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# Caregiver Perceptions of the Reasons for Delayed Hospital Discharge

**CONTEXT.** Financial pressures have increased the emphasis on expeditious hospital discharge. Identification of barriers to timely discharge may help direct efforts to decrease unnecessary hospital days.

**OBJECTIVE.** To identify caregivers' perceptions of reasons for discharge delays at an academic medical center.

**DESIGN.** Survey and free-form written responses using a convenience sample (overall response rate, 68%).

**RESPONDENTS.** 104 housestaff, 34 attending physicians, and 33 nurses.

**RESULTS.** Nurses were much more likely than housestaff or attending physicians to cite inadequate communication as a reason for discharge delays. Nurses were also more likely to attribute delays to rounds and other conferences (48% vs. 22% and 9%, respectively;  $P = 0.05$ ). Physicians, however, were more likely to cite delays in testing and availability of subacute care beds. Almost all housestaff and attendings thought that discharge decisions were generally made in the morning, and over 60% felt that discharge orders were usually written before noon. In contrast, none of the nurses thought that orders were usually written before noon.

**CONCLUSIONS.** Caregivers at the same institution perceived different barriers to discharge and believed that discharge-related activities occurred at different times. To facilitate hospital discharge, communication gaps should be addressed and traditional morning routines should be reexamined.

Academic medical centers are under considerable pressure to reduce costs.<sup>1–3</sup> Although the health care environment has become increasingly difficult for all institutions, the academic medical center is at higher risk. In addition to decreased reimbursement for patient care, which affects all providers, the Balanced Budget Act of 1997 cut support for medical education, and until recently, National Institutes of Health grant funding for research had been dropping.<sup>4</sup>

The growth of capitated payment and diagnosis-related groups has made reducing length of stay an attractive option, especially since up to 17% of all hospital days are caused by unnecessary delays in discharge.<sup>5</sup> Ideally, efforts to decrease length of stay would reduce excess days without increasing readmission rates or worsening outcomes.<sup>6</sup> In addition to decreasing overall bed-days, as hospital occupancy rates increase because of closure of underused facilities, hospitals are pressured to discharge patients earlier in the day to make room for new admissions. To identify barriers to discharge that could become the focus of efforts to reduce discharge delays, we surveyed 254 caregivers at an academic medical center.

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## Methods

### Setting

Moffitt-Long Hospital is a 520-bed tertiary care teaching hospital affiliated with the University of California, San Francisco. The general medical service admits approximately 4000 patients per year. The medical teams are composed of one or two medical students, two interns, one or no subinterns, a second-year resident, and a ward attending physician. Approximately half of the ward months are staffed by physicians who fit our definition of a hospitalist.<sup>7</sup> The general medicine ward is staffed by 2 social workers and a pool of 36 nurses, with 5 to 8 nurses per shift. For education and general patient management, teams meet for attending rounds each day. Attending physicians also periodically discuss patient management with their teams on postcall work rounds. In addition, one member of the team (usually the resident) meets with members of discharge planning, nursing, or social services for formal “disposition rounds” 1 day each week to discuss placement issues. Otherwise, consultation between medical teams and social workers occurs informally, as needed.

### Survey

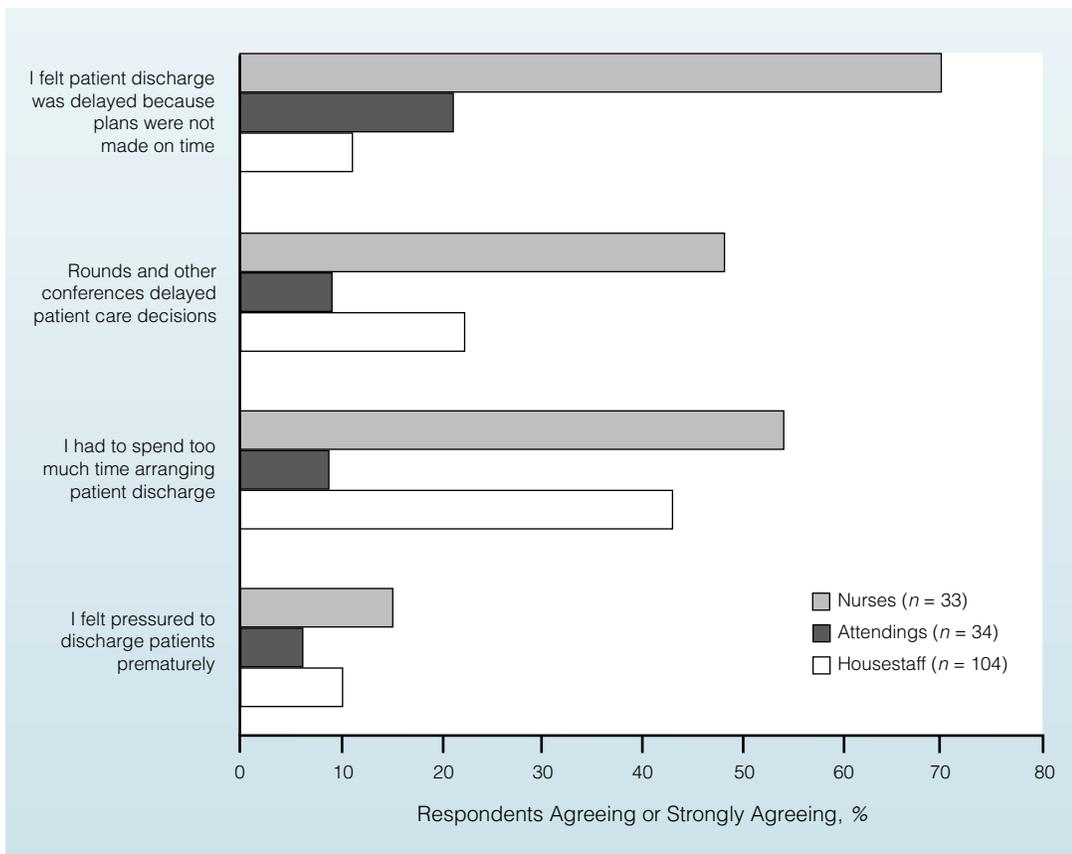
We administered a survey to 176 residents and medical students (subsequently referred to as “housestaff”), 40

attending physicians (subsequently referred to as “attendings”), and 36 nurses and 2 social workers (subsequently referred to as “nurses”). Surveys contained multiple-choice items, using a 5-point Likert scale that ranged from “strongly agree” to “strongly disagree.” Responses from the “strongly agree” and “agree” categories were combined for the purposes of this analysis. The surveys also allowed free-form written responses to the question, “Please suggest reasons why you think patient discharge is commonly delayed.”

Housestaff and attendings were surveyed at the end of their monthly rotations on the medical wards. Nurses were surveyed every 3 months. Surveys were distributed by hand and collected via mail. We received surveys from 104 of 176 housestaff (59%), 33 of 38 nurses (87%), and 34 of 40 attendings (85%), for a total of 171 surveys (overall response rate, 68%).

## Results

As shown in **Figure 1**, most nurses (70%) felt that patient discharge was delayed because plans were not made on time; only 11% of housestaff and 21% of attendings felt similarly ( $P = 0.05$ ). When asked if morning rounds delayed discharge, 48% of nurses responded affirmatively compared with only 22% of housestaff and 9% of attendings ( $P = 0.05$ ).



**FIGURE 1. Agreement of respondents with various statements about the discharge process.**

Fifty-one housestaff, 19 attendings, and 23 nurses provided free-form written responses to the statement, "Please suggest reasons why you think patient discharge is commonly delayed." In our qualitative analysis of these responses, we identified six general themes (Table 1). Seventy-eight percent of nurses versus only 10% of housestaff and 5% of attendings ( $P < 0.01$ ) cited poor communication between physicians and nurses as being responsible for discharge delays. Fifty-three percent of attendings, 39% of housestaff, and 22% of nurses cited waiting for procedures, tests, and laboratory results as being responsible for delays. More housestaff and nurses than attendings mentioned that housestaff conferences delayed discharge; however, the differences were not statistically significant. Table 2 provides some examples of participants' responses.

The perceived times of discharge-related activities differed among caregivers (Figure 2). Almost all attendings and housestaff reported that decisions to discharge patients were made before noon, while only 22% of nurses reported the same ( $P < 0.05$ ). Over 60% of housestaff and attendings versus 0% of nurses reported that discharge orders were written before noon ( $P < 0.05$ ). Most attendings, housestaff, and nurses reported that patients left the hospital in the afternoon.

## Discussion

In this survey of caregivers at an academic medical center, we found that different caregivers perceived markedly different barriers to discharge. While housestaff, medical students, and attendings most commonly attributed delays to waiting for laboratory tests, proce-

dures, and subacute care beds, nursing and social work staff cited lack of interprofessional communication and pre-discharge planning. Both housestaff and nursing staff, but few attendings, cited morning housestaff conferences as an impediment to discharge. Of interest, housestaff and attending physicians reported that discharge decisions and orders occurred in the morning hours while nursing and social work staff reported that these activities happened in the afternoon. These findings highlight areas of misunderstanding across disciplines and suggest areas in which improved communication could reduce unnecessary hospital days.

Perceptions regarding barriers to discharge have been described elsewhere. In 1980, Selker and colleagues found that caregivers most commonly attributed unnecessary hospital days to delays in tests and procedures, lack of availability of postdischarge facilities, and waits for attending or consultant input.<sup>5</sup> Our study revealed two additional perceived barriers: delays due to the physicians' morning schedules and communication deficits between physicians and nursing and social work staff.

Traditionally, mornings in teaching hospitals are claimed by bedside rounds, morning report, attending rounds, and midday conferences. Not surprisingly, nurses and social workers in our study found it difficult to access physicians during this time of day. These caregivers felt that the morning schedule often delayed implementation of daily plans, decisions about discharge, and facilitation of outside services until afternoon.

Studies have suggested that in addition to reducing unnecessary hospital days, improving communication between care teams may have other beneficial effects.<sup>8-12</sup> A recent trial in an academic hospital examined the

**TABLE 1**  
**Factors Perceived as Responsible for Delays in Patient Discharge\***

FACTOR	HOUSESTAFF (n = 51)	ATTENDING (n = 19)	NURSES (n = 23)
Procedures and tests	20 (39%)	10 (53%)	5 (22%)
Placement delays	9 (18%)	8 (42%)	1 (4%)
Inadequate communication among caregivers	5 (10%)	1 (5%)	18 (78%)
Consultation delays	4 (8%)	6 (32%)	0 (0%)
Housestaff work obligations	12 (24%)	2 (11%)	4 (17%)
Inadequate nurse staffing or paperwork	21 (41%)	4 (21%)	3 (13%)

\*Based on comments given in response to the statement, "Please suggest reasons why you think patient discharge is commonly delayed." Because caregivers made comments in more than one category, column totals exceed 100%.  $P < 0.05$  for comparisons in blue; otherwise, differences not statistically significant. P values determined using the chi-square test.

TABLE 2

**Selected Comments Made in Response to the Statement, “Please Suggest Reasons Why You Think Patient Discharge Is Commonly Delayed”**

RESPONSE CATEGORY	RESPONSE
Procedures and tests	<p>“Inability to get procedures in time” (attending)</p> <p>“Radiology delays—takes forever to get results” (housestaff)</p> <p>“We need earlier lab draws, faster results” (housestaff)</p>
Placement delays	<p>“Lack of skilled nursing facility beds to discharge patients to” (attending)</p> <p>“Poor options for high-level outpatient care” (attending)</p> <p>“No beds!” (attending)</p>
Inadequate communication among caregivers	<p>“MDs do not inform nurses of discharge plans in advance” (nurse)</p> <p>“Interns should check in with RNs in the a.m. to discuss the discharge needs of the patient” (nurse)</p> <p>“Need earlier communication with social work regarding home care needs” (nurse)</p>
Consultation delay	<p>“Consultation services very slow” (attending)</p>
Housestaff work obligations	<p>“Decisions delayed until attending rounds are over” (nurse)</p> <p>“Medical team is not available in the morning because of rounds, etc.” (nurse)</p> <p>“Morning rounds, attending rounds, and reports delay discharge work” (housestaff)</p>

effects of daily multidisciplinary ward rounds, in which decisions were made jointly by nurses, physicians, and other caregivers. This intervention reduced length of stay, improved staff satisfaction, and did not increase readmission rates.<sup>13</sup> In a study of intensive care unit teams, greater “caregiver interaction,” as measured by culture, leadership, communication, coordination, and problem-solving abilities of the unit members, was associated with a shorter risk-adjusted length of stay and higher perceived technical quality of care.<sup>14</sup> Patients have also identified communication around the discharge process as a problem area. The Picker Institute surveyed patients recently discharged from the hospital to gather perceptions and experiences with health care. Problem rates were highest for questions that related to preparation for discharge.<sup>15</sup>

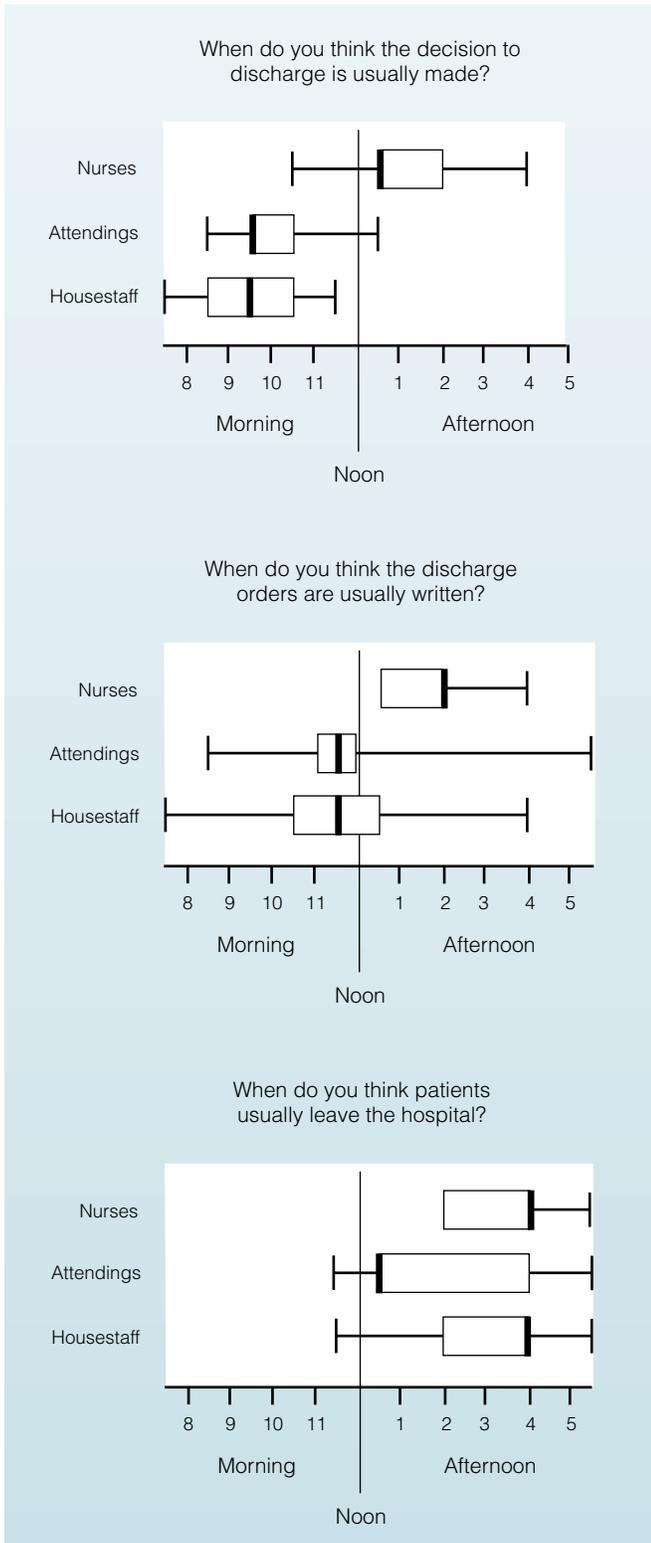
Our findings may represent caregivers’ difficulty in communicating across an “authority gradient” (i.e., nurse to attending physician, intern to nurse, intern to attending). This observation may be similar to those in studies of the aviation industry, which have noted that hesitancy to communicate against an authority gradient is responsible for 75% of commercial airline accidents. Institution of “cockpit resource management,” which trains crew members in cooperative communication norms, has improved airline safety.<sup>16,17</sup>

We found discrepancies among caregivers regarding the perceived timing of discharge-related activities.

While decisions to discharge patients and subsequent order writing may have been made in the morning (as reported by housestaff and attendings), the nursing and social work staff reported that these activities took place in the afternoon. This may be the result of a lack of direct and immediate communication of the daily plan to nurses and social workers, who do not go on rounds with the medical team. Processing of the orders may also have been delayed, or the orders may not have been executed on a timely basis because of understaffing.

These discrepancies highlight target areas for interventions intended to improve the timeliness and effectiveness of hospital discharges. Including nursing staff on bedside rounds and holding housestaff conferences at a later time may allow earlier implementation of care plans and may increase the quality of care. Instituting frequent interdisciplinary rounds to anticipate patients’ medical and social needs before discharge may result in more timely discharges and greater patient satisfaction. In addition, methods designed to train team members in cooperative communication may improve discharge care coordination and patient safety.

Our study has several limitations. The overall response rate was 68%, which is reasonably high for studies of this type but does not exclude the possibility of response bias. Because we studied only one academic medical center, our findings may not be generalizable to other settings. Although systems for discharge plan-



**FIGURE 2. Respondents' perceptions of the timing of various discharge-related events.** For each group, the boldface line indicates the median response and the left and right sides of the box indicate the 25th and 75th percentiles, respectively.

ning may be institution-specific, our findings are consistent with those of other teaching hospitals.<sup>5, 18</sup> Because not all caregivers provided free-form written

responses, findings from these data may be subject to response bias.

In this study, housestaff, medical students, nurses, social workers, and attending physicians perceived different causes for delayed discharge and different timing of discharge-related activities. Our findings emphasize the need for caregivers to reach a consensus regarding the inefficiencies responsible for delays in discharge so that limited resources can be targeted appropriately. Our findings also highlight novel areas for potential improvement, such as reevaluating the medical team's morning schedule and facilitating interdisciplinary communication. Future research should focus on the impact of interdisciplinary collaborative efforts and reorganization strategies on the quality and efficiency of inpatient care and the timeliness of discharge.

## Take-Home Points

- **Timely discharge has been a long-standing priority of hospitals.**
- **To determine caregivers' perceptions of the barriers to discharge, we surveyed housestaff, attending physicians, nurses, and social workers at a major academic medical center affiliated with the University of California, San Francisco.**
- **Housestaff and attendings cited delays in procedures and testing and lack of subacute care beds as the factors most commonly responsible for delays in discharge.**
- **Nurses and social workers, on the other hand, felt that housestaff and teaching conferences and inadequate communication among caregivers were frequently responsible for delays.**
- **Efforts to facilitate hospital discharge at academic medical centers may require better communication and reexamination of traditional morning routines.**

## References

1. Iglehart JK. Support for academic medical centers—revisiting the 1997 Balanced Budget Act. *N Engl J Med.* 1999;341:299-304.
2. Iglehart JK. Rapid changes for academic medical centers. 1. *N Engl J Med.* 1994;331:1391-5.
3. Iglehart JK. Rapid changes for academic medical centers. 2. *N Engl J Med.* 1995;332:407-11.
4. Iglehart JK. The American health care system. Teaching hospitals. *N Engl J Med.* 1993;329:1052-6.
5. Selker HP, Beshansky JR, Pauker SG, Kassirer JP. The epidemiology of delays in a teaching hospital. The development

- and use of a tool that detects unnecessary hospital days. *Med Care.* 1989;27:112-29.
6. Winkelaar PG. How important is length of stay? [Letter] *CMAJ.* 1995;153:252-4.
  7. Wachter RM. An introduction to the hospitalist model. *Ann Intern Med.* 1999;130:338-42.
  8. Fargason CA Jr, Haddock CC. Cross-functional, integrative team decision making: essential for effective QI in health care. *QRB Qual Rev Bull.* 1992;18:157-63.
  9. Gage M. From independence to interdependence. Creating synergistic healthcare teams. *J Nurs Adm.* 1998;28:17-26.
  10. Abramson JS, Mizrahi T. When social workers and physicians collaborate: positive and negative interdisciplinary experiences. *Soc Work.* 1996;41:270-81.
  11. Headrick LA, Wilcock PM, Batalden PB. Interprofessional working and continuing medical education. *BMJ.* 1998; 316:771-4.
  12. Zwarenstein M, Bryant W. Interventions to promote collaboration between nurses and doctors. *Cochrane Database Syst Rev.* 2000; CD000072.
  13. Curley C, McEachern JE, Speroff T. A firm trial of interdisciplinary rounds on the inpatient medical wards: an intervention designed using continuous quality improvement. *Med Care.* 1998;36:AS4-12.
  14. Shortell SM, Zimmerman JE, Rousseau DM, Gillies RR, Wagner DP, Draper EA, et al. The performance of intensive care units: does good management make a difference? *Med Care.* 1994;32:508-25.
  15. Eye on patients: excerpts from a report on patients' concerns and experiences about the health care system. American Hospital Association and the Picker Institute. *J Health Care Finance.* 1997;23:2-11.
  16. Foushee HC, Helmreich RL. Group interaction and flight crew performance. In: Weiner EL, Nagel DC, eds. *Human Factor in Aviation.* San Diego: Academic Pr; 1988.
  17. Clemmer TP, Spuhler VJ, Berwick DM, Nolan TW. Cooperation: the foundation of improvement. *Ann Intern Med.* 1998;128:1004-9.
  18. Gertman PM, Restuccia JD. The appropriateness evaluation protocol: a technique for assessing unnecessary days of hospital care. *Med Care.* 1981;19:855-71.

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