HOSPITAL MEDICINE

# Questionable Hospital Chart Documentation Practices by Physicians

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***BACKGROUND:*** Physicians, influenced by various pressures, may document information in patient records that they did not personally observe.

***OBJECTIVE:*** To evaluate the hospital chart documentation practices of internists and internal medicine subspecialists in the Northeastern United States.

***DESIGN:*** An anonymous mail survey questionnaire.

***PARTICIPANTS:*** One thousand one hundred twenty-six randomly selected internists and internal medicine sub-specialists.

***MEASUREMENTS:*** Responses to questions describing their own hospital chart documentation practices, those they observed among their colleagues, and ratings of the importance of possible influences.

***RESULTS:*** Response rate was 43%. Fifty-nine percent (59%) of physicians reported personally engaging in one or more of six questionable documentation scenarios. Forty percent (40%, CI; 37%-43%) indicated that they recorded laboratory notes in patient records based on information that they did not personally obtain, while 6% (CI; 5%-8%) admitted to writing notes on patients not personally seen or examined. The corresponding percentages reported for their colleagues were 52% (CI; 49%-56%) and 22% (CI; 20%-25%), respectively. Increased rates of documentation lapses were significantly associated with working directly with residents and/or fellows (OR=1.71, CI; 1.30–2.25), younger age (OR for 10 year age decrease=1.35, CI; 1.19–1.53), white race (OR=1.47, CI; 1.08–2.00), and graduation from US medical schools (OR=1.75, CI; 1.31–2.34).

***CONCLUSION:*** Most physicians report having engaged in questionable hospital chart documentation. This practice is more common among physicians who are younger, working with house staff, and graduates of US medical schools.

*KEY WORDS:* survey research; hospital medicine; medical education-professionalism.
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According to Spiegel and Springer, the medical record has existed for more than 4,000 years.[1] Archaeologists discovered tablets documenting medical care data about ailments, their causes, treatments, and outcomes dating back to the reign of the Babylonian king Hammurabi (ca. 1700 BC). The medical record is essential for continuity of care and communication among healthcare providers with regard to diagnoses, laboratory results, treatments and outcomes. The validity and accuracy of information in the medical record are essential to good medical practice.

The American Board of Internal Medicine refers to honor and integrity as vital elements of professionalism.[2] Although honor and integrity require truthfulness and specifically forbid misrepresentation, studies suggest that physicians in certain instances are less than completely truthful in their medical record entries.[3–5] Despite the importance of the medical record, physicians may document inaccurate information under pressure from reimbursement requirements, quality of care audits, time constraints, and fear of litigation or in order to conceal medical errors.[3–5] If physicians do not verify the recorded information, there is a potential for propagation of errors that is likely to increase as the use of the electronic medical record and its "copy-and-paste" command becomes more widely accepted.[6]

We surveyed internists and internal medicine subspecialists practicing in the Northeast United States to assess the frequency of various documentation practices. The survey was designed to assess self-reported in-hospital documentation practices, and the documentation practices observed among their colleagues. In addition, we explored factors influencing questionable documentation practices.

## METHODS

### Study Design

We assessed hospital-based internists' documentation practices via an anonymous cross-sectional mail survey, conducted between July and October 2006. The survey itemized six hospital chart documentation practice scenarios:

1. Writing the admitting history and physical exam on patients without personally obtaining *all* information that was written in the chart.
2. Writing daily progress notes on patients without personally obtaining *all* information written in the chart.
3. Copying observations (signs and symptoms) made by other health care givers as one's own findings in notes.

4. Copying laboratory values documented by other health care providers without independently verifying the information.
5. Writing notes on patients prior to visitation or examination.
6. Writing notes on patients but did not personally see or examine them on the day of documentation.

We asked physicians whether they themselves had engaged in any of these documentation practices within the last 3 years, and whether they had observed or had other evidence of such practices among their physician colleagues.[7] The next questions focused on the extent to which physicians believed organizational rules and regulations, insurance-related billing requirements, fear of litigation, and good medical practice influenced their documentation. We then evaluated possible explanatory factors such as performing invasive procedures, using electronic medical record to document notes, working directly with physician extenders (e.g. nurse practitioners or physician assistants) and working with residents and/or fellows. Lastly, we collected demographic information including age, gender, race/ethnicity, practice setting and location, medical school and year of graduation, and subspecialty.

## Survey Sample

The sampling frame of 39,435 physicians was compiled from the American Medical Association's (AMA) physician Masterfile (Dendrite Interactive Marketing, LLC, Totowa, NJ), a comprehensive list of US physicians. This list is not limited to AMA members, but it does exclude the military and physicians in training. The sampling frame was specific to internists and internal medicine sub-specialist physicians aged 30–75 practicing in the nine states of the Northeast region of the USA. The cost of purchasing the national Masterfile exceeded our budget limits.

A sample size of 1,039 completed surveys was determined according to the following parameters: a 3% sampling error, a 95% CI, and a population proportion equal to 50%, yielding the sample size needed regardless of the effect size obtained. A probability sample of 4,164 participants was randomly selected to account for low response rates frequently noted for physician mail surveys [8–11] as well as, the sizeable proportion of ineligible participants observed in other AMA Masterfile studies.[12–13]

The crude response rate to our survey was 38% (1,508/4,164). Twenty-four percent (364/1,508) of the respondents indicated that they were not involved in direct hospital patient care. Using guidelines from the American Association for Public Opinion Research,[14] we estimated that 24% of the sample would be ineligible (i.e., not involved in direct hospital patient care), yielding an estimate of 3,165 (76% of 4,164) potentially eligible participants. This estimate is supported by a 2004 American College of Physician member survey reporting that 25% of internists spend fewer than 2 hours per week caring for hospitalized patients.[15] Among these, an additional 516 participants were determined to be ineligible for other reasons (e.g., death, retired, inactive license), resulting in a final estimated eligible sample size of 2,649. We received 1,126 completed surveys from eligible physicians, yielding an adjusted response rate of 43%.

## Subject Protection

Questionnaires and receipt postcards containing identifying information were mailed back separately, thus ensuring that survey responses could not be linked to individuals. Non-respondents were sent a second mailing. A $10 gift card incentive was included with the initial mailing. The UMDNJ-Robert Wood Johnson Medical School Institutional Review Board approved the study.

## External Panel Opinion

In an effort to validate the questionnaire and to obtain a measure of relative importance, we presented the documentation practices described in the questionnaire to an external panel. The panel of 23 academic practitioners consisted of 11 local and 12 nationally recognized senior physicians, representing departments within our institution and serving on the boards of Educational Commission for Foreign Medical Graduates and the United States Medical Licensing Examination.

The panel evaluated acceptability (Y/N) and perceived importance (scale of 1 to 5). They determined that copying observations (Q3; 1/23; [one acceptable out of 23 responses]), writing notes without seeing the patient (Q6; 1/23), and writing notes prior to seeing the patient (Q5; 2/23) were the least acceptable practices. The panel found writing admitting history and physicals (Q1; 10/23) or daily notes (Q2; 9/23) without personally obtaining all information somewhat more acceptable. However, the panel was split in its judgment regarding copying lab values (Q4) with 12 of the 23 members rating this practice as acceptable and 11 viewing copying lab values as problematic. The importance ranking of the documentation practices followed a similar pattern (Item #, median score: Q6=5; Q5=5; Q3=4; Q2=4; Q1=4; Q4=3). Weighting factors were computed as the average of the unacceptability and importance scores, e.g. for Q3 (copying observations) the unacceptability score was (22/23=96%) and the importance was (4/5=80%), yielding a factor of 88, (96+80 ÷ 2).

The panel understood that in the academic setting on resident-run services, the standards for documentation by the attending physician are different. In this setting, the attending relies on resident documentation of labs, exam findings, and details of the history and physical as appropriate, but should be aware of all the information and confirm the clinically relevant portions of the history and exam.

## Statistical Analysis

Chi-square and Student's t-tests were used where appropriate to determine significance ($P<.05$) of differences between groups. A score was generated for each physician, with ordinal values from 0 to 6, counting one point for each positive response to the six documentation practices and zero for each negative, and normalizing to account for missing values. This score was the dependent variable in univariate and multivariate logistic regression models estimating OR and 95% CI associated with the following factors: demographics (age, gender, race), training (medical school, subspecialty), practice setting (private, use of electronic medical record, physician extender, housestaff) and attitudinal variables (organizational rules, billing, litigation, good medical practice). The results of analyses using weighted scores were not different from those obtained with the un-weighted scores.

## RESULTS

### Characteristics of Responding Physicians

The study group was comprised of 1,126 physicians with direct hospital inpatient contact who answered any of the six documentation scenario questions (Table 1). Response rates by specialty and state ranged from 37% among general internists and oncologists to 69% among hematologists; and from 34% in New York to 71% in Vermont. The mean (SD) age of the respondents was 48.9 (10.0) years. A total of 808 (71.8%) were male, and 639 (56.8%) were graduates of US medical schools. The age, gender, and specialty profiles of the responding physicians were similar to those in the sampling frame of internists practicing in the Northeast.

Compared to non-responders, responding physicians were significantly more likely to be graduates of US medical schools (69.1% vs. 57.4%, p<.0001) and less likely to be from New York state (32.6% vs. 38.9%, p=0.007). There were no significant differences between responders and non-responders in terms of age, gender, and specialty. By self-report respondents were mostly white (74%) and private practitioners (59%). Nineteen percent of them were employed by medical schools and 17% by hospitals. The AMA Masterfile does not have this information, thus comparison with non-responders is not possible.

**Table 1. Characteristics of AMA Masterfile Physicians and Survey Respondents**

| | AMA Masterfile, Northeastern states (n=39,435) | Survey respondents (n=1,126) | P value Masterfile vs. respondents |
|---|---|---|---|
| | (%) | (%) | |
| Age, years | | | |
| 30–44 | 31 | 33* | |
| 45–59 | 50 | 45 | 0.53 |
| 60–75 | 19 | 14 | |
| Gender | | | |
| Male | 73 | 72 | 0.87 |
| Medical school | | | |
| US medical graduate | 61 | 57 | 0.46 |
| Foreign medical graduate | 39 | 29 | |
| Specialty | | | |
| General internal medicine | 58 | 49 | 0.99 |
| Cardiology | 13 | 12 | |
| Endocrinology | 3 | 3 | |
| Gastroenterology | 7 | 8 | |
| Hematology | 2 | 3 | |
| Infectious disease | 4 | 5 | |
| Nephrology | 4 | 5 | |
| Oncology | 3 | 3 | |
| Pulmonary/Critical care | 6 | 9 | |
| States | | | |
| Connecticut | 7 | 7 | 0.99 |
| Massachusetts | 16 | 15 | |
| Maine | 2 | 2 | |
| New Hampshire | 2 | 2 | |
| New Jersey | 16 | 14 | |
| New York | 38 | 30 | |
| Pennsylvania | 17 | 17 | |
| Rhode Island | 2 | 2 | |
| Vermont | 1 | 1 | |

* *Due to missing values, the percentages in each group do not always add up to 100%*
*AMA=American Medical Association*

### Responses to Survey Questions

Fifty-nine percent (59%) of physicians reported that they personally engaged in one or more of the six documentation practices described in the survey. The rates they reported observing among colleagues were consistently higher than their own rates for the same question (Table 2). Further, in 87% of cases where a physician admitted to a particular documentation practice, he or she reported observing the same behavior in others.

A total of 72 respondents (6%, CI; 5%-8%) reported that they wrote notes in patient charts without personally seeing or examining the patient on the day of documentation, while 96 (9%, CI; 7%-10%) reported that they wrote notes on patients prior to visitation or examination. The rate reported for their colleagues was 22% for both behaviors. The most frequently reported documentation practice was copying laboratory values: 445 self-reported this behavior (40%, CI; 37%-43%) and 508 (52%, CI; 49%-56%) reported observing it among their colleagues. The second most common documentation practice, reported by 371 respondents (33%, CI; 32%-36%), was writing admitting history and physical examination notes without personally obtaining all information that was written in the chart; 482 internists (48%, CI; 45%-51%) reported observing colleagues charting such notes without personally obtaining information. Twenty-four percent (CI; 22%-27%) reported writing daily notes without personally obtaining all information while 41% (CI; 38%-44%) of colleagues were observed engaging in the same practice. Twenty-two percent (CI; 20%-25%) admitted to copying observations (signs and symptoms) made by other healthcare professionals and passing them off as one's own findings and 39% (CI; 36%-42%) reported observing this unacceptable practice among their colleagues. The overall pattern of positive responses for each question by the physicians closely matched the unacceptability and importance ratings of the documentation practices by the external panel of practitioners (intraclass correlation coefficient 0.86).

### Associations and Influences

Table 3 shows the unadjusted and adjusted association of higher rates of positive response scores with many demographic and clinical practice setting characteristics. Younger age, white race, graduation from a US medical school, working directly with residents and/or fellows and working with physician extenders (e.g. physicians assistants or nurse practitioners) were all associated with increased self-reported composite scores. Internal medicine subspecialists and physicians who reported performing invasive procedures were significantly more likely to have higher positive scores. A "high score" means respondents reported engaging in the questionable documentation practice. Conversely physicians in private practice were less likely to self-report questionable documentation practices. Physician gender and use of an electronic medical record were not significantly related to the reported rates of questionable documentation practices.

After adjusting for demographic and clinical setting and possible attitudinal influences, younger age, white race, graduation from a US medical school, working directly with

Table 2. Percentage of Physicians Indicating 'Yes' in Confidential Survey of Questionable Hospital Documentation Practices

| Questions About Documentation Practice | You Yourself Engaged In | | Observed among colleagues | |
|---|---|---|---|---|
| | Number responding* | % With 'yes' response (95% CI) | Number responding* | % With 'yes' Response (95% CI) |
| 1. Wrote the admitting History and Physical Exam on patients without personally obtaining all information that was written in the chart | 1,110 | 33 (33 to 36) | 1003 | 48 (45 to 51) |
| 2. Wrote daily progress notes on patients without personally obtaining all information written in the chart | 1,107 | 24 (22 to 27) | 991 | 41 (38 to 44) |
| 3. Copied observations (signs and symptoms) made by other health care givers as one's own findings in notes | 1,110 | 22 (20 to 25) | 984 | 39 (36 to 42) |
| 4. Copied laboratory values documented by other health care providers without independently verifying the information | 1,112 | 40 (37 to 43) | 965 | 52 (49 to 56) |
| 5. Wrote notes on patients PRIOR to visitation or examination | 1,115 | 9 (7 to 10) | 965 | 22 (19 to 25) |
| 6. Wrote notes on patients but did not personally see or examine them on the day of documentation | 1,108 | 6 (5 to 8) | 962 | 22 (20 to 25) |

*1,094/1,126 (97%) answered all six questions about themselves; 924/1,126 (82%) answered all six questions about their colleagues*

residents and/or fellows, and procedure performance remained significantly associated with higher rates of questionable documentation practices. Results for other colleagues showed a similar pattern.

In univariate analysis of factors believed to influence documentation practices, billing requirements (OR 1.67, CI, 1.35–2.07, p<.0001) and good medical practice (OR 0.34, CI 0.23–0.48, p<.0001) were both significantly associated with rates of questionable documentation practices, although in opposite directions. After adjustment in multivariate analyses, the association with billing requirements did not remain significant. Belief in good medical practice remained an independent predictor of a low number of positive responses (adjusted OR 0.29: CI 0.19–0.46, p<.0001). Neither organizational rules nor fear of litigation were significantly associated with questionable documentation practices.

## DISCUSSION

More than half of the physicians in this study reported engaging in some questionable hospital chart documentation practices. Many of the physicians reported using charting practices that would be considered unacceptable (e.g. charting

Table 3. Association of Demographic and Practice Setting Factors with Positive Responses to Questionable Chart Documentation Scenarios—Physician's Self-Report

| Factors | n | Mean score* | Unadjusted odds ratio (95% CI) | P value | Adjusted** odds ratio (95% CI) | P value |
|---|---|---|---|---|---|---|
| Age (decreasing by decade) | - | - | 1.28 (1.15–1.43) | <.0001 | 1.35 (1.19–1.53) | <.0001 |
| Gender | | | | | | |
| Male | 802 | 1.39 | 1.25 (0.98–1.59) | 0.07 | 1.29 (0.96–1.73) | 0.10 |
| Female | 297 | 1.18 | | | | |
| Race | | | | | | |
| White | 755 | 1.47 | 1.97 (1.54–2.51) | <.0001 | 1.47 (1.08–2.00) | 0.014 |
| Not white | 322 | 1.01 | | | | |
| Medical school | | | | | | |
| US graduate | 634 | 1.49 | 2.16 (1.68–2.78) | <.0001 | 1.75 (1.31–2.34) | 0.0002 |
| Not US | 323 | 0.96 | | | | |
| Practice setting | | | | | | |
| Private | 666 | 1.24 | 0.7 (0.57–0.88) | 0.002 | 1.03 (0.78–1.36) | 0.83 |
| Not private | 436 | 1.51 | | | | |
| Electronic medical record | | | | | | |
| Use | 211 | 1.45 | 1.14 (0.87–1.49) | 0.40 | 0.96 (0.70–1.33) | 0.81 |
| Do Not Use | 891 | 1.31 | | | | |
| Physician extenders | | | | | | |
| Yes | 405 | 1.45 | 1.29 (1.03–1.61) | 0.03 | 0.98 (0.75–1.27) | 0.87 |
| No | 696 | 1.27 | | | | |
| Housestaff | | | | | | |
| Yes | 632 | 1.55 | 1.97 (1.58–2.46) | <.0001 | 1.71 (1.30–2.25) | 0.0001 |
| No | 468 | 1.06 | | | | |
| Subspecialist | | | | | | |
| Yes | 572 | 1.49 | 1.55 (1.25–1.92) | <.0001 | 1.15 (0.84–1.57) | 0.39 |
| No | 546 | 1.18 | | | | |
| Procedures | | | | | | |
| Yes | 376 | 1.62 | 1.71 (1.37–2.15) | <.0001 | 1.37 (1.00–1.88) | 0.05 |
| No | 726 | 1.20 | | | | |

** Scores range from 0 to 6, counting one point for each positive response to the six questions about documentation practices.*
***The multivariable model included all the factors listed above and the possible influences (rules, billing, litigation, and good medical practice)*

prior to seeing the patient or without seeing the patient on the day of charting). We found an increased rate of these charting practices among physicians on resident-run services. The most commonly reported questionable documentation practices (e.g. copying labs) were considered the least serious by a separate external panel of senior practitioners. However, all such documentation practices can have negative implications for patient care and may increase the likelihood of medical errors.[16]

The primary objective of maintaining a medical record is to accurately document data and events during hospitalization, and to facilitate communication among health care providers. Inaccurate information related to current or past diagnoses and therapeutics is likely to be propagated if independent and repeated verification fails to occur. Only 19% of physicians we surveyed reported the use of the electronic medical record, but use of such systems will likely increase dramatically over the next several years. Although we did not find the use of an electronic medical record system to be a significant predictor of questionable documentation practices, possibly because of the low current prevalence of its use, we are concerned that the ease of the "copy-and-paste" command will further perpetuate documentation inaccuracies and promote greater reliance on the physician or healthcare professional who recorded the first entry.[6]

The pressures that may influence physicians to engage in questionable documentation practices are numerous, including reimbursement regulations, time-constraints, fear of litigation, and quality audits. The demand for documentation for insurance payment was the subject of an editorial describing the disagreement over escalating complexities for reporting data.[17] Healthcare professionals may regard insurance related billing requirements as increasingly onerous and irrelevant to clinical practice, leading to "treating the chart" and not the patient. We found that belief in good medical practice (patient-centered care) was significantly related with low frequency of questionable documentation practices. In contrast, fear of litigation and the threat of malpractice liability have been cited as reasons why physicians alter their clinical behavior and practice defensive medicine.[18]

Our data were derived from self-reported questionnaires, and are thus limited by various forms of bias. Despite rigorous steps taken to maintain participant anonymity, social desirability bias still likely influenced the results.[19,20] The desire to present a positive impression of oneself can contribute to minimizing instances of questionable chart documentation or choosing not to participate in the study; thus the true frequency of questionable documentation practices is likely underestimated in this study. In contrast, the rates of questionable charting practices were reported to be much higher in respondents' colleagues than among the respondents themselves. These rates could be inflated due to the tendency to overestimate the universality of one's behaviors as a means to overcome the cognitive dissonance associated with engaging in deviant behavior.[21,22] Further, the tendency to exaggerate the deviant behavior of others is amplified in restrictive communities, such as those found in hospital settings.[23] Our data support these observations, for in up to 87% of cases where a transgression was self-reported, the same transgression was "observed in others." In addition, physicians have many colleagues, and it is conceivable that only one of these colleagues was observed engaging in the questionable behaviors. Thus, rates related to the observation of the questionable chart documentation of others may be inflated.

Our findings may not be generalizable to national medical practice since the behaviors are self-reported and peer-reported by internists from the Northeast region. However, the large number of respondents representing a wide range of ages, levels of experience and specialties; adequate response rate; and the consistency of the results support the validity of our findings. The high average age of our respondents may also limit the generalizability of these results.

Another limitation of our study is related to the instrument itself. Although the items were found by a local panel of physicians to have good face validity, there are no other instruments or studies for comparison to further assess validity. Although our response rate was below 50%, it is consistent with other studies requesting self-reports of undesirable behavior. Future studies are needed to confirm these results and should further examine the frequency of engaging in questionable charting practices and the estimated percentage of others observed engaging in the same behavior. Another important ethical issue is whether or not physicians who observed these behaviors among others confronted their colleagues.

In conclusion, we found a significant proportion of physicians surveyed admitted to having engaged in questionable chart documentation practices. This finding was more common among younger physicians who are graduates of US medical schools, and those who work with residents and/or fellows. We speculate that this finding is a direct result of behavior modeling that occurs in the current US graduate and postgraduate medical education environment. Physicians are taught documentation practices early in training, but actual charting behaviors are more likely modeled from observations made in the clinical setting. Electronic data reporting and retrieval, expansion of documentation guideline requirements for billing and coding, and an increasingly litigious environment have all adversely influenced documentation. Such questionable documentation practices are likely to impact patient care adversely. Clinician educators and other senior staff should be acutely aware of the need to create a training culture and environment conducive to appropriate ethical behaviors and, more specifically, emphasize the importance of accurate chart documentation.

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