Time Spent on Clinical Documentation

A Survey of Internal Medicine Residents and Program Directors

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Background: Clinical documentation and clerical duties are substantial activities for internal medicine residents. Therefore, we sought to understand the perspectives of internal medicine residents regarding the time devoted to documentation and direct patient care, as well as the perceived frequency and importance of feedback on patient-related documentation.

Methods: As part of the 2006 US Internal Medicine In-Training Examination, residents voluntarily completed a survey that included questions on the average daily hours spent in direct patient contact and clerical documentation during inpatient rotations. Residents and program directors were asked to report on the frequency and importance of feedback provided to trainees by faculty on patient-related documentation.

Results: A total of 16,402 trainees (85.9%) and 235 PDs (61.7%) completed the survey. There were 67.9% of residents who reported spending in excess of 4 hours daily on documentation; only 38.9% reported spending this amount of time in direct patient contact. The majority of residents (56.5%) and program directors (63.0%) believed that feedback on documentation occurred less than 50% of the time. Program directors were more likely than residents to view feedback on documentation as highly important (73.2% vs 58.6%; P < .001).

Conclusions: Internal medicine residents perceive that they are spending excessive time in the hospital setting on clerical documentation. Further evaluation to understand specific inpatient activities of residents and the educational value of those activities is essential.
For these 2 activities, trainees were asked to select from the following time options, in hours (<1, 1-3, 4-6, 7-9, and >9 hours).

Trainees were also surveyed on the frequency and perceived importance of feedback on clerical documentation through the following questions:

“On what percent of your patient care documentation do you receive critique or feedback from faculty?”

- 75% or more
- 50% to 74%
- 25% to 49%
- 10% to 24%
- Less than 10%

“How important to your education is regular critique and feedback on your patient-care documentation?”

- Very low importance
- Moderately low importance
- Medium importance
- Moderately high importance
- Very high importance

The examination was completed by 19,090 internal medicine residents in October 2006, which represents 89.3% of the 21,371 internal medicine residents in training during the 2006-2007 academic year. Of those taking the test, 16,402 (85.9%) returned surveys and 15,889 (83.2%) and 15,417 (80.8%) completed the questions on how many daily hours were spent on documentation for patient care and face-to-face contact with patients, respectively. Survey questions on frequency of documentation feedback and importance of feedback were completed by 84% of the residents.

During the administrative period of the 2006 IM-ITE, internal medicine residency PDs were invited to complete a voluntary, confidential 13-item survey with 2 questions that were similar to those on the trainee survey and had identical response options:

“On average, on what percent of your residents’ patient care documentation do your faculty provide critiques or feedback?”

“In your opinion, how important to your residents’ education is regular critique or feedback on patient-care documentation?”

In addition, PDs were asked their perceptions of whether the time trainees spend completing documentation for patient care (eg, notes, forms, orders, computer entry, dictation) detracts from other learning opportunities. Response options were as follows:

- Amount of time detracts from learning
- Amount of time appropriate
- Uncertain

Residents from 381 US residency programs took the IM-ITE; PDs from all 381 programs were invited to participate in the Program Director Survey, of which 263 (69.0%) responded. Surveys with missing data were excluded from the analysis, leaving a final cohort of 235 PD respondents (61.7%) regarding the questions on feedback frequency and importance and 236 PD respondents (61.9%) for the question on the impact of clerical documentation on the learning environment.

Descriptive results were reported using standard univariate statistics. When appropriate, statistical analyses were conducted using SAS version 9.1 software (SAS Institute Inc, Cary, North Carolina). Two-tailed significance was set at α=.05. Associations between each response category and demographic factors were analyzed using Cochran-Mantel-Haenszel statistics. This analysis was approved by the Institutional Review Board of the Mayo Clinic.

Of the internal medicine residents completing the survey, 33.0% were postgraduate year (PGY)-1, 35.5% were PGY-2, and 31.5% were PGY-3. Fifty-seven percent of the respondents were male, 52% were US medical graduates, and 54% noted English as their native language.

Resident perceptions of the time spent on documentation for patient care and face-to-face contact with patients are displayed in the Figure. More than two-thirds (67.9%) reported spending in excess of 4 hours per day on documentation. In contrast, only 38.9% of trainees reported spending this amount of time in direct patient contact. We observed statistically significant but very small differences in time spent in documentation and patient contact across PGY levels, sex, medical schools, and language status.

The frequency of patient-related documentation receiving feedback from faculty as reported by the residents and PDs is noted in Table 1. The majority of residents (56.5%) and PDs (63.0%) reported that feedback on documentation occurred less than 50% of the time. Within the resident data, there were minor but statistically significant differences across PGY level, but no differences by sex. While 54.4% of international medical graduates reported a perceived frequency of feedback on documentation occurring at least 50% of the time, only 33.5% of US medical graduates reported this same perceived frequency (P<.001); results for native vs nonnative English language speakers showed a similar pattern.
The perceived importance to resident education of regular critique and feedback on patient care documentation as reported by the residents and PDs is noted in Table 2, with significant differences noted between the 2 groups. Program directors were more likely than residents to view feedback on documentation as being of at least moderately high importance (73.2% vs 58.6%; P < .001). Although 69.0% of international medical graduates reported feedback to be of at least moderately high importance, only 49.0% of US medical graduates rated the importance of feedback as high (P < .001). As previously noted, results for native vs nonnative English language speakers were similar to the US and international medical graduate results.

Despite the majority of PDs rating the importance of feedback on documentation as being at least moderately high, 57.6% of PDs believed that the time residents spend on patient-related clerical documentation detracts from other learning opportunities, while 34.8% believed that the amount of time was appropriate and 7.6% were uncertain.

### Table 2. Perceived Importance of Feedback on Documentation to Resident Education Reported by 16,044 Residents and 235 Program Directors

<table>
<thead>
<tr>
<th>Perceived Importance of Feedback on Documentation to Resident Education</th>
<th>Very Low</th>
<th>Moderately Low</th>
<th>Medium</th>
<th>Moderately High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents, %</td>
<td>2.0</td>
<td>8.7</td>
<td>30.8</td>
<td>39.6</td>
<td>19.0</td>
</tr>
<tr>
<td>Program directors, %</td>
<td>0.0</td>
<td>0.9</td>
<td>26.0</td>
<td>43.0</td>
<td>30.2</td>
</tr>
</tbody>
</table>

*Percentages may not total 100% owing to rounding.*

The perception that trainees spend an excess of time on clerical documentation has existed for years, with an increasing trend over time. In 1988, internal medicine residents were found to spend 11% to 18% of time on call in direct patient evaluation, while 10% to 21% of their time was spent on documentation, not including other clerical duties. In 1997, case review and documentation was the second most time-consuming activity for internal medicine residents on call (38% of time), while patient history taking and examination involved only 12% of time. A systematic review reported that while in the hospital setting, trainees spent an average of 35% of their time on “marginal” activities (ie, those with no educational value, including documentation and clerical duties). While there was no statistical difference between the mean time spent in “marginal” activities compared with that spent directly with patients, it was statistically greater than the amount of time dedicated to educational activities. Our results show that residents continue to spend a large amount of time on clinical documentation, even as total duty hours are restricted.

The second major finding of our study relates to the perceived importance of feedback on documentation and clerical activities. To the extent that these relate to providing good care, these activities have merit. However, while the 2008 report from the Institute of Medicine focuses on duty hours, supervision, caseload, and handovers, it also recommends that activities with limited or no educational benefit be minimized and that residents have adequate time for patient care and self-reflection. Clerical documentation may be viewed as a resident activity with limited educational benefit, and more than half of PDs surveyed agreed that clerical documentation detracts from other educational experiences, an area that clearly needs closer scrutiny.

Documentation activities may provide value to the educational process that is less tangible and more difficult to study, since there may be benefits from self-reflection by residents on their own notes or on notes from peers, particularly during transitions of care. Regardless, the benefits of documentation-related efforts in training have yet
to be fully defined. To optimize the educational value of these duties, they should be critiqued and used by faculty to provide feedback. While most residents and PDs rated the importance of feedback on documentation as “moderately high” or “very high,” feedback only occurred in a minority of cases. Possible explanations for this discrepancy include a lack of faculty development skills in providing feedback, inadequate time to provide feedback, and uncertainty regarding the comparative standard for documentation.

Although the educational value of time spent on clerical documentation is not known, the value of feedback on documentation has been reported. Medical chart auditing on patient documentation by residents in one study found that nearly 15% of medical charts had errors in them, occurring statistically more often in those recorded by residents at an early stage of training. However, with ongoing structured feedback on resident documentation, medical charting-related errors decrease. Also, structured periodic feedback by faculty to residents on patient-related documentation has been found to improve the quality of clinical notes. These results suggest that feedback on documentation efforts is important but does not occur as often as it should.

This study has several limitations. First, the data represent the perceptions of internal medicine residents and PDs rather than objective documentation of how residents spend their time. Objective assessment of resident activities would advance our understanding of this issue, although such studies may be difficult to conduct on a national scale. Second, factors other than sex, PGY level, and location of medical training may influence the responses of trainees and PDs. Finally, response bias is possible, although the large sample size, high response rate of the residents, and similarity of the sample data to national data on sex and international medical graduate status are reassuring in this regard. Of our respondents, 43% were female, which is similar to proportion of female third-year internal medicine residents in the 2006-2007 (44%) and 2007-2008 (43%) academic years. Residents who had graduated from US medical schools included 52% of our respondents. While 48% of the third-year internal medicine residents from both the 2006-2007 and 2007-2008 academic years were US medical graduates, this does not include the 5% to 6% of residents within each class who had graduated from osteopathic schools.

As further adjustments to work hours occur, we need to critically evaluate the balance of activities that our trainees perform. To further reduce the time trainees spend with patients may erode the fundamental skills we expect of physicians. How can we decrease the time trainees spend in clerical duties without compromising care? One study found that the use of clerical assistants improved the clinical experience of residents and the quality of care of patients in the outpatient setting; this same model could be applied to the inpatient setting. The use of an electronic note system that recognizes key words and allows for word or phrase expansion has been found to reduce the time trainees spend on notes. Voice recognition systems could also be considered.

In conclusion, internal medicine residents perceive spending excessive time in the hospital setting on clerical documentation. Further evaluation to understand the specific activities and the educational value of those activities performed by our trainees while in the hospital setting is essential as we make further adjustments in duty hours. While documentation is clearly required for patient safety and smooth transitions of care, we need to review how to make documentation efficient and educational for trainees, whose growth may be enhanced by structured and meaningful feedback from faculty.

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Author Contributions: Study concept and design: West and Kolars. Acquisition of data: West, Popkave, Weinberger, and Kolars. Analysis and interpretation of data: Oxentenko, West, and Kolars. Drafting of the manuscript: Oxentenko, West, and Kolars. Critical revision of the manuscript for important intellectual content: Oxentenko, West, Popkave, Weinberger, and Kolars. Statistical analysis: West. Administrative, technical, and material support: Oxentenko, Popkave, and Kolars. Study supervision: Oxentenko and Kolars.

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REFERENCES

plexities and nuances of medical literature and the patient. For ICD implantation, each patient will have different questions and varying clinical benefit. It is important for each of us to understand the medical issues, take our own potential biases into account, and honor our patient’s wishes. Let us embrace the individuality of medicine and the subtle combination of art and science required for providing the best in clinical care.

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Correction

Error in Figure. In the article titled “Time Spent on Clinical Documentation: A Survey of Internal Medicine Residents and Program Directors” by Oxentenko et al, published in the February 22, 2010, issue of the Archives (2010;170[4]:377-380), the y-axis label of the Figure on page 378 was mistakenly labeled “Time, %.” The correct label is “Residents, %.”

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