

BRIEF REPORT

An Observational Study of Attending Rounds

MARTHA MILLER, BILL JOHNSON, MD, HARRY L. GREENE, MD,
MONIKA BAIER, MS, SCOTT NOWLIN, MD

The authors conducted an observational study of attending rounds to determine the current status of this form of clinical teaching in a university-based internal medicine department. Using two forms of measurement, questionnaires and timed observations, we found that 63% of attending physician time was spent in the conference room, 26% in hallways, and only 11% at the bedside. Significant differences were found between estimated and actual times, particularly in discussing previously admitted patients, patient interactions, data reviews, topic presentations, and the category of "other" activities. These results provide a framework for appraising attending rounds and identifying areas that may be improved with a teaching workshop intervention. Key words: attending rounds; education. J GEN INTERN MED 1992; 7:646-648.

IN TODAY'S rapidly changing medical climate, attending rounds as the traditional format for clinical medical education is under review by many teaching institutions. In the past, the patient was more available to learners because of lengthy hospital stays and fewer technical interventions. Today the ward teams face vastly shortened hospitalizations often dictated by third-party payers, a media-educated clientele demanding a plethora of tests, a litigious climate, and oceans of paperwork. Faculty physicians are pressured to generate practice-related income by increasing their ambulatory practices. Theoretically, this makes them less available to housestaff and perhaps less skilled at inpatient medicine.

We questioned the extent to which our own teaching rounds have accommodated these rapid, time-consuming changes in medicine. We wanted to determine how much time our attending physicians felt should be spent on each rounding activity, and the extent to which our current system allows the attending physician to work within this ideal time. Our hypothesis was that our attending physicians were unable to spend the amount of time they felt they would like to spend on each teaching round activity.

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Address correspondence and reprint requests to Dr. Greene: Arizona Health Sciences Center, Department of General Medicine, 1501 North Campbell Avenue, Tucson, AZ 85724.

METHODS

We defined attending rounds as teaching rounds made by the housestaff and students with the attending physician present.¹ These formal rounds were sometimes augmented or replaced by attending-accompanied work rounds. Our study population was the ward attending physicians in the Department of Internal Medicine at the University Medical Center (UMC), a 300-bed tertiary care center associated with the University of Arizona Health Sciences Center in Tucson. There are four medicine teams at UMC, each consisting of an attending physician, one resident, one or two interns, and one medical student. Team call responsibilities are on a four-day cycle.

We specified four objectives: 1) to determine how each attending physician felt time should ideally be allocated on rounds; 2) to measure the actual time spent in the various activities during attending rounds; 3) to determine the extent of discrepancies in attending physicians' ideal and actual time allocations and expenditures; and 4) to identify, if possible, the reasons for these discrepancies. We administered two questionnaires identical in format to each attending physician 30 days before and one week following the month of attending duties. The attending physicians were given ten rounding categories and were asked to quantify, in percentages, the time that they should or did spend on each activity during their attending rounds. We also asked them to rank, on a Likert scale of 1 to 5, the importance of each activity as well as their attitudes toward attending rounds as a clinical teaching tool.

An independent observer accompanied the ward teams and recorded the time spent on each activity using a digital watch. Times were rounded to the nearest minute and recorded consecutively on a data form that included all locations and possible activities of the ward team as well as the presence or absence of team members. We chose one observer to eliminate interobserver variability. Observations were random, with each team observed on one long-call day, one post-call day, and two short-call days.

Multivariate paired comparisons calculating Hotelling's T-test statistics² were performed on the comparisons between actual times and idealized times. Bonferroni 95% simultaneous confidence intervals for

the individual mean differences were calculated to detect which aspects of teaching rounds were significant ($p < 0.05$).

RESULTS

The ward teams were observed for six sequential months, giving us a sample of 24 attending physicians and 96 timed observations. Twenty-four physicians (100%) completed both questionnaires. Sixty-three percent of the time was spent in the conference rooms, 26% in hallways and miscellaneous places, and 11% at the patients' bedsides. Significant differences were found between estimated and actual times in previously admitted patient discussions, patient interactions, data reviews, topic presentations, and "other" activities (Table 1). Paging interruptions accounted for team member absences as follows: attending physicians (3%), residents (16%), and interns (22%) of total observed time. The respondents indicated that attending rounds are an important daily event but not necessarily the best format for clinical education. Eighty-eight percent indicated that a combination of bedside and conference room teaching was the optimal format (Table 2). Of the rounding activities, new patient discussions were considered most important and consultations least important (Table 2).

DISCUSSION

Our central conclusion is that the attending physicians at UMC were unable to spend the time they felt they would like to spend on each teaching round activity. Eighty-three percent of our physicians preferred a combination of bedside and conference room teaching; however, the total time spent at the bedside with the team interacting with the patient was only 11%. From

TABLE 1

Self-estimates on the Questionnaires vs. Actual Time Usage by Attending Physicians*

	Estimated Time	Actual Time
Time spent on rounds		
Median	120–127 min	100 min
Range	90–180 min	58–145 min
Activity (median percentage time of total rounds)		
New patient presentations	24–28%	22%
Old patient presentations	17–18%	25%
Patient interactions	16–18%	12%
Chart/lab/x-ray review	16–18%	5%
Communication†	6–11%	2%
Topic presentations	12–14%	22%
Other‡	1%	12%

*Figures based on 48 questionnaires and 96 timed observations. Survey response = 100%; observed sessions = 20% of total possible.

†Indicates communication between the team and the consultants or support systems.

‡Includes random discussion (3–5% of total time); waiting for attending physician (0–48%); waiting for team members (1–2%); looking for a place to conduct rounds (< 1%); and planning for the following day (1–2%).

an educational standpoint, the optimal apportionment between bedside and conference room time remains to be determined.³ This increased time in the conference room, however, means that the team is spending less time on patient-centered activities such as physical examination, interviewing, negotiation of management options, and communication with support personnel. The findings in this study confirm a worsening of what other studies have documented, i.e., that there is a pervasive translocation of teaching activity away from the bedside and into the classroom.^{1, 4-6}

Paging interruptions caused substantial absences of team members. Support personnel should be available to handle all nonurgent, incoming pages until rounds are finished. The substantial amount of time

TABLE 2

Attending Physicians' Attitudes toward Attending Rounds (Response Percentages)*

	Not Important 1	2	3	4	Very Important 5
Teaching category					
New patient discussions				0.17	0.83
Old patient discussions		0.02	0.04	0.27	0.67
Patient interactions			0.06	0.27	0.67
Data review	0.02	0.08	0.23	0.44	0.23
Consultations	0.14	0.20	0.29	0.22	0.14
Topic presentations		0.06	0.15	0.43	0.36
Other†	—	—	—	—	—
Attending rounds as an important daily event				0.17	0.83
Importance of team members present			0.05	0.24	0.71
Rounds as best format for clinical education			0.71	—	0.29
Rounds best in conference rooms			0.16	0.67	0.17
Rounds best at the bedside			0.74	0.18	0.08
Rounds best when locations are combined				0.12	0.88

*Figures based on 48 questionnaires.

†Two attending physicians indicated "other" activities were important. These responses are not included here.

spent waiting for some attending physicians indicates that service-teaching conflicts may be an issue. Teaching needs to be made a priority, with protected time for both attending physicians and residents. The amount of time spent looking for places in which to conduct rounds demands that steps be taken to ensure the availability of conference rooms in close proximity to the wards. Time spent in hallways could be lessened by geographic assignment of the majority of patients.

Our study was limited in that it focused on one department of medicine for a finite period of time. The ward teams were not followed every day of the rotation and significantly higher percentages of bedside teaching may have occurred that were not recorded.

This study was useful in determining the current teaching climate at our facility. It also helped us identify issues that may be helped with a teaching curriculum. We propose that attending physicians could better accomplish what they would like to on attending rounds by participating in such a program. We are currently developing a series of interventional seminars to

enhance and promote bedside teaching, time-management skills, and physical examination techniques for the learners.

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REFERENCES

1. Shankel SW, Mazzaferri, EL. Teaching the resident in internal medicine—present practices and suggestions for the future. *JAMA*. 1986;256:725-9.
2. Johnson RA, Wichern DW. *Applied multivariate statistical analysis*, 2nd ed. Englewood Cliffs, NJ: Prentice Hall, 1988;211-3.
3. Kroenke K, Simmons JO, Copley, JB, Smith C. Attending rounds: a survey of physician attitudes. *J Gen Intern Med*. 1990;5:229-33.
4. Engel GL. The deficiencies of the case presentation as a method of clinical teaching—another approach. *N Engl J Med*. 1971;284:20-4.
5. Linfors EW, Neelon FA. The case for bedside rounds. *N Engl J Med*. 1980;303:1230-3.
6. Reichsmann F, Browning FE, Hinshaw JR. Observations of undergraduate clinical teaching in action. *J Med Educ*. 1964;39:147-63.