Published in final edited form as:

Patient Educ Couns. 2011 February ; 82(2): 275–279. doi:10.1016/j.pec.2010.04.015.

Studying Physician-Patient Communication in the Acute Care Setting: The Hospitalist Rapport Study

Wendy G. Anderson, MD, MS^{1,2}, Kathryn Winters, BA³, Robert M. Arnold, MD^{4,5,6}, Kathleen A. Puntillo, RN, DNSc, FAAN⁷, Douglas B. White, MD, MAS⁸, and Andrew D. Auerbach, MD, MPH¹

¹ Department of Medicine, Division of Hospital Medicine, University of California, San Francisco, CA 94143, USA

² Palliative Care Program, University of California, San Francisco, CA 94143, USA

³ School of Medicine, University of California, San Diego, CA 92093, USA

⁴ Division of General Internal Medicine, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213, USA

⁵ Institute for Doctor-Patient Communication, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213, USA

⁶ Institute to Enhance Palliative Care, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213, USA

⁷ Department of Physiological Nursing, School of Nursing, University of California, San Francisco, CA 94143, USA

⁸ Program on Ethics and Decision Making in Critical Illness; Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213, USA

Abstract

Objective—To assess the feasibility of studying physician-patient communication in the acute care setting.

Methods—We recruited hospitalist physicians and patients from two hospitals within a university system and audio-recorded their first encounter. Recruitment, data collection, and challenges encountered were tracked.

Results—Thirty-two physicians consented (rate 91%). Between August 2008 and March 2009, 441 patients were referred, 210 (48%) were screened, and 119 (66% of 179 eligible) consented. We audio-recorded encounters of 80 patients with 27 physicians. Physicians' primary concern about participation was interference with their workflow. Addressing their concerns and building the protocol around their schedules facilitated participation. Challenges unique to the acute care setting were: 1) extremely limited time for patient identification, screening, and enrollment during which patients were ill and busy with clinical care activities, and 2) little advance knowledge of

Corresponding Author: Wendy G. Anderson, MD, MS, University of California, San Francisco, 521 Parnassus Avenue, Box 0903, San Francisco, CA 94143-0903 USA, Tel: 415-502-2399/Fax: 415-476-5020, anderson.wg@gmail.com.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

when physician-patient encounters would occur. Employing a full-time study coordinator mitigated these challenges.

Conclusion—Physician concerns for participating in communication studies are similar in ambulatory and acute care settings. The acute care setting presents novel challenges for patient recruitment and data collection.

Practice Implications—These methods should be used to study provider-patient communication in acute care settings. Future work should test strategies to increase patient enrollment.

Keywords

Physician-patient communication; Hospital; Methodology

1. Introduction

Audio-recording actual physician-patient encounters is a critical method in communication research [1,2], and has helped us to understand communication about medical information [3,4], treatments [5,6], prognosis [7], decision-making [8], and emotions [3,5,9]. Most studies using audio-recorded communication have been conducted in ambulatory settings [1–21]. We conducted an observational study of communication between hospitalist physicians and hospitalized medical patients, a central goal of which was to assess the feasibility of audio-recording physician-patient communication in the hospital. The goal of this paper is to describe our study design, the challenges we encountered in implementing it, and the success with which we addressed them.

2. Methods

2.1 Study design and setting

Cross-sectional observational study conducted on medical services at two hospitals within a university system between August 2008 and March 2009. We audio-recorded the initial (admission) physician-patient encounter and surveyed physicians and patients to assess outcomes of communication (Figure 1).

2.2 Study personnel

Study personnel were the Principal Investigator (PI; WGA) and full-time study coordinator (KW); other authors were mentors. The PI supervised all procedures and recruited physicians. The Study Coordinator screened and enrolled patients and collected data.

2.3 Participants

2.3.1 Hospitalist physicians—Hospitalist faculty scheduled to attend during the data collection period were eligible.

2.3.2 Medical inpatients—Patients were eligible if they: 1) were admitted under the care of a participating physician, 2) had not yet met the physician, 3) were mentally and physically able to communicate about their medical care, and 4) were able and preferred to communicate in English without a translator. We excluded patients who were unable to provide informed consent or communicate verbally (e.g. severe hearing impairment, speech disorder, tracheotomy).

2.4 Participant recruitment

2.4.1 Hospitalist physicians—The PI introduced the study at a regularly scheduled faculty meeting then contacted physicians who did not attend by email and pager to request face-to-face meetings.

2.4.2 Medical inpatients—The Coordinator identified eligible patients as they were assigned to participating physicians and approached them in the emergency department or their hospital room for screening and enrollment. If a patient was unavailable (with medical providers, off the floor, in the restroom, on the telephone, or sleeping), the Coordinator made two more attempts, spaced at least 20 minutes apart, to approach the patient.

The study was approved by the Institutional Review Board at UCSF and physician and patient participants gave written informed consent.

2.5 Data collection and measures

Study measures are communication behaviors [3,5,9–11,16,17,22] and outcomes associated with communication in prior research: anxiety [23,24], concerns [13], satisfaction [22,23,25], and trust [15,26,27]. Figure 1 shows the data collection timeline; Table 1 details the study measures and when each was assessed.

2.5.1 Physician enrollment survey—Five-minute survey completed after enrollment.

2.5.2 Patient pre-encounter survey—15-minute survey completed after enrollment.

2.5.3 Audio-recording of the initial physician-patient encounter—The Coordinator notified the physician of patients' enrollment by text page and placed a reminder sign on the door of patients' rooms requesting that the physician page the Coordinator before seeing the patient. When paged, the Coordinator met the physician at the patient's room and positioned a digital audio-recorder by the patient's bedside.

2.5.4 Physician post-encounter survey—Three-minute survey completed upon exiting the patient's room.

2.5.5 Patient post-encounter survey—15-minute survey completed as soon possible after the encounter. To ensure that responses referred to the audio-recorded interaction, this survey was considered missing if it was not completed within two hours.

3. Results

3.1 Physician recruitment

Thirty-two physicians participated (consent rate 91%); their characteristics are shown in Table 2. Reasons physicians declined participation were: unable after repeated attempts to schedule a meeting with the PI (n=1), concern study would interfere with workflow and patient care (n=2).

3.2 Patient recruitment

Figure 2 diagrams patient, screening, enrollment, and data collection. Of 441 referred patients, 52% (n=231) could not be screened, primary because the patient declined screening (n=109) or was unavailable (n=81). Of eligible patients, 66% (n=119) enrolled; their characteristics are shown in Table 2.

3.3 Data collection

We audio-recorded 80 initial encounters between 27 physicians and their patients. The median number of audio-recorded encounters per physician was 2, range 0–6. Audio-recordings were not obtained for enrolled physicians because the physician did not attend during data collection period (n=1), or none of their patients were eligible or enrolled (n=4). The most frequent reasons we were unable to audio-record enrolled patients encounters were: the physician felt too busy (n=12), and the physician saw the patient before enrollment (n=8) (Figure 2).

We obtained physician post-encounter surveys for all 80 patients whose encounter was audio-recorded and patient post-encounter surveys for 78 (Figure 2). The average time between the patient pre-encounter survey and the encounter was 2 hours, 54 minutes (range 1 minute - 7 hours, 47 minutes). The average time between the encounter and the patient post-encounter survey was 17 minutes (range 3 minutes – 1 hour, 32 minutes). The physician post-encounter survey was collected immediately after the encounter in all cases.

4. Discussion and conclusion

4.1. Discussion

We identified several generalizable challenges in the process of designing and implementing this cross-sectional study of communication in the acute hospital setting.

4.1.1 Physician recruitment—Challenges in recruiting physicians were similar to ambulatory oncology and general practice settings: 1) finding time to meet with physicians, and 2) concern that participating would interfere with workflow and patient care [2,15]. We collected data on the admitting day, when the physicians were most busy, magnifying this concern. Though a few physicians mentioned the concern that audio-recordings could be disclosed in legal proceedings, none cited this as a reason for not participating. Federal Certificates of Confidentiality have been used in other studies to minimize this risk [2].

Steps key to physician recruitment were: 1) scheduling meetings at physicians' convenience, when they were not performing clinical duties, 2) actively eliciting and addressing concerns about the study, and 3) emphasizing that the collected data would be used to define best practices, not to evaluate individuals' skills. Minimizing the study burden for physicians was critical to retention and engendered positive word of mouth, which encouraged other physicians to enroll. We accomplished this by minimizing physician involvement in patient identification and data collection, designing the protocol around physicians' rounding schedule, and only audio-recording one encounter on the first day of participation to allow physicians to become familiar with study procedures. We allowed physicians to opt-out of recording for certain days or patients. This potentially led to recording better than average communication, but increased physicians' positive perception of the study, and only resulted in the exclusion of 6 of 119 encounters.

4.1.2 Patient recruitment—We encountered three primary challenges in patient recruitment, which are unique to the acute care setting: 1) Patient-provider encounters are unpredictable, complicating the goal of advanced patient identification, screening, and enrollment; 2) During time available for screening, patients were occupied with clinical care; and 3) Patients were feeling unwell so may have been less likely to participate. We addressed these challenges by ensuring that the Coordinator could check back with patients who were unavailable when first approached, but still were only able to screen 48% of referred patients. This is in part a reflection of our goal to study communication in the initial physician-patient meeting, which required that patients be enrolled after they were assigned

to but before meeting the physician. Given that many patients in the acute care setting only have one encounter with a provider, this is likely to be a consideration in other studies. We chose to have research staff as opposed to providers recruit patients to: 1) prevent patients from feeling as if their clinical care depended on study participation, 2) ensure that patients rated their physicians' communication honestly, and 3) minimize the study burden for providers. However, past work suggests that having providers approach patients about studies may increase enrollment [2,19].

4.1.3 Data collection—The primary challenge encountered in data collection, also unique to the acute care setting, is that we did not know in advance when the physician-patient encounter would occur. We addressed this challenge by having a dedicated study coordinator who could arrive at a patient's room within five minutes of a physician's page that they were ready to see a patient. We were still unable to audio-record a number of encounters because the physician became too busy to participate or forgot about the study and saw the patient without the Coordinator. We might have increased the audio-recording rate by having the Coordinator round with one physician, however this would have prevented the Coordinator from audio-recording encounters with multiple physicians on the same day and may have increased the study burden for physicians.

4.2 Conclusion

Audio-recording physician-physician patient communication in the acute care setting is feasible yet presents unique challenges in patient recruitment and data collection.

4.3 Practice implications

We hope others will build on these methods to study and improve communication in the acute care setting [28,29]. Future work should focus on strategies to increase patient enrollment and in non-academic settings.

Acknowledgments

We would like to thank the patients and physicians who generously donated their time to participate in this study. The National Palliative Care Research Center funded Dr. Anderson's salary. The University of California San Francisco Academic Senate funded Ms. Winters' salary and the research expenses.

References

1. Carlson LE, Feldman-Stewart D, Tishelman C, Brundage MD. Patient-professional communication research in cancer: an integrative review of research methods in the context of a conceptual framework. *Psychooncology* 2005;14:812–28. discussion 29–30. [PubMed: 16200512]
2. Themessl-Huber M, Humphris G, Dowell J, Macgillivray S, Rushmer R, Williams B. Audio-visual recording of patient-GP consultations for research purposes: a literature review on recruiting rates and strategies. *Patient Educ Couns* 2008;71:157–68. [PubMed: 18356003]
3. Butow PN, Brown RF, Cogar S, Tattersall MH, Dunn SM. Oncologists' reactions to cancer patients' verbal cues. *Psychooncology* 2002;11:47–58. [PubMed: 11835592]
4. Tattersall MH, Attellari M, Voigt K, Butow PN. When the treatment goal is not cure: are patients informed adequately? *Support Care Cancer* 2002;10:314–21. [PubMed: 12029431]
5. Pollak KI, Arnold RM, Jeffreys AS, Alexander SC, Olsen MK, et al. Oncologist communication about emotion during visits with patients with advanced cancer. *J Clin Oncol* 2007;25:5748–52. [PubMed: 18089870]
6. Tulsky JA, Fischer GS, Rose MR, Arnold RM. Opening the black box: how do physicians communicate about advance directives? *Ann Intern Med* 1998;129:441–9. [PubMed: 9735081]

7. Robinson TM, Alexander SC, Hays M, Jeffreys AS, Olsen MK, et al. Patient-oncologist communication in advanced cancer: predictors of patient perception of prognosis. *Support Care Cancer* 2008;16:1049–57. [PubMed: 18196288]
8. Braddock CH 3rd, Fihn SD, Levinson W, Jonsen AR, Pearlman RA. How doctors and patients discuss routine clinical decisions. Informed decision making in the outpatient setting. *J Gen Intern Med* 1997;12:339–45. [PubMed: 9192250]
9. Suchman AL, Markakis K, Beckman HB, Frankel R. A model of empathic communication in the medical interview. *J Amer Med Assoc* 1997;277:678–82.
10. Curtis JR, Engelberg RA, Wenrich MD, Nielsen EL, Shannon SE, et al. Studying communication about end-of-life care during the ICU family conference: development of a framework. *J Crit Care* 2002;17:147–60. [PubMed: 12297990]
11. Curtis JR, Engelberg RA, Wenrich MD, Shannon SE, Treece PD, Rubenfeld GD. Missed Opportunities during Family Conferences about End-of-Life Care in the Intensive Care Unit. *Am J Respir Crit Care Med* 2005;171:844–9. [PubMed: 15640361]
12. Farmer SA, Roter DL, Higginson IJ. Chest pain: communication of symptoms and history in a London emergency department. *Patient Educ Couns* 2006;63:138–44. [PubMed: 16242896]
13. Heritage J, Robinson JD, Elliott MN, Beckett M, Wilkes M. Reducing patients' unmet concerns in primary care: the difference one word can make. *J Gen Intern Med* 2007;22:1429–33. [PubMed: 17674111]
14. Hudak PL, Armstrong K, Braddock C 3rd, Frankel RM, Levinson W. Older patients' unexpressed concerns about orthopaedic surgery. *J Bone Joint Surg Am* 2008;90:1427–35. [PubMed: 18594089]
15. Koropchak CM, Pollak KI, Arnold RM, Alexander SC, Skinner CS, et al. Studying communication in oncologist patient encounters: The SCOPE Trial. *Palliat Med* 2006;20:813–9. [PubMed: 17148536]
16. Levinson W, Gorawara-Bhat R, Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *J Amer Med Assoc* 2000;284:1021–7.
17. Pollak KI, Ostbye T, Alexander SC, Gradison M, Bastian LA, et al. Empathy goes a long way in weight loss discussions. *J Fam Pract* 2007;56:1031–6. [PubMed: 18053443]
18. Roter DL. Observations on methodological and measurement challenges in the assessment of communication during medical exchanges. *Patient Educ Couns* 2003;50:17–21. [PubMed: 12767579]
19. Tulskey JA, Chesney MA, Lo B. How do medical residents discuss resuscitation with patients? *J Gen Intern Med* 1995;10:436–42. [PubMed: 7472700]
20. White DB, Braddock CH 3rd, Bereksnyei S, Curtis JR. Toward shared decision making at the end of life in intensive care units: opportunities for improvement. *Arch Intern Med* 2007;167:461–7. [PubMed: 17353493]
21. White DB, Engelberg RA, Wenrich MD, Lo B, Curtis JR. Prognostication during physician-family discussions about limiting life support in intensive care units. *Crit Care Med* 2007;35:442–8. [PubMed: 17205000]
22. Stapleton RD, Engelberg RA, Wenrich MD, Goss CH, Curtis JR. Clinician statements and family satisfaction with family conferences in the intensive care unit. *Crit Care Med* 2006;34:1679–85. [PubMed: 16625131]
23. Fogarty LA, Curbow BA, Wingard JR, McDonnell K, Somerfield MR. Can 40 seconds of compassion reduce patient anxiety? *J Clin Oncol* 1999;17:371–9. [PubMed: 10458256]
24. Spielberger, C.; Ritterband, L.; Sydeman, S.; Reheiser, E.; Unger, K. Assessment of Emotional States and Personality Traits: Measuring Psychological Vital Signs. In: Butcher, J., editor. *Clinical Personality Assessment: Practical Approaches*. New York: Oxford University Press; 1995.
25. Azoulay E, Pochard F, Kentish-Barnes N, Chevret S, Aboab J, et al. Risk of post-traumatic stress symptoms in family members of intensive care unit patients. *Am J Respir Crit Care Med* 2005;171:987–94. [PubMed: 15665319]
26. Safran DG, Kosinski M, Tarlov AR, Rogers WH, Taira DH, et al. The Primary Care Assessment Survey: tests of data quality and measurement performance. *Med Care* 1998;36:728–39. [PubMed: 9596063]

27. Safran DG, Taira DA, Rogers WH, Kosinski M, Ware JE, Tarlov AR. Linking primary care performance to outcomes of care. *J Fam Pract* 1998;47:213–20. [PubMed: 9752374]
28. Freed DH. Hospitalists: Evolution, evidence, and eventualities. *Health Care Manag (Frederick)* 2004;23:238–56. [PubMed: 15457841]
29. United States Department of Health and Human Services. Hospital Compare - A quality tool for adults, including people with Medicare. 2008 [accessed May 2009]. <http://www.hospitalcompare.hhs.gov>
30. Levinson W, Gorawara-Bhat R, Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *JAMA* 2000;284:1021–7. [PubMed: 10944650]

Figure 1.
Study design

Figure 2.
Flow diagram of patient enrollment and data collection

Table 1

Study measures

	Audio- recorded encounter	Patient		Physician	
		Pre- encounter survey	Post- encounter survey	Enrollment survey	Post- encounter survey
Physician and patient communication behaviors [3,5,9–11,17,22,30]	X				
Anxiety [23,24]		X	X		
Concerns [13]		X	X		
Satisfaction [22,23,25]			X		
Trust [15,26,27]			X		
Patient Diagnosis					X
Patient Prognosis [15]					X
Demographics		X		X	
Education				X	
Attitudes [15]				X	

Table 2

Characteristics of physician and patient study participants

Characteristic	Physicians (n=32)	Patients (n=119)
Age , years, mean (SD)	35 (5)	55 (18)
Gender , % male	44	45
Ethnicity , % Hispanic	3	5
Race , %		
White	62	75
Asian	38	11
Black/African American	0	10
Other	0	4
Years since MD degree , mean (SD)	9 (5)	
Marital status , %		
Married		36
Divorced or separated		20
Widowed		14
Never married		29
Patient education , %		
Eighth grade or less		1
Some high school		2
Completed high school or GED		19
Some college		33
Completed college		21
Graduate school		25
Encounter location , %		
Hospital A (Attendings and trainees)		83
Hospital B (Attendings only)		17