

Communication Discrepancies Between Physicians and Hospitalized Patients

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Background: Hospital surveys indicate lack of patient awareness of diagnoses and treatments, yet physicians report they effectively communicate with patients. Gaps in understanding and communication could result in decreased quality of care. We sought to assess patient knowledge and perspectives of inpatient care and determine differences from physician assessments.

Methods: Two validated questionnaires assessed the experiences of inpatients treated by house staff from October 10, 2008, through June 23, 2009. We surveyed corresponding internal medicine resident and attending physicians, asking them to report on their care of hospitalized patients and their understanding of their patients' perspectives on the care received.

Results: Eighty-nine patients and 43 physicians participated. Although 73% of patients thought there was 1 main physician, 18% correctly named that physician, compared with 67% of physicians who thought patients knew

their names ($P < .001$). Most physicians (77%) believed patients knew their diagnosis; however, 57% of patients did ($P < .001$). A total of 58% of patients thought that physicians always explained things in a comprehensible way, compared with 21% of physicians who stated they always provided explanations of some kind ($P < .001$). Two-thirds of patients reported receiving a new medication in the hospital, yet 90% noted never being told of any adverse effects of these medications. Nearly all physicians (98%) stated that they at least sometimes discussed their patients' fears and anxieties, compared with 54% of patients who said their physicians never did this ($P = .001$).

Conclusions: Significant differences exist between patients' and physicians' impressions about patient knowledge and inpatient care received. Steps to improve patient-physician communication should be identified and implemented.

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PATIENT-PHYSICIAN COMMUNICATION is critical in establishing good clinical relationships and improving medication adherence and patient satisfaction.^{1,2} Patient-centered care promotes full collaboration among physicians, patients, and families, enhances information sharing, helps to ensure a higher level of patient respect and dignity, and contributes to a safe transition on hospital discharge. Despite an emphasis on patient-centered care by many groups, including the Institute of Medicine,³ multiple studies have shown that patients do not know their physicians' names, cannot identify their diagnoses, and are unaware of many aspects of medication management.⁴⁻⁷

Prior investigators demonstrate that physicians often do not introduce themselves as such and do not clarify their role in caring for the patient (ie, attending physician, resident, or intern).⁸ Although phy-

sicians believe they fully explain discharge instructions and patients understand them, patients often report they do not know, on discharge, why they are taking medications, for how long they should take them, or when they should resume normal activity.^{6,7,9,10}

An apparent discordance of opinion exists between patients and physicians regarding many elements of hospitalization. Differences in patient and physician perceptions about care are critical in addressing problems with health care provision, including potential gaps in patient-centered care. The present study was designed to assess patients' knowledge and perspectives about their inpatient care and compare these responses with physicians' assessments. This study, to our knowledge, is the first to compare patient and physician opinions about multiple facets of care provided to inpatients in an internal medicine teaching service facility.

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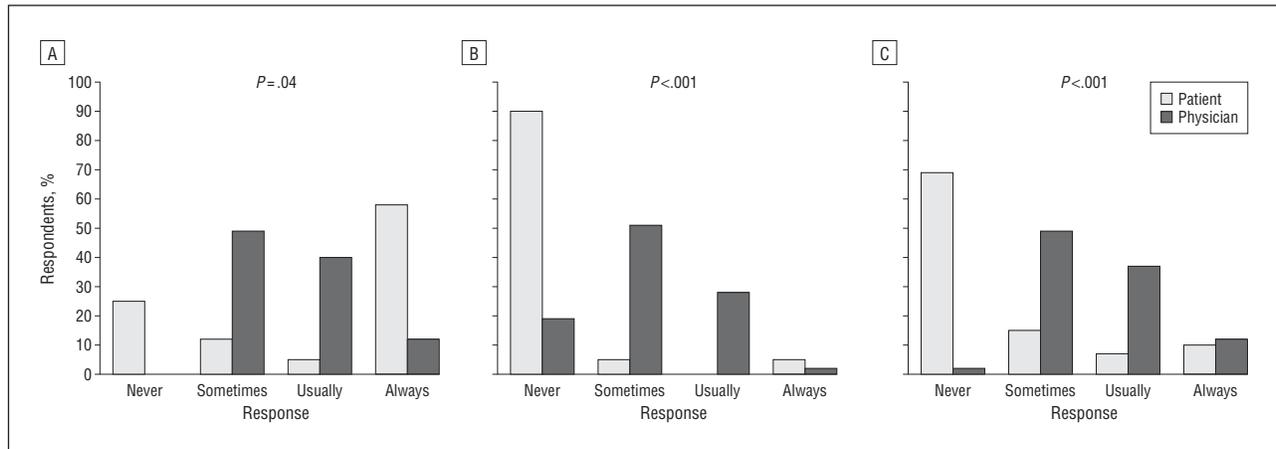


Figure 1. Patient and physician responses to selected questions about communication between patients and physicians regarding medication and treatment. P values are for comparisons between groups. A, Patient question: "Before giving you any new medication, how often did hospital staff tell you what the medicine was for?" Physician question: "How often do you tell patients when they will be receiving new medications?" B, Patient question: "Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?" Physician question: "How often do you explain side effects of new medicines in a way that patients can understand?" C, Patient question: "Did you want to be more involved about decisions made about your care and treatment?" Physician question: "Do you think patients want to be more involved in treatment decisions?"

METHODS

STUDY DESIGN AND SAMPLE

This cross-sectional study occurred at Waterbury Hospital, a 367-bed, private, not-for-profit community teaching hospital in Waterbury, Connecticut. The hospital hosts inpatient rotations for 4 internal medicine residency programs from the Yale University School of Medicine. Patients treated by house staff and their physicians were asked to participate in the study from October 10, 2008, through June 23, 2009. House staff teams consisted of 1 attending physician, 1 resident, 1 primary intern, and a secondary intern who cared for patients on post-call and select weekend days during the entire rotation. (The postcall designation is given to the shift worked by house staff who have just completed a 24-hour admitting cycle.) We recruited patients in the morning by asking teaching teams to name patients who would be discharged that day. We chose interview days at random based on our availability and interviewed on weekdays and weekends. We interviewed all patients on the day of discharge and only those who had a length of stay of at least 2 days. Because teaching teams switch rotations every month, we did not interview patients within 1 week of team changes. In addition, because we wanted to interview patients who were cared for only by the primary team, we did not interview patients who were cared for on a weekend by the secondary intern only. Patient demographics reflected those of the overall hospitalized adult patient population, namely, adults aged 18 to 95 years of all races, religions, and nationalities who spoke English or Spanish. We excluded patients who had worked at the hospital in the past and those with potentially impaired decision-making capacity (ie, those with schizophrenia, mental disabilities, or dementia, those in police custody, wards of the state, and those with altered mental status). No member of the research team had any patient care responsibilities (outpatient or inpatient) for those being surveyed. One of the study authors asked patients who met the inclusion criteria to participate in the study and to sign a written consent form to participate. Interviewers did not wear white coats or introduce themselves as physicians during the interviews.

We contacted physicians at the end of their inpatient month to ask for their participation in the study. Interviews occurred individually in a private setting after a written consent form

had been signed. Attending physicians were a mix of generalists, hospitalists, and medicine subspecialists. House staff were resident and intern physicians in the primary care internal medicine, traditional medicine, medicine-pediatrics, or medicine-neurology program doing an inpatient medicine rotation at the hospital. We compared physician responses to questions about care with patient responses in an aggregate manner. The Waterbury Hospital institutional review board and the Yale University School of Medicine Human Investigations Committee approved the study protocol.

SURVEY INSTRUMENTS

We used 2 well-validated Likert-style instruments to assess patients' experiences in a teaching hospital: the Picker Patient Experience Questionnaire¹¹ and the Consumer Assessment of Healthcare Providers and Systems Hospital Survey (HCAHPS).^{12,13} Interviewers read questions and response choices to each patient, and answers were recorded on the survey instrument. Responses to questions were based on the appropriate responses for each questionnaire. Given our interest in exploring differences in patient-physician communication, we report only on questions in these instruments related to our objective. Demographic and other medical information was obtained by each researcher at the time of discharge during the interview and from a review of the patient's current hospital medical record. We asked patients during the interview to state their diagnosis for admission. For this question, we allowed for lay terms and for any secondary diagnoses listed as current problems during each patient's hospital stay to be qualifying answers. Using rephrased questions from these 2 instruments, we surveyed corresponding residents, interns, and attending physicians, asking them to tell us about the care they provided their patients during the month rotation and to provide their opinions regarding their overall patients' perspectives and knowledge of the care received (**Figure 1** and **Figure 2**). We did not share patient responses with the physicians or physician responses with patients.

STATISTICAL ANALYSES

We deidentified data and stored them in a Microsoft Excel 2007 database (Microsoft Corporation, Redmond, Washington). We used Stata statistical software, release 10.1 (StataCorp LP, Col-

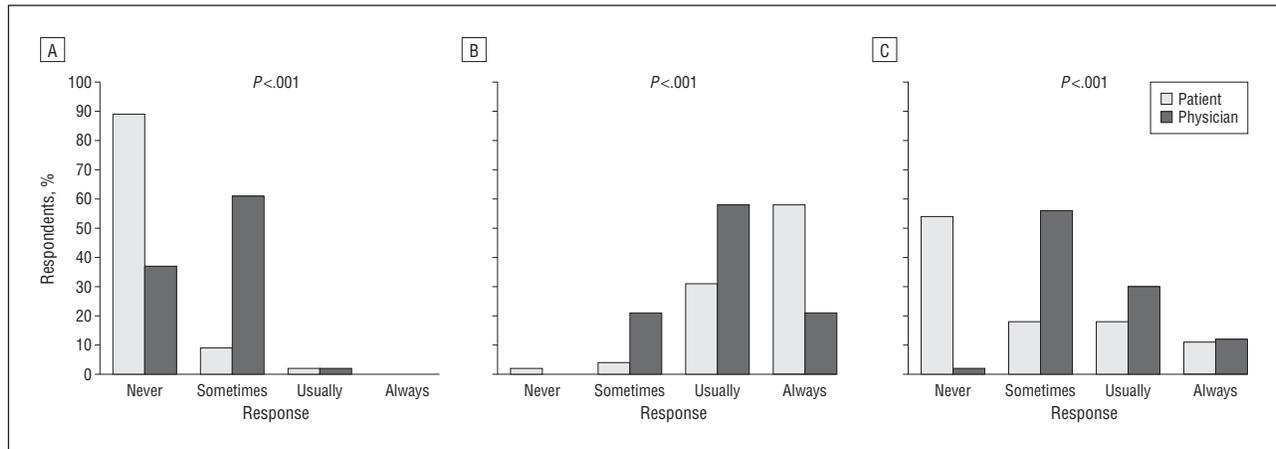


Figure 2. Patient and physician responses to selected questions about psychosocial communication and overall interaction between patients and physicians. *P* values are for comparisons between groups. A, Patient question: “Did doctors talk in front of you as if you were not there?” Physician question: “How often do you talk in front of patients without including them in the conversation?” B, Patient question: “During this hospital stay, how often did doctors explain things in a way you could understand?” Physician question: “How often do you explain things in a way your patients fully and completely understand?” C, Patient question: “Did a doctor discuss any anxieties or fears about your condition or treatment with you?” Physician question: “How often do you discuss any anxieties or fears about your patients’ condition or treatment with them?”

lege Station, Texas), for all statistical analyses. We made comparisons between patient and physician responses using Wilcoxon rank sum (Mann-Whitney) tests and χ^2 analyses. We performed subgroup analyses of patient responses based on patient age and substance use (both obtained from the patient’s chart), race and educational level (both self-reported), sex, payment source, and overall self-rating of their health using similar methods. We conducted Kruskal-Wallis tests to determine any differences in physician responses based on their level of training.

RESULTS

Of 95 eligible patients asked to participate in the survey, 89 (94%) agreed. All 43 physicians (100%) asked to participate in the survey consented. The **Table** provides demographic information on participating patients and physicians. Patients stated they had an average of 5.1 physicians caring for them throughout their stay; their average length of stay was 5.4 days (range, 2.0–36.0 days).

KNOWLEDGE OF PHYSICIAN AND DIAGNOSIS

In response to the question, “Would you say there is one main doctor in charge of your care?” 23 patients (26%) said no, 65 (73%) said yes, and 1 (1%) was not sure. Only 22 (25%) patients who stated there was 1 main physician could correctly name him or her. Thus, only 16 of all 89 patients (18%) correctly identified the physician in charge of their care. This result contrasts with the finding that 28 (67%) physicians thought patients knew their names.

Only 51 (57%) patients could correctly state their diagnosis, with 38 (43%) not knowing or incorrectly stating their reason for admission. This compares with 69 (77%) physicians who thought their patients understood their diagnosis at least somewhat well. This finding was statistically significantly different compared with patient responses ($P < .001$).

COMMUNICATION ABOUT MEDICATION AND TREATMENT

Sixty patients (67%) reported receiving a new medication in the hospital that they had not previously taken. Of those patients, 15 (25%) stated that their physicians never told them they were receiving a new medication. In comparison, all physicians stated they at least sometimes inform patients of new medications ($P = .04$) (Figure 1A). Regarding medication adverse effects, 90% of patients reported never being told of adverse effects for new medications, compared with 19% of physicians who stated they never discuss adverse effects of medications with patients ($P < .001$) (Figure 1B).

As a group, patients believed they were adequately involved in decisions made about their care and treatment; 61 patients (69%) stated that they did not want to become more involved in their care. Physicians differed in their opinion, such that only 1 physician (2%) believed patients did not want to become more involved ($P < .001$) (Figure 1C).

PSYCHOSOCIAL INTERACTIONS AND COMMUNICATION OVERALL

Although 78 patients (88%) indicated that physicians never spoke in front of them without including them in the conversation, 16 physicians (37%) reported they had never done so ($P < .001$) (Figure 2A). Compared with physicians, a greater number of patients believed information delivered by their physician was completely comprehensible. Fifty-two patients (58%) believed physicians always gave explanations in a way they could understand, whereas only a few physicians, 9 (21%), thought they always did so ($P < .001$) (Figure 2B).

Half of patients reported having anxieties or fears while in the hospital. Of those who had anxiety or fear, 25 (54%) stated physicians never discussed these fears with them. This compares with 1 physician (2%) who reported never

discussing patients' anxiety or fears with them ($P < .001$) (Figure 2C).

SUBGROUP ANALYSES

We analyzed patient responses to questions to determine whether any differences existed based on demographic factors. No statistically significant differences existed among survey results when analyzed by sex, age, race, and payment source (Medicaid vs other sources). When educational level was analyzed, however, patients with completion of less than an eighth-grade education thought their fears and anxieties were discussed less frequently ($P = .02$). Because of a large variation in patient diagnoses, we were unable to make comparisons based on medical complexity. Physicians responded similarly to all questions except that attending physicians were more likely to report they usually or always explain medication adverse effects to patients (57% of attending physicians vs 30% of residents and 13% of interns) ($P = .02$).

COMMENT

These data show that significant differences exist between patients' and physicians' impressions about patient knowledge and care received in the hospital. This is the first study, to our knowledge, to directly compare the impressions of each group with regard to an inpatient hospitalization. Interestingly, most subgroup analyses did not affect patient responses, showing uniformity in opinions regardless of sex, age, race, language, or payment source. In addition, responses by physicians were uniform despite level and type of training.

The finding that a large percentage of patients cannot identify the physician in charge of their care is not new. A recent study by Arora et al⁴ showed that only 25% of patients in a large, urban teaching hospital could identify any inpatient physician caring for them, which reinforced results from a prior study⁵ performed at a large, public teaching hospital in Brooklyn, New York, which revealed that only 14.7% of patients could correctly state their physician's name. The present study adds to these results because it was conducted at a not-for-profit community teaching hospital and showed that only 18% of patients were able to identify the physician in charge of their care. It appears that regardless of the setting, multiple studies at multiple institutions are in close agreement that, at best, only 1 in 4 patients can identify the physicians caring for them.

Patient and physician perceptions differed greatly with respect to patients' knowledge and understanding of their diagnosis. Not only did 68 (77%) physicians think that patients could name their diagnosis, they thought patients understood their diagnosis at least somewhat well. Nevertheless, only 51 (57%) patients could name their diagnosis on the day of discharge. Although our results are similar to the study by Makaryus and Friedman,⁶ which showed that 41.9% of patients could state their diagnosis at discharge, our data demonstrate statistically significant differences between physician and patient per-

Table. Patient and Physician Characteristics^a

Characteristics	Sample Population, No. (%)	US Estimates, No. ^b
Patients		
Total interviewed	89 (100)	...
Male sex	47 (53)	49.1
Age, mean (SD), y	57.3 (19)	35.3
Race		
White	61 (68)	75.1
Black	16 (18)	12.3
Latino	11 (12)	12.5
Other	1 (1)	12.6
Length of stay, mean (SD), d	5.4 (5)	...
Payment source		
Medicare	41 (46)	14.3
Medicaid	29 (33)	14.1
Insurance	11 (12)	66.7
Other	8 (9)	4.9
Prior No. of times admitted, mean (SD)	4.3 (4.7)	...
Educational level		
Eighth-grade graduate or less	11 (12)	7.5
Some high school	19 (21)	12.1
High school graduate	29 (33)	28.6
Some college or associate's degree	23 (26)	21.0
College graduate	3 (3)	21.8
Postgraduate work or degree	4 (4)	8.9
Admission diagnosis		
Cardiovascular	15 (17)	...
Neurologic	15 (17)	...
Infectious	14 (16)	...
Pulmonary	13 (15)	...
Gastrointestinal	12 (14)	...
Substance use	6 (7)	...
Endocrine or metabolic	5 (6)	...
Hematologic or vascular	4 (4)	...
Renal	2 (2)	...
Other	3 (3)	...
Physicians		
Total interviewed	43 (100)	...
Male sex	23 (53)	...
Age, mean (SD), y	32.7 (8.1)	...
Role on teaching team		
Intern	16 (37)	...
Resident	15 (35)	...
Attending	12 (28)	...

Abbreviation: Ellipses, not applicable.

^aData are presented as number (percentage) of the population unless otherwise indicated.

^bUnited States estimates for sex, age, and race were obtained from the 2000 US Census Bureau Web site (http://factfinder.census.gov/home/saff/main.html?_lang=en&_ts=; accessed January 15, 2010). Insurance estimates are for 2008 and are found at <http://www.census.gov/prod/2009pubs/p60-236.pdf> (accessed January 15, 2010).

ceptions about this knowledge. With an average length of stay of 5.4 days for patients in our study, it appears there is ample time to better educate patients about why they are in the hospital.

Patients and physicians also differed in their opinions regarding care provided. Despite 89 physicians (100%) stating they at least sometimes tell patients when new medicines are prescribed, only 67 patients (75%) recall ever being told of these new medications. Similarly, although 72 physicians (81%) stated they describe adverse effects at least some of the time, only 9 patients

(10%) reported being told of any medication adverse effects. Finally, although only 19 physicians (21%) thought they always explained things in a way their patients could understand, almost triple this number of patients (52 [58%]) thought physicians always did this. It seems that most patients are pleased with explanations offered by their physicians. Yet, although 52 patients (58%) believed they always understood what the physician said, only 51 (57%) could correctly name their diagnosis.

Differences in patient and physician perceptions about care are critical in addressing problems with health care provision. Lack of understanding of the communication gap between groups decreases the likelihood of providing safe, effective, equitable, patient-centered care. Our results suggest that physicians are not discussing patients' diagnoses and treatment, which would be unexpected, or that patients are not retaining what they are told. Taken together, these data imply that physicians may have to *both* verbally explain diagnoses, medications, treatment plans, and discharge instructions *and* provide visual or written information for patients to have true functional comprehension of these topics.¹⁴ Improvement in health care provision must rely on integration of information technology into daily patient care. Patient-level information given to patients by the physician, printed from a computer at the bedside describing their diagnosis and identifying their physicians, may be a way to reinforce verbal communication between the physician and patient. It may, however, also add another barrier of effective health literacy for some patients. Using pictures or video may also help decrease the communication gap. Studies show that patients have improved comprehension of discharge instructions when they are shown pictographs¹⁵ or videos.¹⁶ Tait et al¹⁷ have already demonstrated that interactive videos improve informed consent.

Limitations to our study should be considered. First, this study occurred at a single institution, and multiple institutional variables may have contributed to our results. Second, the patient population surveyed was older, indigent, and poorly educated compared with the population of the United States as a whole; thus, it may be difficult to generalize our results to other patient populations. Third, the survey instruments, the Picker Patient Experience Survey and the HCAHPS, are designed to be postdischarge surveys. Although HCAHPS can be administered to patients by telephone, we conducted face-to-face interviews as the patient was awaiting discharge instructions. In addition, because the response rate to posthospitalization surveys is low (ranging from 21% to 41%),¹⁸ we opted to conduct the surveys in person while the patient was awaiting discharge. In this way, we were able to capture data from a larger population of patients, including those who may not respond to posthospitalization surveys. Our methods subsequently led to a high response rate. Fourth, physician questionnaires were adapted from validated patient instruments. This was done because, to our knowledge, no instruments exist that directly compare physicians' opinions regarding their care of patients or how patients understand their care with patients' actual opinions. Although our questions have face validity, no reliability testing was performed. Fifth, our study

was not powered to determine differences in secondary outcomes and thus may limit our interpretation of subgroup analyses. Finally, we did not conduct one-to-one patient-physician comparisons; instead, patients were asked about the care they received and physicians were asked about the overall care they provided during that month of service. Because the physicians interviewed were those directly caring for the patients surveyed, their opinions reflected the care they believed their patients received and their understanding of their patients' knowledge.

It has been almost 2 decades since publication of the landmark work on patient-centered care *Through the Patient's Eyes*,¹⁹ a monograph that stressed the need to create a hospital environment where "subjective experience is taken as seriously as more traditional objective data."¹⁹ Our data show that much work still needs to be done to achieve this goal and that implementing the seemingly simple solution of better communication and interpersonal skills on everyone's part continues to be a challenge.¹⁹

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REFERENCES

1. Bartlett EE, Grayson M, Barker R, Levine DM, Golden A, Libber S. The effects of physician communications skills on patient satisfaction; recall, and adherence. *J Chronic Dis.* 1984;37(9-10):755-764.
2. Chang JT, Hays RD, Shekelle PG, et al. Patients' global ratings of their health care are not associated with the technical quality of their care. *Ann Intern Med.* 2006;144(9):665-672.
3. Institute of Medicine. *The Institute of Medicine Report on the Quality of Health Care Crossing the Quality Chasm: A New Health System for the 21st Century.* Washington, DC: Institute of Medicine; 2001.
4. Arora V, Gangireddy S, Mehrotra A, Ginde R, Tormey M, Meltzer D. Ability of hospitalized patients to identify their in-hospital physicians. *Arch Intern Med.* 2009; 169(2):199-201.
5. Makaryus AN, Friedman EA. Does your patient know your name? an approach to enhancing patients' awareness of their caretaker's name. *J Healthc Qual.* 2005; 27(4):53-56.
6. Makaryus AN, Friedman EA. Patients' understanding of their treatment plans and diagnosis at discharge. *Mayo Clin Proc.* 2005;80(8):991-994.
7. Maniaci MJ, Heckman MG, Dawson NL. Functional health literacy and understanding of medications at discharge. *Mayo Clin Proc.* 2008;83(5):554-558.
8. Santen SA, Rotter TS, Hemphill RR. Patients do not know the level of training of their doctors because doctors do not tell them. *J Gen Intern Med.* 2008;23 (5):607-610.
9. Kripalani S, Jackson AT, Schnipper JL, Coleman EA. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitalists. *J Hosp Med.* 2007;2(5):314-323.

10. Calkins DR, Davis RB, Reiley P, et al. Patient-physician communication at hospital discharge and patients' understanding of the postdischarge treatment plan. *Arch Intern Med.* 1997;157(9):1026-1030.
11. Jenkinson C, Coulter A, Bruster S. The Picker Patient Experience Questionnaire: development and validation using data from in-patient surveys in five countries. *Int J Qual Health Care.* 2002;14(5):353-358.
12. Jha AK, Orav EJ, Zheng J, Epstein AM. Patients' perception of hospital care in the United States. *N Engl J Med.* 2008;359(18):1921-1931.
13. Centers for Medicare & Medicaid Services. Hospital Care Quality Information from the Consumer Perspective Web site. <http://www.hcahpsonline.org>. Accessed January 17, 2010.
14. Flacker J, Park W, Sims A. Hospital discharge information and older patients: do they get what they need? *J Hosp Med.* 2007;2(5):291-296.
15. Zeng-Treitler Q, Kim H, Hunter M. Improving patient comprehension and recall of discharge instructions by supplementing free texts with pictographs. *AMIA Annu Symp Proc.* November 6, 2008:849-853.
16. Choi S, Ahn J, Lee D, Jung Y. The effectiveness of Mobile Discharge Instruction Videos (MDIVs) in communicating discharge instructions to patients with lacerations or sprains. *South Med J.* 2009;102(3):239-247.
17. Tait AR, Voepel-Lewis T, Moscucci M, Brennan-Martinez CM, Levine R. Patient comprehension of an interactive, computer-based information program for cardiac catheterization: a comparison with standard information. *Arch Intern Med.* 2009;169(20):1907-1914.
18. Mode adjustment of the CAHPS hospital survey. Hospital Consumer Assessment of Healthcare Providers and Systems Web site. http://www.hcahpsonline.org/Files/Description%20of%20Mode%20Adj_122106.pdf. Accessed May 24, 2010.
19. Gerteis M, Edgman, Levitan S, Daley J, Delbanco TL, eds. *Through the Patient's Eyes: Understanding and Promoting Patient-Centered Care.* San Francisco, CA: John Wiley & Sons; 1993.
20. Suchman AL. Through the patient's eyes: understanding and promoting patient-centered care. *N Engl J Med.* 1994;330(12):873.

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Monsoons crown the Himalayas, India.

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