OBJECTIVE: The objective of this study was to describe the nursing documentation of telephone communication with physicians in community nursing homes.

Design: We conducted a prospective observational study evaluating nursing documentation of all telephone calls to one physician group.

Setting: We studied two proprietary community nursing homes in Baltimore, Maryland.

Measurements: Data were collected by physicians at the time of each call regarding the time, day, nursing facility, reason for the call, and any orders given. Calls were also categorized as to whether documentation was necessary by defined criteria. The nursing home charts were then reviewed for the presence of documentation of 1) the issue that prompted the call, 2) physician’s participation in the matter, and 3) any orders given by the physician. The relationships between the characteristics of the telephone calls and the rates of documentation were then analyzed.

Results: There were 248 calls from the two nursing homes during the 2-month study period. Nursing documentation of the issue that prompted the call was present for 80% of total calls. This documentation was more likely to be present with calls for change of patient status and notification of laboratory/radiograph results compared with calls for other issues (117 of 125 [94%] vs. 57 of 63 [90%] vs. 24 of 60 [40%], respectively; \( \chi^2 = 78.3, P < 0.0001 \)). Calls that were categorized as “documentation necessary” by the Medical Director were more likely to be documented than calls that were not (132 of 150 [88%] vs. 9 of 35 [26%], respectively; \( \chi^2 = 60.8, P < 0.001 \)). Of the 198 calls with any form of documentation, specific mention of physician participation in the communication was present in 89% of these calls. This documentation of physician participation was more likely to be present with calls for laboratory/radiograph notification than with calls for change of patient status or calls for other reasons (57 of 57 [100%] vs. 99 of 117 [85%] vs. 20 of 24 [83%], respectively; \( \chi^2 = 10.0, P = 0.007 \)). Physicians indicated that orders were given during 69% of calls, but orders were only documented for 79% of these interactions. No characteristics of the call were associated with likelihood of order documentation.

Conclusions: In this study, documentation of issues that lead to telephone calls to physicians was not always present. Similarly, orders given by the physician were absent over 20% of the time. Nurses, physicians, and facilities should develop efficient and routine strategies to optimize rates of documentation of telephone communication with physicians. (J Am Med Dir Assoc 2004; 5: 180–185)

Keywords: Telephone; documentation; nursing homes.
admitted NH patients who have not been personally evaluated by the physician contacted by telephone.9–12

In response to the challenges of managing the burden and complexity of telephone calls from NHs, some experts and the American Medical Directors Association (AMDA) have made recommendations to optimize the process.9–12 Despite these recommendations, barriers in effective communication continue to be observed.13

Given the high volume of telephone calls to physicians from NHs, and the likelihood that prescription of therapy results regularly, appropriate documentation in the medical record is critical. Clearly, proper documentation is essential for patient safety. In addition, there are significant regulatory and medical–legal implications with respect to documentation of telephone communication between nurses and physicians.14 However, despite these facts, studies of this important activity in NHs are lacking. The purpose of this study was to evaluate nursing documentation of telephone communication between nurses and physicians in nursing homes to begin to define this important aspect of long-term care.

METHODS

Study Design

This was a prospective observational study in which data were collected that described the circumstances and content of telephone calls to physicians from nurses at two community NHs for 2 months in 2000. This time period of 2 months was chosen to ensure a large sample of total calls that would include adequate representation of the main categories of reasons for calls. This study protocol was granted exemption from review by The Johns Hopkins Medicine Institutional Review Board.

The project was designed with the support of the administrators from the two nursing homes by the physician who served as the Medical Director (M.K.M.) at the two facilities. Physicians participating in the on-call system from one group were educated about the objectives of the project. Nurses at the two nursing homes were not aware that data collection was ongoing. The participating physicians recorded information pertaining to each telephone call on standardized Telephone Encounter Forms at the time of the telephone call. Information collected by physicians at the time of the telephone call included time, day of week, nursing facility, reason for call, and any orders given by the physician. These forms were turned in to the facility Medical Director (M.K.M.) daily Monday through Friday and on the Monday after weekend call.

Telephone call “rates” from each nursing facility were calculated. For each month of the study period, the average patient census followed by the physician group was determined. The total number of calls from each facility per month was divided by the average patient census (number of calls per resident per month).

Each NH medical record associated with a telephone call was reviewed by the Medical Director for the presence of documentation of the call in the appropriate section of the medical record at the NH. For calls regarding laboratory or radiograph results, presence of documentation of the call was first evaluated in the laboratory/radiology section of the chart. If no documentation of the call was found, the nurse progress notes were reviewed for mention of notification of the physician of the laboratory or radiograph result. For all other calls, documentation of the call (including physician participation in the matter) was assessed by reviewing the nurse progress notes corresponding to the time and date of the call. If the physician indicated that an order(s) had been given during the telephone call, the order section was reviewed for the presence of that order(s).

The telephone call was categorized as “issue documented” if any aspect of the reason for the call, as designated by the physician, was captured in a progress note, or if there was notation in the laboratory/radiology section that the physician had been notified. (The accuracy, completeness, and the quality of nurse notes were not assessed.) If no aspect of the reason for the call could be found in the appropriate section(s), the call was categorized as “issue not documented.”

If documentation was present, the note was also assessed for mention of the physician’s participation in the matter. If any reference was made to a physician responding to the call or participating in the management of the issue at the time of the call, the call was categorized as “physician participation documented.” If physician participation in the issue was absent, or if the nurse had simply noted that an attempt had been made to notify or call the physician, then that call was categorized as “physician participation not documented.”

To confirm the documentation of orders given, the order section was reviewed corresponding to the time and date of the call. If a physician had noted that he or she had given a request for a treatment (including medication), any form of testing (laboratory or radiograph), or a specific type of monitoring or follow up, it was categorized as “order given.” If the order was present, it was categorized as “order documented.” Multiple orders given during one call were considered collectively and if any specific order was missing, the telephone call was categorized as “order not documented.”

In addition to the information collected by the physicians at the time of the telephone encounter, each call was also categorized depending on whether documentation was necessary. Criteria for “documentation necessary” calls included “change of status” (defined as an acute or subacute clinical event, admission, or death) or any matter considered to have a “significant impact on the care of that patient” (as determined by the Medical Director). The last category included issues such as major medication errors. Documentation was considered necessary for all calls for notification of laboratory or radiology results, and these data were analyzed separately from nonlaboratory issues.

Data Analysis

Frequency distributions were computed for all descriptive data, including whether the call was categorized as “documentation necessary.” Each telephone call was categorized as issue documented or not, physician participation documented or not, and order documented or not, as appropriate.

The association between the descriptive characteristics of
the telephone call and the likelihood of documentation was assessed using \( \chi^2 \). The following characteristics were categorized in a dichotomous fashion: facility (A vs. B); time of day (day [8 AM–5 PM] vs. night [5:01 PM–7:59 AM]); day of week (weekday vs. weekend); and necessity of documentation in calls for nonlaboratory issues (documentation necessary vs. other calls). The “reason for call” was categorized into three groups: change of status (clinical event, admission, or death), laboratory and radiograph notification, and “other issues” (including medication issue, family or facility issue, or discharge). Differences in proportions were analyzed using the \( \chi^2 \) test. Statistical analyses were performed using SPSS 10.0 for Windows (SPSS, Inc., Chicago, Illinois).

RESULTS

Characteristics of the telephone calls to physicians from nurses at the two nursing homes are listed in Table 1. The majority (79%) of calls were from facility A. The average number of residents followed at facility A during the 2-month study period was 52.5 (average 1.86 calls per resident per month); the average number at facility B was 24 (average 1.1 calls per resident per month).

The reasons for the telephone calls, as noted by the physician receiving the calls, are shown in Figure 1. There were 125 calls for a “change in status,” which included calls to notify the physician of an admission (n = 14), death (n = 7), or a clinical event (n = 104). After excluding the 63 calls for laboratory/radiograph notification, 150 of 185 (81%) calls were categorized as “documentation necessary.”

Overall, documentation of the issue that prompted the telephone call was present in the medical record for 198 of 248 (80%) calls, and documentation of physician participation was present for 176 (71% of total calls). For the 198 calls for which any aspect of documentation was present (“issue documented”), physician participation was documented in 176 (89%).

Table 2 (column 1) shows percentages for issue documentation according to the categories evaluated. Calls for “change in status” (which included admissions, deaths, and clinical events), and calls for laboratory/radiograph notification were statistically more likely to be documented than calls for other reasons (117 of 125 [94%] vs. 57 of 63 [90%] vs. 24 of 60 [40%], respectively; \( \chi^2 = 78.3, P < 0.0001 \)). Table 3 (column 1) shows that calls that were categorized as “documentation necessary” by the Medical Director were more likely to have the issue documented than those that were not considered “documentation necessary” (132 of 150 [88%] vs. 9 of 35 [26%], respectively; \( \chi^2 = 60.8, P < 0.0001 \)). For all other variables assessed, there were no significant differences in rates of issue documentation.

Of the 50 calls that were not documented, 6 (12%) were calls for laboratory or radiograph reports, and 18 (36%) were calls for issues that were categorized as “documentation necessary” by the Medical Director. The remaining 26 (52%) calls were for issues that were not classified as “documentation necessary.”

Table 2 (column 2) shows the percentages of calls with documentation of physician participation according to the categories evaluated. This documentation was more likely to be present with calls for notification of laboratory or radiograph results compared with calls for change of status and calls for other issues (57 of 57 [100%] vs. 99 of 117 [85%] vs. 20 of 24 [83%], respectively; \( \chi^2 = 10.0, P = 0.007 \)). Calls that were made on weekends were more likely to have documentation of physician participation than calls that were made on weekdays (42 of 43 [98%] vs. 134 of 155 [86%], respectively; \( \chi^2 = 4.3, P = 0.03 \)). There were no significant differences in rates of documentation of physician participation for the other characteristics evaluated, including whether documentation was considered “necessary” by the Medical Director’s assessment (Table 3, column 2).

Of the 248 calls, physicians indicated that orders were
physician was present in only 80% of cases. However, documentation was more likely to be present for calls for changes in patient status, laboratory/radiograph notification, as well as calls for issues that were deemed “documentation necessary” by the Medical Director. Indeed, of the 50 calls that were not documented, 26 (52%) were for issues that the Medical Director did not categorize as “documentation necessary.”

We are not aware of any studies that have specifically evaluated the presence of appropriate documentation of telephone calls to physicians from NHs. Therefore, it is not known whether the rates of documentation in this study are representative of overall practice in community NHs. Although the importance of documentation is universally emphasized in NHs, it is likely that nurses prioritize the need to document these calls based on perceived importance as well as the relative urgency of other nursing duties at the time. Therefore, determining appropriate quality “benchmarks” in this regard will require future observational and intervention studies.

Interestingly, calls for notification of changes in a patient’s clinical status and notification of laboratory and radiograph results were more likely to be documented than calls for other reasons. Although physicians are notified of many aspects of patient care that are both clinical and nonclinical, this finding suggests that nurses are more likely to document those calls that are clearly clinical. This finding could be understandable from the perspective of documenting direct patient care issues, but physicians may not consider that their involvement in issues for which they are called is not always documented. This lack of documentation of the issue being discussed could be important for reasons that are not immediately apparent to the bedside caregivers. For example, documentation of calls to clarify confusing orders or resolve family or facility issues could mitigate the consequences of unanticipated future regulatory or medical-legal developments. These potential, unforeseen consequences of every telephone call between nurse and physician underscore the importance of nearly universal documentation.

Another unique aspect of this investigation was that the presence of documentation in those calls specifically categorized as requiring documentation was assessed. As expected, the calls that were categorized as “documentation necessary” by the Medical Director were more likely to be documented than those that were not. However, even in calls that were categorized as “documentation necessary,” documentation was missing in 12% of calls. This finding suggests that perception of need to document could differ between the physi-
Table 4. Documentation Rates of Calls with Telephone Orders

<table>
<thead>
<tr>
<th>Reason for call</th>
<th>Total calls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of status</td>
<td>77/100 (77%)</td>
</tr>
<tr>
<td>Lab/radiograph</td>
<td>23/28 (82%)</td>
</tr>
<tr>
<td>Other</td>
<td>34/42 (81%)</td>
</tr>
<tr>
<td>Facility A</td>
<td>109/136 (80%)</td>
</tr>
<tr>
<td>Facility B</td>
<td>25/34 (74%)</td>
</tr>
<tr>
<td>Time of day</td>
<td></td>
</tr>
<tr>
<td>8 AM–5 PM</td>
<td>66/84 (79%)</td>
</tr>
<tr>
<td>5 PM–8 AM</td>
<td>68/86 (79%)</td>
</tr>
<tr>
<td>Day of week</td>
<td></td>
</tr>
<tr>
<td>Weekday</td>
<td>105/137 (77%)</td>
</tr>
<tr>
<td>Weekend</td>
<td>29/33 (88%)</td>
</tr>
<tr>
<td>Facility</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>109/136 (80%)</td>
</tr>
<tr>
<td>B</td>
<td>25/34 (74%)</td>
</tr>
</tbody>
</table>

With a previous study, which found that many telephone order omissions were those orders given for monitoring and other nurse interventions.15 Although these types of omissions are explainable, physicians and nurses should explicitly review which nursing actions need to be transcribed as orders. This practice could potentially improve patient care and reduce litigation risk.14

There are several limitations to this study that should be acknowledged. First, the study was conducted in two NHs in the same metropolitan area. Although these facilities are typical community, proprietary NHs, the findings from this study might not be generalizable to all facilities. Second, this study was conducted over a 2-month period, and this could not have been sufficient to capture normal variations within a facility, which might occur over a longer period of time. For example, neither facility was undergoing or anticipated in a regulatory survey during the observation period, and it is possible that documentation practice might improve when such inspections were more likely to occur. Third, neither facility had in-house physicians on staff. The frequency of physician visits and “preventive” phone calls by the physicians to the facility could have affected the volume of calls and the likelihood of documentation. Fourth, both facilities had in-house nurse practitioners during the study period. Although none were specifically assigned to the physicians who participated in this study, the presence of the nurse practitioners could have affected the volume of calls, although it seems unlikely to have affected the documentation practice. Fifth, the Medical Director at the two facilities was a certified geriatrician and Certified Medical Director, and the influence of a highly trained Medical Director on overall facility practice remains unknown. Finally, our evaluation was limited to distinguishing between the presence and absence of documentation, and the quality of documentation was not assessed.

There are several clinical implications to these findings. Optimal patient care depends on accurate and thorough information in the medical record. The high volume of telephone calls to discuss important aspects of care necessitates comprehensive documentation for this purpose. Nursing facilities should evaluate the current practice of documentation of telephone calls with their staff and emphasize the importance of this activity. Staff should be trained on efficient ways to capture key aspects of the communication as well as convenient prompts to remind staff to document in these situations. Physicians should not limit their role to simply receiving information and giving orders. They should actively participate in the decision of when and how much to document.

In summary, the majority of telephone calls between nurses and physicians from two NHs were documented in the medical record. However, certain types of calls were much less likely to be documented in the nurse progress notes than others. Furthermore, documentation of physician participation in the matter was absent in almost 30% of total calls, and orders were not documented in 21% of calls in which the physician believed that an order had been given. Physicians and nurse participating in the discussion. Physicians and nurses are reported to have different perceptions regarding the barriers to effective communication in NHs,12 and our findings suggest that there could also be differences in the perception of need to document telephone communication. Clarification and discussion of documentation plans at the time of the call is one strategy that could eliminate this discrepancy.

Specific documentation of the physician’s participation in the management of the issue was also evaluated in this study. After eliminating the 29% of total calls without any documentation, physician participation was still only documented in 89% of the remainder. If these findings are reflective of broader practice, Medical Directors, physicians, and administrators of NHs should emphasize the importance of specific documentation of physician involvement in telephone management and might consider quality improvement interventions to improve documentation rates.

Documentation of physician participation was present in 100% of documented calls for notification of laboratory and radiograph results. The high level of documentation is likely a result of standardized routines for telephone notification of these issues, eg, the practice of directly documenting on the laboratory or radiograph report was almost universally done. Of note, this study did not include review of progress notes in these circumstances to determine whether the implications of any specific laboratory or radiograph report was documented, and there could have been substantial clinical discussions associated with the reporting of the results that would be important to document in a progress note. Interestingly, documentation of physician participation was more likely to be included in the documentation of calls made on the weekends compared with weekdays. The explanation for this is unclear, because rates of issue documentation were not different when comparing weekend with weekday.

Physicians reported giving orders to nurses in 69% of calls. However, the orders were absent for over 20% of these encounters. Some of these omissions were made in error (eg, missing medication orders), whereas some were likely the result of misperception as to which instructions required official transcription as an order. These findings are consistent with a previous study, which found that many telephone order omissions were those orders given for monitoring and other nurse interventions.15 Although these types of omissions are explainable, physicians and nurses should explicitly review which nursing actions need to be transcribed as orders. This practice could potentially improve patient care and reduce litigation risk.14
who practice in NHs should specifically clarify plans for documentation with nurses to be certain that both parties agree on the need to document and what should be included in the documentation. Physicians and nurses should also clarify when requests for follow-up assessments or instructions for patient care are specifically intended as orders so that they can be properly transcribed.

REFERENCES