide more than a numeric total of procedures or deliveries. Respondents predominantly used log cards and Palm Pilots for data collection. Palm Pilots were preferred over log cards, and the Palm Pilot systems received higher satisfaction ratings. Conclusions: For the majority of graduates, detailed delivery and procedure information was not necessary to obtain hospital privileges. Nevertheless, there are other reasons to document training experiences, and graduates strongly advise family practice residents to record their procedure and delivery experiences. Family practice residency programs should consider giving house staff handheld computers to record the procedures they perform.

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One of the challenges facing every family practice residency program is the accurate documentation of residents’ procedure experiences. The Accreditation Council for Graduate Medical Education (ACGME) mandates that:

There must be a method of documenting the procedures that are performed by the residents. Such documentation must be maintained by the program, be available for review by the site visitor, and be used to provide documentation for future hospital privileges.1

Table 1 lists some of the reasons cited in the literature for documenting family practice residents’ procedure experiences.5-5 Most educators agree that this is an important task, and several systems have been devised to support this activity.2,6-12 Several problems—most notably low resident compliance and high cost—limit the usefulness of the current systems.

In the late 1970s, the University of Washington Family Practice Residency Network (UW Network) developed a centralized database to collect procedure and delivery information for family practice residents in Washington State.10,13 In the 1980s and 1990s, the UW Network expanded to include four states (Washington, Alaska, Montana, Idaho). Table 2 gives detailed information on each program. As the centralized system grew, it became too cumbersome to administer and was discontinued in the early 1990s. While each individual program continued to track resident procedures, the UW Network residency directors still desired a centralized database to provide comparison data for the programs.

A few years ago, one of the UW Network programs in Spokane, Wash., introduced Palm Pilot personal digital assistants (PDAs) at the residency to facilitate collecting and reporting procedure and delivery data.14 Based on their successful experience, the UW Network decided to deploy Palm Pilot PDAs to all residents in the 16 affiliated programs. The idea was “sold” to the

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residents by telling them they would need documentation about their residency experiences to obtain hospital privileges after graduating.

After contacting several programs, however, it became clear that there was some resistance to this proposed change and a concern (on the part of the residents) that procedure documentation was in fact not necessary. We lacked information regarding how useful documenting procedures and deliveries was in obtaining hospital privileges. We knew from previous UW Network graduate surveys that most graduates who applied for privileges received them, but we did not know what documentation, if any, they had to provide. The only published survey showed that 47% of graduates required some documentation. However, this study was more than a decade old and did not indicate the level of documentation detail required for privileges.

We decided that before investing significantly more time and resources in the Palm Pilot PDA project, we should determine what degree of procedure documentation is essential for obtaining hospital privileges. We also wanted to discover what documentation method residents should use. We report findings from a survey of recent UW Network program graduates about their experiences in (1) obtaining hospital privileges after graduation and (2) documenting procedures and deliveries.

Methods

A two-page, 15-item questionnaire was mailed to the 201 residents who graduated in 1999 or 2000 from the 16 UW Network programs. The characteristics of each program are listed in Table 2. The survey instrument was pilot tested by 20 family physicians who were in their last year of training or were recent residency program graduates. The survey asked graduates to respond to questions regarding their experience obtaining hospital privileges. They were also asked questions about the methods they used to document deliveries and procedures during residency. Nonrespondents were sent a second mailing. Anonymity and confidentiality were assured. Human subjects approval was obtained to use the questionnaire data for research purposes and for wider dissemination beyond the UW Network. This study was exempt from formal review by the University of Washington Institutional Review Board.

The practice location community size was determined by matching practice zip code to the rural-urban commuting area (RUCA). Results were analyzed using Microsoft Excel® and Statistical Package for Social Sciences (SPSS). A two-sample t-test was used to determine if there were statistically significant differences in satisfaction ratings between Palm Pilots and log card systems. The relationship between community size and denial of privileges was analyzed by chi-square test.

Results

Responses were received from 62% of the graduates (124/201). Fifty-six percent were female. Sixty-nine percent practiced in the Pacific Northwest (Washington—48%, Idaho—7%, Alaska—6%, Oregon—6%, Montana—2%), 26% were scattered among 18 other states, and 5% did not list a practice location. Fifty-six percent reported practicing in an urban setting, 22% in a small rural area, and 14% in a large rural area. Community size information was not available for 8%.

Not all the respondents answered all the questions on the survey, so the denominator varies depending on the question addressed. Of the 124 respondents, 117 had applied for hospital privileges. Eighty-nine percent (104/117) indicated that they had received all privileges requested. Nine percent (10/117) reported being unable to get all the privileges they requested, and three respondents who had obtained privileges did not answer this question (Table 3). Graduates practicing in large rural areas had the most difficulty obtaining hospital privileges. Eighteen percent (3/17) in large rural locations were denied privileges, compared to only 3% (2/60) in urban settings and 12% (3/24) in small rural areas. These differences were not statistically significant.

Respondents were also asked if they had to provide written evidence of their clinical experience to obtain hospital privileges. Ninety-one percent (113/124) answered this question. Forty-eight percent (54/113) indicated they had to provide some written documentation to get hospital privileges, but most of these only had to list numbers of procedures or deliveries. The majority (72%) of the respondents (39/54) who had to provide some form of written documentation had it available at the time they applied for privileges. A total of 107 graduates answered a question about the type of documentation they had to provide. Only 8% (9/107)
Table 2

University of Washington Family Practice Network Programs

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Year Started</th>
<th>Sponsor Type</th>
<th>Residents Per Year</th>
<th>Location</th>
<th>Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska Family Practice Residency</td>
<td>1997</td>
<td>Community hospital</td>
<td>8</td>
<td>Anchorage, Alaska</td>
<td>Rural and underserved</td>
</tr>
<tr>
<td>Central Washington Family Medicine</td>
<td>1993</td>
<td>Community hospital</td>
<td>6</td>
<td>Yakima, Wash</td>
<td>Rural and underserved</td>
</tr>
<tr>
<td>Family Medicine of Southwest</td>
<td>1995</td>
<td>Community hospital</td>
<td>6</td>
<td>Vancouver, Wash</td>
<td>Rural, urban, and underserved</td>
</tr>
<tr>
<td>Washington Family Practice Residency</td>
<td>1997</td>
<td>Urban medical center</td>
<td>7</td>
<td>Spokane, Wash</td>
<td>Rural, urban, and underserved</td>
</tr>
<tr>
<td>Family Practice Residency of Idaho</td>
<td>1974</td>
<td>Community hospital</td>
<td>9</td>
<td>Boise, Idaho</td>
<td>Rural and underserved</td>
</tr>
<tr>
<td>Group Health Cooperative</td>
<td>1969</td>
<td>Community HMO hospital</td>
<td>5</td>
<td>Seattle</td>
<td>Urban and staff model HMO</td>
</tr>
<tr>
<td>Idaho State University Family Practice Residency</td>
<td>1992</td>
<td>University medical center</td>
<td>4</td>
<td>Pocatello, Idaho</td>
<td>Rural</td>
</tr>
<tr>
<td>Madigan Army Medical Center</td>
<td>1973</td>
<td>Military medical center</td>
<td>7</td>
<td>Tacoma, Wash</td>
<td>Military (US Army)</td>
</tr>
<tr>
<td>Montana Family Practice Residency</td>
<td>1998</td>
<td>Community hospital</td>
<td>6</td>
<td>Billings, Mont</td>
<td>Rural</td>
</tr>
<tr>
<td>Providence/St Peter Hospital Family Practice Residency</td>
<td>1991</td>
<td>Community hospital</td>
<td>7</td>
<td>Olympia, Wash</td>
<td>Rural</td>
</tr>
<tr>
<td>Puget Sound Family Medicine Naval Hospital</td>
<td>1990</td>
<td>Military medical center</td>
<td>6</td>
<td>Bremerton, Wash</td>
<td>Military (US Navy)</td>
</tr>
<tr>
<td>Swedish at Providence Family Practice Residency</td>
<td>1974</td>
<td>Urban medical center</td>
<td>10</td>
<td>Seattle</td>
<td>Urban and underserved</td>
</tr>
<tr>
<td>Swedish First Hill Family Medicine</td>
<td>1970</td>
<td>Urban medical center</td>
<td>10</td>
<td>Seattle</td>
<td>Urban and underserved</td>
</tr>
<tr>
<td>Tacoma Family Medicine</td>
<td>1977</td>
<td>Urban medical center</td>
<td>8</td>
<td>Tacoma, Wash</td>
<td>Rural, urban, and underserved</td>
</tr>
<tr>
<td>University of Washington Family Practice Residency</td>
<td>1972</td>
<td>University medical center</td>
<td>8</td>
<td>Seattle</td>
<td>Rural, urban, and academic</td>
</tr>
<tr>
<td>Valley Medical Center Family Practice Residency</td>
<td>1986</td>
<td>Urban medical center</td>
<td>8</td>
<td>Renton, Wash</td>
<td>Urban</td>
</tr>
</tbody>
</table>

Sixty percent (74/124) responded to the question of how they acquired the documentation they needed. Fifty-five percent (41/74) collected the data, and the residency program provided summarization, while 38% (28/74) collected and summarized the data themselves. Only four graduates reported that their program both collected and summarized the data, and one noted the hospital provided an activity report.

Eighty-one percent (100/124) indicated that their program had a system for collecting and reporting delivery and procedure data. However 97% of graduates (120/124) personally collected some procedure or delivery data during their training.

Regarding the type of system they used to collect procedure and delivery data, 53% (64/120) used a log card paper-based system, 7% (8/120) used a Palm Pilot-based system, while 29% (35/120) used both. Seven percent used a combination of log card and personal computer system, and 4% used some other form of procedure and delivery documentation.

Respondents were asked which documentation system they preferred. Fifty percent (53/106) would choose a Palm Pilot or other PDA, while 41% (43/106) favored
Table 3

Reasons Sited for Hospital Privilege Denials

<table>
<thead>
<tr>
<th>Hospital Privilege Denied</th>
<th>Number of Respondents</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean section</td>
<td>3</td>
<td>One respondent was able to perform cesarean sections if supervised for 6 to 9 months</td>
</tr>
<tr>
<td>Colposcopy</td>
<td>2</td>
<td>One respondent’s request was denied on the basis of insufficient numbers</td>
</tr>
<tr>
<td>Electrocardiogram (ECG)</td>
<td>1</td>
<td>Respondent performs stress ECGs in the office, negating the need for hospital privileges for this procedure</td>
</tr>
<tr>
<td>Esophagogastroduodenoscopy (EGD)</td>
<td>1</td>
<td>Initial “inquiry” into EGD rebuffed by GI department of the regional hospital. Respondent now performs EGD in the office</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>Respondent more than 1 hour from hospital</td>
</tr>
<tr>
<td>Not answered</td>
<td>2</td>
<td>Respondents did not indicate what privileges were denied</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

a log card system. Of the 34 who used both a log card and a Palm Pilot, 85% (29/34) preferred the Palm Pilot. One noteworthy point is that 14 graduates who did not use a Palm Pilot during their training said they would have preferred this system had it been available to them. When asked what system they would recommend to residents currently in training, graduates overwhelmingly endorsed Palm Pilots over log cards (81% versus 10%).

Respondents were asked to rate six satisfaction factors for their preferred data collection system on a 1 to 5 scale. In general, mean satisfaction ratings were higher for Palm Pilots, compared to log cards. These differences were statistically significant in the areas of data retrieval, data summary, summary quality, and “safety,” i.e., data not easily lost (Figure 1).

Discussion

The American Academy of Family Physicians (AAFP) reports that most family physicians (86%) have hospital privileges and are satisfied with them.16 While we know that most family physicians are satisfied with the privileges they have, information about the process of obtaining privileges is more often than not anecdotal. We are aware of only one other survey of family physicians where respondents were asked if documentation of training experiences was required to obtain privileges.13 This study was performed in the early 1980s and did not address the degree of documentation necessary for privileges.

Should family practice residents or family practice residency programs be required to collect detailed data on the training experience? The educational value of this activity has been questioned.17,18 One could argue that since only a minority of graduates in this and the previous survey needed specific information, residents should not be required to spend time documenting procedures and deliveries. However, we would argue that there are other reasons to support this activity (Table 1). Also, since first-year residents often do not know their ultimate career path, no one can predict if these residents will have to show proof of training experiences to acquire clinical privileges (hospital or otherwise) in the future. Indeed, 119 of 120 respondents in our survey recommended that residents document deliveries and procedures. The one exception, a practitioner from central Oregon, commented that “The PDA seems like an expensive waste. At the two hospitals where I have received privileges, no one asked me to do anything more than write down the total number of procedures.”

Residents who plan to practice in large rural settings or who plan on performing procedures such as cesarean sections, upper endoscopy, and stress electrocardiograms should also consider collecting detailed information since they appear to be more at risk for privilege denials.

Figure 1

Satisfaction Rating of Preferred Data Collection System

1=very inadequate; 5=very adequate
* Significant at P<0.05
NS—not significant
If we accept the premise that family practice residents should keep detailed procedure and delivery records, which data collection method should we recommend? The portability of the handheld computer (Palm Pilot or Pocket PC PDA) makes it an attractive option. One obvious advantage of the handheld computer over a paper (log card) method is the ease of data transfer. A system that uses PDAs does not need a data-entry person since the resident keys in the information. Another advantage of the PDA is its ability to hold more information than will easily fit on a 3 by 5 inch index card. Handheld computers have been shown to streamline procedure data collection and assist in producing timely and useful reports. Additionally, PDAs can provide other useful information such as medical textbooks, pharmacy databases, and medical calculators. Finally, in our survey, Palm Pilots were preferred over a log card system, and satisfaction ratings were significantly higher for Palm Pilots, compared to log card systems in data retrieval, data summary, quality of summary, and safety (data not easily lost).

PDAs do have their disadvantages. Most units are somewhat fragile and will break if dropped or sat on. Battery life is variable. Most units can last several weeks on a single set of batteries; however, if the resident is not vigilant about backing up data or changing the batteries (or recharging them) when low, data can be lost. To transfer information to a desktop computer where it can be analyzed, the resident must perform some sort of synchronization operation. This can be difficult for residents who are away from their “home base” for prolonged periods. Lastly, PDAs create many technological challenges. Residents and staff must receive adequate training for a PDA-based system to be successful.

Limitations

This study is limited by a somewhat low response rate (62%). Also, the results may not be applicable to all US family practice residency programs since almost 70% of the respondents practiced in the Pacific Northwest. Another limitation may result from survey question wording—respondents were asked if they received all the privileges that they requested. It is possible that some graduates, especially those in urban settings, did not request “controversial” privileges such as cesarian section because they were informed that they would not be granted regardless of the amount of documentation.

Conclusions

We surveyed the 1999 and 2000 year graduates from 16 family practice residency programs concerning whether they needed written documentation of procedures and deliveries to obtain hospital privileges. Sixty-two percent responded (124/201), and while many did not have to supply detailed information, almost half had to provide some evidence of their training experiences. The majority of graduates used either a paper-based log card system or a Palm Pilot PDA. The Palm Pilot was preferred over the log card system, and satisfaction ratings were higher for the Palm Pilot system. The vast majority of our graduates recommend that residents use a system for recording procedure and delivery training experience. Family practice residency programs should consider employing a Palm Pilot or other handheld computer system for training documentation.

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REFERENCES