How Well Are Practice Management Curricula Preparing Family Medicine Residents?

Marcia L. Taylor, MD, MS; Arch G. Mainous III, PhD; Amy V. Blue, PhD; Peter J. Carek, MD, MS

Background: While emphasis has been placed on practice management curricula in residency, studies indicate that residents are not adequately prepared. To assess the effectiveness of current practice management skills training in residency, we examined the confidence levels of family medicine residents and recent graduates in practice management skills. Methods: A survey was sent to family medicine residency programs within South Carolina. Participants ranked their confidence level in 13 practice management skills on a 5-point Likert scale. Analysis of covariance compared confidence levels in their skills while controlling for program, gender, and age. Residency directors of these programs were also surveyed about the content of their practice management programs. Results: Residents and graduates rated their confidence in all areas moderately high. Graduates rated themselves significantly more confident than residents did in seven practice management skills. Conclusions: Family medicine practice management curricula appear to be effective in establishing confidence regarding practice management skills in residents and recent graduates.

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programs, there was no control for program in their analysis. Since practice management curricula vary by program, this is likely to be a significant confounder to analysis.

Finally, family medicine practices have changed significantly in the past 10 years. In 1994, 35% of family physicians were in solo practice and 51% in a group practice. In 2004, only 18% were in solo practice, with 65% in group practice. With this shift away from solo practice, skills relating to searching for a position, job interviewing, and contract negotiating are likely to increase in importance, although these may not be considered traditional elements of a practice management curriculum.

This study’s purpose was to survey family medicine residents and recent graduates about their confidence in practice management skills acquired during residency, including those skills related to finding a position after residency that may not be included in traditional practice management curricula. By obtaining both residents’ and graduates’ perceptions of their skill acquisition, we examined whether confidence in skill acquisition during residency differed between the two groups. Graduates’ perceptions of the effectiveness of residency training in these skills may differ from residents’ perceptions because graduates have been able to apply their abilities after residency and thus develop a different perspective about how well residency training prepared them. This study also examined the content and design of current family medicine residency practice management curricula.

Methods

Subjects

For our resident sample, we surveyed second- and third-year residents of the eight family medicine residency programs within the state of South Carolina that are affiliated with the South Carolina Area Health Education Consortium (AHEC). Interns were not included in the sample since they were unlikely to have participated in their program’s practice management curriculum. For the graduate sample, we surveyed graduates within the past 4 years (2000–2003) of these same eight programs. Residency directors of the same programs were also surveyed about the content and design of their practice management curricula. The Medical University of South Carolina Institutional Review Board approved this study.

Instruments

A survey was designed for residents and recent graduates of family medicine residency programs. This survey consisted of 13 questions that asked about a respondent’s confidence level obtained during residency in the following skills of practice management: searching for a position after residency, writing a curriculum vitae (CV), applying for hospital privileges, understanding legal aspects of a new job contract, negotiating a new job contract, job interviewing, obtaining proper state and federal medical licenses, understanding of the continuing medical education requirement for maintaining licensure, obtaining malpractice insurance, managing office personnel, business and financial concerns of running a medical practice, applying principles of risk management, and medical coding and billing procedures. On the graduate survey, participants were specifically asked to relate their confidence in each of the areas in relationship to their residency training. Respondents were asked to rank their confidence level on a 5-point Likert-type scale, with 1 being very confident and 5 being not confident at all. This survey was pretested on several first-year family medicine residents in one program to ensure that the survey was understandable.

A second survey was designed for residency directors of the same eight programs. This survey inquired about the format of practice management curricula (longitudinal, single rotation, or seminar), the year residents are first exposed to the curriculum, if the curriculum included the 13 practice management skills previously mentioned, and the total number of practice management training hours residents received.

Procedures

The residency directors’ survey and the residents’ survey (second- and third-year residents) were mailed to the eight family medicine programs. To increase the response rate, a second mailing of the surveys was performed. The graduates’ survey was attached to a larger graduate survey of all graduates for AHEC family medicine residencies in South Carolina. This survey is performed every 5 years, and two mailings of this survey are performed. However, we only included responses of graduates from the last 4 years (2000–2003) in our analysis. All surveys were collected anonymously, and code numbers were used only to identify program location.

Data Analysis

The means of the levels of confidence reported for each of the practice management skill items were computed for residents and graduates. Then, the resident and graduate means for each item were compared. Because residency programs’ practice management curricula vary, individual program would be a significant confounder in a bivariate analysis that did not account for specific program. Therefore, analysis of covariance (ANCOVA) was used to compare the mean differences of confidence levels between residents and graduates while adjusting for program, gender, and age. Analysis was performed using the SAS System, version 8.02.
For the residency directors’ survey, a simple count of the variety of teaching methods was performed. The average year that residents were introduced to the practice management curriculum and hours spent on the curriculum were also calculated. Finally, the percentages of programs covering each of the 13 practice management skills were determined.

Results
Response Rates
A total of 132 second- and third-year residents were surveyed; 64 resident surveys were returned, for an overall response rate of 48%. One program returned only one resident survey. Due to the low response rate of this program, it was omitted from analysis due to nonparticipation and, because only one resident responded from this program, we felt that we did not have an adequate representation of this program from a resident standpoint. Responses from residents, graduates, and/or the residency director of this program were not included in our analysis. The response rate for the residents’ survey without this program was 55% (63 out of a possible 114).

The overall graduate survey had a response rate of 54% (1,461 surveys mailed, with 144 undeliverable and 716 returned). We only included graduates from the last 4 years, which resulted in a response rate of 41% (102 out of a possible 250), but after omitting the one program mentioned above, the response rate was 40% (87 out of a possible 217).

For the residency directors’ survey, we had a response rate of 100% (eight out of a possible eight). However, we only used the data from seven programs since one program was omitted for reasons previously mentioned.

To minimize problems with missing data, we chose to use only the sample we had complete data for (surveys in which the respondents had answered all of the survey questions). This resulted in a total of 57 residents’ and 84 graduates’ surveys. The average age of the residents and graduates was 31.9 and 34.9 years, respectively. Forty-nine percent of the residents were female, and 30% of the graduates were female.

Confidence in Practice Management
In general, residents and graduates rated their confidence in all areas moderately high (Table 1). There were no differences observed in confidence levels with respect to age or gender. There were, however, significant differences observed in confidence levels among programs concerning the following skills: understanding legal aspects of a new job contract, negotiating a new job contract, job interviewing, understanding of continuing medical education requirements, business and financial concerns of running a medical practice, and medical coding and billing procedures. Programs were rated higher in one of these areas if the director reported that the curriculum covered the practice management skill in question, had a dedicated practice management rotation versus solely a longitudinal curriculum, or dedicated more hours to their practice management curriculum.

Graduates ranked themselves significantly more confident than residents in a number of skills of practice management. These included applying for hospital privileges, understanding legal aspects of a new job contract, negotiating a new job contract, obtaining proper state and federal medical licenses, obtaining malpractice insurance, applying principles of risk management, and medical coding and billing procedures.

Reports of the residency directors’ survey showed that programs reported using multiple methods of teaching practice management. Five of the seven programs had a longitudinal curriculum, five had a practice management rotation, and one program used a seminar. Three programs included their first-year residents in the curriculum. The total number of hours spent in practice management ranged from 60 to 110, with a mean of 74 hours. All programs included negotiating a new job contract, obtaining malpractice insurance, business and financial concerns of running a medical practice, applying principles of risk management, and medical coding and billing procedures in their curriculum. Eighty-six percent of programs covered searching for a position after residency, understanding legal aspects of a new job contract, and managing office personnel. Seventy-one percent covered applying for hospital privileges and job interviewing, 57% covered writing a CV and obtaining proper state and federal medical licenses, and 43% covered understanding of continuing medical education requirements for maintaining licensure.

Discussion
This study demonstrated that family medicine practice management curricula in South Carolina appear to be effective in establishing confidence regarding practice management skills in residents and recent graduates. Of the 13 practice management skill areas surveyed, graduates ranked themselves significantly more confident in seven skills than did residents. Our results suggest, therefore, that even though residents may not feel very confident in many of the skills of practice management during residency, graduates appear to have confidence in their residency preparation in these areas. The possibility exists that graduates had further training in practice management after graduation, leading to their increased confidence. However, graduates did not demonstrate higher confidence than residents in four out of the six nontraditional management skills, suggesting that more emphasis may need to be placed on these skills in current curricula. In addition, residents did not report a high level of confidence in such skills as managing office personnel and business
and financial concerns of running a practice, although 86% of the programs report covering the former and 100% covering the latter. This suggests that current practice management curriculum may need to place more emphasis on these areas as well.

From the information obtained from the residency directors' survey, practice management curricula appear to use a variety of educational methods. By using different educational methods, important principles of practice management can be reinforced and lead to a better understanding and maintaining of practice management principles. The survey of residency directors also revealed that practice management curricula cover a broad range of topics, which likely adds to the complexity of determining current practice management curricula. Finally, the average number of hours these family medicine programs dedicated to practice management was nearly 15 hours longer than the ACGME recommendation of 60 hours.

Limitations

Limitations of this study must be considered. The response rate for both the resident and the graduate survey was not as high as we would have liked, despite attempts to increase this response rate through second mailings. This study only considered programs within one state, and practice management curricula in other states may be different than they are in South Carolina. Practice management curricula may also have undergone changes since the graduates completed their residency. However, by limiting the sample of graduates to those of only the past 4 years, it is unlikely that the curricula received vast changes during this time period.

Graduates may have taken additional training in practice management that was not included during their residency training, and this may have been responsible for some of their increased level of confidence. However, this confounder is likely to be minimal since graduates were asked to rate their confidence level on how well their residency training prepared them in certain skills of practice management. Graduates’ level of confidence in practice management skills may also have been influenced by whether they joined a group or solo practice since the skills needed for these two types of practice are different.

Importantly, this survey measured confidence of residents and graduates, not skill level. However, measuring skill level in a survey such as this would have been difficult.

Finally, the average age of the residents was slightly older than expected, suggesting that some may have possibly had previous work experience. Thus, this finding may have affected their ratings of confidence in some of the practice management skills.

<table>
<thead>
<tr>
<th>Practice Management Skill</th>
<th>Mean Resident Confidence Level</th>
<th>Mean Graduate Confidence Level</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing a CV</td>
<td>2.09</td>
<td>2.20</td>
<td>.54</td>
</tr>
<tr>
<td>Job interviewing</td>
<td>2.22</td>
<td>2.49</td>
<td>.11</td>
</tr>
<tr>
<td>Searching for a position after residency</td>
<td>2.26</td>
<td>2.07</td>
<td>.30</td>
</tr>
<tr>
<td>Obtaining proper state and federal medical licenses</td>
<td>2.81</td>
<td>2.34</td>
<td>.01</td>
</tr>
<tr>
<td>Understanding of continuing medical education requirements</td>
<td>2.92</td>
<td>2.60</td>
<td>.11</td>
</tr>
<tr>
<td>Medical coding and billing procedures</td>
<td>3.04</td>
<td>2.18</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Applying for hospital privileges</td>
<td>3.06</td>
<td>2.28</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Managing office personnel</td>
<td>3.12</td>
<td>3.02</td>
<td>.60</td>
</tr>
<tr>
<td>Negotiating a new job contract</td>
<td>3.16</td>
<td>2.75</td>
<td>.023</td>
</tr>
<tr>
<td>Obtaining malpractice insurance</td>
<td>3.17</td>
<td>2.76</td>
<td>.03</td>
</tr>
<tr>
<td>Applying principles of risk management</td>
<td>3.29</td>
<td>2.64</td>
<td>.0007</td>
</tr>
<tr>
<td>Understanding legal aspects of a new job contract</td>
<td>3.31</td>
<td>2.61</td>
<td>.0002</td>
</tr>
<tr>
<td>Business and financial concerns of running a medical practice</td>
<td>3.38</td>
<td>2.99</td>
<td>.05</td>
</tr>
</tbody>
</table>

1=Very confident, 5=Not confident at all
Conclusions

This study of residents’ and graduates’ confidence in certain practice management skills provides evidence that current practice management curricula are somewhat effective. From this study, residents may not feel very confident in their skills during residency but appear to have increased confidence once applying these skills following graduation. From the directors’ survey, practice management curricula use a variety of educational methods and cover a broad range of topics. Due to the rapidly changing medical environment of recent years, practice management will likely continue to be an important part of residency curricula. Further research should investigate current components of residencies’ practice management curricula, as well as skills that graduates and residents feel they need prior to entering medical practice.

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Corresponding Author: Address correspondence to Dr. Taylor, Medical University of South Carolina, Department of Family Medicine/University Family Medicine, 9298 Medical Plaza Drive, Charleston, SC 29406. taylo@musc.edu.

REFERENCES