

Hospital Discharge Information and Older Patients: Do They Get What They Need?

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BACKGROUND: Ineffective communication of hospital discharge instructions may have important implications for future health, function, and quality of life.

OBJECTIVE: To describe patient recall of predischarge communication of discharge instructions by hospital staff, and to demonstrate the feasibility a posthospitalization survey in this urban, public hospital population.

METHODS: Cross-sectional telephone survey of 269 patients age 70 years or older who were discharged from an academically affiliated urban public hospital between September 7, 2004, and January 19, 2005.

RESULTS: The mean length of stay of the respondents was 5.6 days (range, 0-56 days), and the mean number of admissions over the study period was 1.6 (range, 1-7 times). The respondents were interviewed a average of 3 days after discharge (range, 1-10 days). Only 43.7% of the respondents replied yes when asked, "Did anyone talk with you about how to care for yourself at home after this hospitalization?" Among those who recalled how they received care instructions (n = 103), approximately 66.0% (n = 68) reported receiving instructions "verbally," 10.7% (n = 11) reported receiving written instructions, and 23.3% (n = 24) reported receiving both. More than half the respondents (54.2%) did not recall anyone talking with them about how to care for themselves after hospitalization. Other significant gaps in important patient information were identified.

CONCLUSIONS: We found that a posthospitalization survey was both feasible and revealing in this urban, public hospital population. Furthermore, interviewee recall of predischarge communication of discharge instructions by hospital staff demonstrated significant gaps in communication between these patients and the hospital care team at time of discharge. *Journal of Hospital Medicine* 2007;2: 291-296. © 2007 Society of Hospital Medicine.

KEYWORDS: geriatrics, care transitions, discharge planning.

Transitions from the acute hospital to other sites of care are critical and potentially dangerous times for patients. Improving coordination of care among health care settings is a major area of emphasis in the Institute of Medicine publication, *Crossing the Quality Chasm: A New Health System for the 21st Century*.¹ System factors such as poor information transmission processes, inadequate training of discharging staff, and inadequate time for discharge teaching can prevent patients from having the information they need when being discharged home. Patient factors such as nervousness, home distractions, and poor health literacy further limit the implementation of discharge plans. Misalignment of system and patient factors can result in a bewildered patient with a failed discharge process that subverts the intentions of even the best posthospital plan. Regardless of whether system and/or patient factors underlie the problem, the perception of that bewil-

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dered patient is that of receiving inadequate instruction for self-care after discharge from the hospital. As self-care and medication compliance play an important role in health outcomes and whether patients are readmitted, such a perceived (or actual) lack of instruction can have important implications for future health, physical function, and quality of life. Patients cared for in settings where health literacy is generally low and socioeconomic conditions poor may be at especially high risk of problems with communication of the discharge plan.

The objectives of this study were to (1) describe patient recall regarding pre-discharge communication between hospital staff and patients regarding discharge instructions, and (2) to demonstrate that a post-hospitalization survey was both feasible and revealing in an urban, public hospital setting.

METHODS

This cross-sectional survey of older inpatients discharged from Grady Memorial Hospital, an academically affiliated, 953-bed public teaching hospital in downtown Atlanta, Georgia, was conducted by telephone.

Subjects

All discharges of inpatients age 70 years and older ($n = 714$) were identified through a computer search performed on weekdays over the study period by the Grady Information Service Office. According to the computerized discharge information, 114 patients had either died in the hospital or were discharged to a nursing home. No attempt was made to contact the nursing home patients. When attempts were made to contact the remaining 600 potential subjects, it was determined that 331 either had died, had been admitted to a nursing home, or had unusable contact information. The remaining 269 patients and their families were interviewed for this study. Nobody refused to participate. Proxies answered survey questions instead of patients when the surveyor was informed by the contacted individual that the patient would not be able to answer the questions. This study was approved by the Internal Review Board of Emory University School of Medicine.

Survey

Telephone interviews were conducted from September 7, 2004, to January 19, 2005. The survey was developed by the investigators. The interview was

constructed to include important information to be communicated to patients being discharged home from the hospital. The content was based on a literature review and clinical experience. The survey was pilot-tested for feasibility and clarity, then revised once prior to data collection.

The survey instrument (see Appendix) has 37 questions regarding 5 main components: (1) demographic information, (2) care instruction at discharge, (3) patient self-rating of care during hospitalization, (4) needs and functioning once discharged home, and (5) patient opinion about the public hospital health system in general. Only data on the first 3 areas are presented in this article. Each interview took approximately 20-30 minutes to complete. All interviews were performed by a single trained interviewer with a Master of Social Work degree employed by the Grady Health System Social Services Department. Most interviews were conducted by the third day after discharge (range of 1-10 days). For subjects admitted multiple times data were only collected for the first discharge during the study period.

Measurements

Descriptive data analysis was used to analyze open-ended questions. Responses of "Don't recall" and "Unsure" and questions with no response were all classified as a single category, "No answer." Several questions in the survey were only asked to some respondents contingent on their previous answers. For example, "Do you remember who spoke with you?" was only asked to those who had answered yes to the previous question, "Did anyone talk with you about how to care for yourself after this hospitalization?" The number of admissions to the study facility over the study period was determined by hospital administrative data.

Two investigators (W.P. and A.S.) independently analyzed the content of open-ended questions and then compared their analyses in order to establish interrater reliability on themes. Chi-square analysis was used to determine the relationship between patients recollecting instructions and the outcome of interest (understanding instructions, medication compliance, calling for problems).

RESULTS

We found the survey to be feasible and easily administered. Over the study period the mean length of stay of the respondents was 5.6 days (range, 0-56

TABLE 1
Characteristics of Respondents (N = 269)

Characteristic	Mean	Range
Age (years)	78.7	(70-100)
Length of stay (days)	5.6	(0-56)
Number of admissions	1.5	(1-7)
Days postdischarge	3	(0-10)
	N	%
Sex		
Male	84	31
Female	185	69
Marital status		
Widowed	164	61
Married	60	22
Divorced	15	6
Separated	14	5
Single	10	4
No answer	6	2
Survey respondent		
Patient	187	70
Child	35	13
Other	33	12
Spouse	14	5

days), and the mean number of times admitted was 1.6 (range, 1-7). Interviews were conducted an average of 3 days after discharge (range, 1-10 days). Other demographic information on the respondents is summarized in Table 1.

Most of those surveyed (81.8%, or 242 respondents) were able to answer the question "Can you tell me what was explained to you [about why you were hospitalized]?" The results of the content analysis of the answers to this open-ended question are summarized in Table 2. The self-reported problem area most frequently mentioned was the heart. Responses to questions about instructions and education received while in the hospital are reported in Table 3.

A correlation was found between providing information in written and verbal fashion and self-reported understanding of the instructions. For example, of the 103 respondents who answered affirmatively to "Did anyone talk with you about how to care for yourself at home after this hospitalization?" and also recalled the source of that information, 66.0% (n = 68) reported receiving instructions verbally, 10.7% (n = 11) reported receiving them in writing, and 23.3% (n = 24) reported receiving both. Patients who received both verbal and written instructions were more likely to report that they understood the care instructions "very

TABLE 2
Reasons Respondents Gave for Hospitalization (n = 269)

Reason	n
Heart problem	46
Nonspecific (I am sick/I have chronic disease/all kinds of problems)	29
Don't know/no answer	27
Blood problem/bleeding/blood clot	17
Blood pressure problem (high or low)	14
Kidney problem	14
Surgery	13
Breathing problem	13
Stroke	11
Cold	10
Infection	9
Arm/leg/hand/feet/knee/bone	8
Fall	8
Stomach problem	8
Cancer	7
Diabetes	7
Dehydration	6
Lung problem	6
Bladder problem	5
Mental problem	4
Seizure	4
Automobile accident	1
Need medication	1
Prostate problem	1

well" versus "somewhat" or "very little" ($\chi^2 = 29.612$, $df = 4$, $P = .000$).

The association between the perceived provision of information to patients and effective use of that information was explored. For example, perceived medication compliance and instruction on medication use had a positive association. Among those who recalled receiving instruction on how to take their medications (n = 88), 76 (86.4%) stated that they were taking them correctly, 8 (9.1%) that they were not taking them correctly, and 4 (4.5%) were unsure. Among those who said that they did not receive instruction or did not recall being instructed on how to take their medications (n = 26), 16 (61.5%) believed that they were taking their medications correctly, 4 (15.4%) that they were not taking them correctly, and 5 (19.2%) were unsure. Respondents who recalled receiving medication instruction were more likely to comply with taking medication. ($\chi^2 = 7.321$, $P = .026$)

There was also a positive association between being told what to do if problems were experienced at home and calling about problems after arriving home. Among those who believed they were instructed on what to do if problems were experienced at home (N = 86), 23 (26.7%) reported they

TABLE 3
Information That Survey Respondents Perceived They Received

Question	N	Yes (%)	No (%)	No Answer (%)
Did someone explain to you why you were hospitalized ?	269	224 (85%)	35 (13%)	6 (2%)
Did the doctor explain your medical problems to you?	269	205 (76%)	49 (18%)	15 (6%)
Did anyone talk with you about how to care for yourself after this hospitalization?	269	115 (43%)	141 (52%)	13 (5%)
Do you remember who spoke with you?*	115	91 (79%)	22 (19%)	2 (2%)
Doctor?*	91	74 (81%)	12 (13%)	5 (6%)
Nurse?*	91	44 (48%)	43 (47%)	4 (4%)
Other professional?*	91	14 (15%)	73 (80%)	4 (4%)
If you had questions were they answered?*	115	99 (86%)	10 (9%)	6 (5%)
Were you given a telephone number or name of a person to call if you needed help after you returned home?	269	72 (27%)	127 (47%)	70 (26%)
Were you told what to do if you experienced problems at home?	269	89 (33%)	111 (41%)	69 (26%)
Have you had to call about any problems since you arrived home?	269	36 (13%)	212 (79%)	19 (8%)
Were your medications changed during this hospitalization?	269	114 (42%)	138 (52%)	17 (6%)
Did someone explain how to take them?*	114	90 (79%)	16 (14%)	8 (7%)
Doctor?*	90	47 (52%)	42 (47%)	1 (1%)
Nurse?*	90	39 (43%)	51 (57%)	0 (0%)
Pharmacist?*	90	57 (63%)	33 (37%)	0 (0%)
Did you get your medication?*	114	61 (53%)	9 (8%)	44 (39%)
Are you taking them the way they were explained to you?*	114	95 (84%)	13 (11%)	6 (5%)
Since you have been home from the hospital do you feel you are receiving enough help?	269	216 (80%)	47 (18%)	6 (2%)
If no, have you asked for more help?***	47	26 (55%)	12 (26%)	9 (19%)

*Contingency question—only asked to subjects who answered "Yes" to previous question.

**Contingency question—only asked to subjects who answered "No" to previous question.

Totals may not add up to 100% due to rounding.

called about a problem. Among those who did not recall being instructed about what to do if problems were experienced at home (N = 183), only 13 (7.1%) reported calling about a problem. Respondents who believed they had been instructed on what to do at home were significantly more likely to call from home about problems ($\chi^2 = 16.740$, $df = 2$, $P = .000$).

DISCUSSION

According to Bull and Roberts,² there are 3 types of communication gaps in discharge planning: (1) gaps between health care providers in the hospital and those involved in the hospital-community interface, (2) gaps between providers and patients, and (3) gaps between health care providers and family caregivers for elders. The present study focuses on the latter 2 types of communication gaps. In discharge planning it is critical not only to transmit information, but also to make sure that patients understand that information in the way health care providers intended. Systemic, cultural, emotional, and cognitive barriers may interact to limit the effectiveness of this communication.

In the present study, a large number of patients

discharged from an academically affiliated public hospital were unaware of important discharge information, even though according to hospital protocol, all patients are given a discharge information sheet. Approximately 15% did not know why they were hospitalized. About 20% of those who reported their medications were changed in the hospital could not recall anyone explaining how to take these medications. More than half of respondents did not recall anyone speaking with them about how to take care of themselves following hospitalization. More than 60% of respondents did not recall getting information on what to do if they had a problem after being discharge home.

That patients were unaware of information that had been provided to them has significant implications for successful implementation of the spirit of the Joint Commission on Accreditation of Healthcare Organizations standards. These disease-specific standards as well as medication standards are generally written as process measures. Although requiring that routine and clear standards of information be provided to patients is a significant step forward in patient safety, surveys such as the present one, done over time, should be an impor-

tant part of any ongoing quality improvement process. As evident by the high response rate in our study and others,³ patients and their proxies are very willing to participate in such surveys. The results of the Consumer Assessment of Healthcare Providers and Systems (CHAMPS) survey,⁴ which will be published, should provide an important impetus for this ongoing quality improvement process. Interestingly, 2 of the CHAMPS questions—“During this hospital stay, did doctors, nurses, or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?” and “During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?”—are very similar to questions used in the present study. In our health system, site of the present study, these data have prompted a complete revision of the discharge instruction sheet, creation of a care transitions task force, and initiation of a pilot care transitions project. Follow-up surveys will be performed to evaluate whether these changes have been effective in improving discharge information transfer and, more importantly, in patient outcomes.

The present study had several limitations. First, although the results are inconsistent with the findings of other studies, the present study took place at a single urban institution most of whose patients socioeconomically disadvantaged. Second, patient responses were combined with caregiver responses (elicited when a patient was unable to respond to the survey questions). Although it is not proven that these 2 groups are equivalent, from a practical point of view this was justified because the clinical issue is whether the person taking care of the patient (be it patient or caregiver) has the critical information needed after discharge from the hospital. Third, only those who could be reached by phone were included. This is likely to bias the results in a more favorable direction, given that the socioeconomic implications of not having a phone and/or the cognitive implications of not being able to use a phone would likely be reflected in even greater impediments to communication. Fourth, no attempt was made to evaluate the cognitive status or health literacy of either the subjects or their proxies. Fifth, generalizability of the survey to other research groups is unclear, as no additional attempt was made to define the interrater reliability of the survey. Finally, although it seems reasonable to presume that simpler discharge plans would be

more effectively communicated, this study did not define the complexity of each discharge plan. Strengths of the study include a single trained interviewer, relatively rapid follow-up of patients, and large sample size.

Effective communication during the care transition is important for improving patient outcomes and satisfaction. One study of 40 patient-caregiver dyads showed that patients had a lower rate of medical problems postdischarge when they and their caregivers received verbal and/or printed information about activity and complications that could occur at home.⁵ Indeed, a study of 134 elder/family caregiver dyads interviewed 2 weeks after hospitalization found that receipt of information about the patient's condition, medications, and activities was an important contributor to both patient and family caregiver satisfaction with discharge care.⁶

At first glance, these findings may seem surprising, given that all patients discharged from the hospital should receive (by protocol) a discharge information sheet with postdischarge instructions. This study did not define what exactly transpired between hospital staff and patients, review discharge sheets, or validate the extent to which these instruction sheets are completely filled out and adequately reviewed with patients. The results of previous studies suggest that even when conversations are verified to have occurred, transmission is often inadequate. One study of 54 adult patients discharged after being hospitalized for pneumonia or acute myocardial infarction found that physicians believed that 88.9% of patients understood potential side effects of postdischarge medications, but only 57.4% of patients reported that they did understand instructions about side effects ($P < .001$).⁷ Another study of 47 patients discharged from a municipal teaching hospital in New York City showed that only 42% were able to state their diagnoses and only 28% were able to list all their medicines.⁸

The solutions to these problems may be as unapparent as they are difficult, and many of the challenges as well as some potential solutions have been recently reviewed.⁹ Arguing that physicians and/or hospital staff should spend more time with all their patients oversimplifies the problem and is not likely to occur. The present study confirmed earlier findings that providing verbal and written health information on hospital discharge significantly increases the knowledge of patients and caregivers.¹⁰ Risk stratification—targeting those

most at risk of medication noncompliance to receive augmented medication compliance instruction, such as the scheme suggested by Rosenow¹¹—has significant merit and warrants extension to discharge instructions in general and to prospective testing.

Discharge teaching videos have been shown to have some effectiveness in the emergency room setting¹² and along with an audio-only or CD option could be developed to supplement the written discharge information provided to patients. Calling patients after discharge to make sure they understand their prescribed medical regimen, have their prescriptions and home health equipment, and have a follow-up visit scheduled with their doctors has been identified as a key characteristic of high-achieving hospitalist programs. One care site found that 80% of patients have questions about their follow-up care that could jeopardize their recovery.¹³ This strategy could just as well be implemented by a case manager or health educator. Follow-up phone contact combined with Telecare has been shown to be effective in reducing hospital readmissions, emergency visits, and cost of care for patients with heart failure.¹⁴ Formal care transition instruments and interventions show promise for enabling patients and caregivers to take a more active role during care transition processes and improve outcomes. Whether this approach will be widely generalizable awaits demonstration.¹⁵

CONCLUSIONS

In summary, we found that a posthospitalization survey was both feasible and revealing and had a high acceptance rate in this urban public hospital population. Furthermore, subject recall about pre-discharge communication from hospital staff regarding discharge instructions demonstrated significant gaps about transfer of information. If these findings prove to be applicable to the large numbers of older as well as younger patients discharged from the hospital each year, the implications for patients health, safety, and satisfaction are enormous. It should not be assumed that this is a problem limited to older patients. As health care systems build bridges across gaps in the quality chasm, developing and testing more effective communication strategies for patients is imperative.

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