Published in final edited form as:
Med Care. 2011 June ; 49(6): 592–598. doi:10.1097/MLR.0b013e31820fb71b.

Which Patients, and Where: A Qualitative Study of Patient Transfers from Community Hospitals

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Abstract

Background—Interhospital transfer of patients is a routine part of the care at community hospitals, but the current process may lead to sub-optimal patient outcomes. A micro-level analysis of the processes of patient transfer has not previously been performed.

Research Design—We carried out semi-structured qualitative interviews with care providers at 3 purposively sampled community hospitals in order to describe patient transfer mechanisms, focusing on perceptions of transfers and transfer candidates, choice of transfer destination, and perceived process. We interviewed physicians, nurses and care technicians from emergency departments and intensive care units at the hospitals, and analyzed the resultant transcripts via content analysis.

Results—Appropriate triage and transfer of patients was a highly valued skill at community hospitals. Based on participant accounts, the transfer process had four components: (1) Identifying Transfer-Eligible Patients; (2) Identifying a Destination Hospital; (3) Negotiating the Transfer; and (4) Accomplishing the Transfer. There were common challenges at each component across hospitals. Protocolization of care was perceived to substantially facilitate transfers. Informal arrangements played a key role in the identification of the receiving hospital, but patient preferences and hospital quality were not discussed as important in decision-making. The process of arranging a patient transfer placed a significant burden on the staff of community hospitals.

Conclusions—The patient transfer process is often cumbersome, varies by condition, and may not be focused on optimizing patient outcomes. Development of a more fluid transfer infrastructure may aid in implementing policies such as selective referral and regionalization.

Interhospital patient transfers are a routine and essential part of the care of many patients, both from the Emergency Department (ED) (1–3) and the wider hospital. Even among critically ill patients admitted to an intensive care unit (ICU) in the US, nearly 1 in 20 will be transferred to another hospital's ICU, (4, 5) and transfers are similarly common in the UK. (6, 7) Transfer rates for patients with acute myocardial infarction (AMI) admitted to community hospitals approach 50% in the US. (8, 9) Transfers occur because capacity, capabilities, and expertise are unevenly distributed between hospitals. The transfer system is routinely assumed to be an available infrastructure that can be used easily. Indeed, a smoothly functioning transfer system is assumed in an array of common health policies, from disaster management for individual hospitals to health care reforms such as selective referral. (10, 11)

Despite the potential importance of transfers, existing transfer patterns appear suboptimal. Both the American Heart Association and the American College of Surgeons have programs to correct perceived failures in the identification of patients who would benefit from transfer

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and the speed with which those transfers are carried out. (12–14) Well-validated and highly publicized quality measures have been developed for AMI care, partly to facilitate selective referral of patients to hospitals with better outcomes. (15, 16) However, these quality measures seem to have little influence over the hospitals to which AMI patients are sent. (17) Nevertheless, once a patient has been identified and a transfer destination secured, there exist guidelines on the medical procedures of transfer (18–29)—and individual transfers appear safe (30, 31).

There has been little attention paid to the process generating existing transfer patterns. The existing work has been particularly silent on how a transfer destination is selected. (32) This process occurs within the community hospitals that initiate transfers. (33) Therefore, we conducted a qualitative study of nurses and physicians at community hospitals to ascertain their perspectives on the process of interhospital patient transfer. Given the absence of an existing literature on this topic, we interviewed practitioners in both ICUs and EDs at community hospitals to map the process of patient transfer.

METHODS

We conducted a series of semi-structured in-depth interviews at 3 community hospitals focused on 3 issues: 1) perceptions of transfers and transfer candidates; 2) choice of transfer destination, and 3) perceived process. Because little was known about the patient transfer process from the perspective of sending hospitals, this research was exploratory. Qualitative methods were used to uncover these processes from the "ground up," provide a description of the process of transfers as understood by participants at each research site, and to generate hypotheses. (31)

Interview Methods

All interviews were conducted by a medical sociologist, using a semi-structured interview guide. This guide used open-ended questions, and was developed after a review of the literature, in collaboration with experts in health services research, health care informatics, and practicing physicians and nurses. It was refined through pilot interviews with physicians with significant experience at community hospitals. (34) The interviewer probed explicitly about areas of interest, such as the role of hospital characteristics in determining where a patient was transferred. Interviews were conducted in-person at each of the 3 sites. Interviews ranged from 30 minutes to 2 hours.

Participants

We conducted interviews at EDs and ICUs in 3 hospitals intentionally sampled to represent the geographic and administrative diversity of community hospitals—non-teaching hospitals that regularly transferred patients for common conditions. None of these hospitals had a cardiac catherization laboratory, and routinely transferred AMI patient for primary percutaneous interventions rather than treat with thrombolytics. Further details about the sites are presented in Table 1, using data drawn from the 2008 Centers for Medicare and Medicaid Services (CMS) Healthcare Provider Cost Reporting Information System, and the 2008 MedPAR files for inpatient admissions. (5)

Within each hospital, we used a snow-ball sampling method to recruit participants within hospitals. We arranged initial interviews with nurses and physicians working in the ED and the ICU who would be involved in transfers, beginning with the initial help of the medical or nursing director at each site, who generally referred us to the charge nurse for a given shift. Typically we were able to interview all staff in a unit during the shifts where we visited. Interviews were conducted with 28 key actors in the transfer process including ED and ICU

nurses, physician, patient technicians, and patient clerks. (See Table 2.) One exception to this sampling strategy occurred at Site 1, where there was only one attending physician in the ICU; the attending, who is only present from 9 a.m. to 5 p.m., did not consent to be interviewed. Interviews were continued until content saturation was reached – that is, until no new themes emerged from further interviews. (35–38) Interviews were audio-taped and transcribed to facilitate analyses.

Data Analysis

We used content analysis to determine the major themes present in the interviews. Using the semi-structured interview protocol as a guide, open coding was conducted with individual transcripts using NVivo qualitative data analysis software. We then developed initial concepts and categories that reflected salient and recurring themes in the data. After the coding of each individual interview, transcripts were clustered by hospital in order to search for hospital-specific patterns. During the coding process, researchers developed memos to critically reflect on the themes uncovered in the analysis. Two coders worked independently to ensure the maximum number of themes had been identified. Disagreements between coders were resolved through discussion until a consensus was reached. (35, 39, 40) We initially expected that distinct themes would emerge from respondents in the ICUs and the EDs; our data did not support such a distinction, and so we report those results together.

RESULTS

Transfers were viewed as a core part of the work at community Emergency Departments and Intensive Care Units. Since transfers were a frequent occurrence, being an effective care provider in a community setting necessitated the ability to quickly identify patients that required more intensive care. Efficiently identifying which patients needed to be transferred enabled physicians and nurses to attend to the patients that their hospital was equipped to treat. Describing this dynamic, one nurse reported: “We always like when we’re transferring people because we’re saving beds for the other 10 patients that are waiting here in the ED. Everybody we transfer out is another bed that we have for an ED patient.”

Our analyses revealed that the transfer process contained four distinct components, as outlined in Table 3. These components were common across all sites, both ED and ICU. At all sites, protocolization of certain specific conditions simplified these challenges, but also served as a contrast to highlight the problems faced in the care of the large majority of non-protocolized patients. Patients did not always flow unidirectionally through the processes—most prominently, challenges in negotiating the transfer might force the identification of a new destination hospital.

Identifying Transfer-Eligible Patients

For patients who presented with a select set of conditions, highly protocolized care was in place to rapidly determine whether these patients needed to be transferred, and if so, the transfer destination. Respondents at all three hospitals noted with pride that new protocols designed to identify patients presenting with chest pain had streamlined the process for determining which patients are transfer-eligible, particularly focusing on the rapid identification of ST-elevation acute myocardial infarctions (STEMI). All hospitals reported similar routines, such as one nurse described:

> If they walk in the door up front and they’re complaining of chest pain, we immediately take them by wheelchair to [a room]. Usually have 2–3 staff that will come in [to] immediately get them set up for an EKG. Everybody is simultaneously putting them on oxygen, getting aspirin, monitoring [the patient] and getting the EKG in the doctor’s hands within ten minutes. Once the doctor’s seen the EKG,

> they usually are on the phone to get them transferred straight to the Cath lab [at another hospital].

In contrast, respondents were less able to articulate the way in which patients with a non-protocolized condition are identified as candidates for transfer. Patients were primarily designated for transfer because the hospital did not have the capacity to either treat the condition itself or complications that might arise from treatment. Yet, the identification process could be fraught with ambiguity or disagreements. ED physicians described often being caught between local admitting services' refusal to accept their patient and the receiving hospital's belief that the patient should not be transferred. An ED attending described a common situation:

> [For MIs] it's more cut and dried because we don't have a cath lab, so if somebody's actively having an MI, we can't do anything for them, they have to get out of here. Other things are more subtle, because our doctor might think it's okay for them to be admitted [here] but the admitting doctor [does not] want to take the patient because they think [she] is too complicated [or] there may not be an ICU bed.

There is some evidence that the patient identification process considered non-medical issues in identifying candidates for transfer. At 2 sites, regardless of the nature of their condition, patients with a select insurance plan had to be transferred to the plan's designated hospital. It was also suggested that a patient's age was used as a criteria for assessing whether a patient is a candidate for transfer, with less aggressive care for older patients and vigorous transfer efforts for unusually young patients.

Identifying a Destination Hospital

Protocols at 2 of the 3 hospitals dictated the particular hospital to which patients with protocolized conditions would be transferred—direct links to specific cardiac catherization labs for patients with ST-elevation AMIs were an example. For patients who did not fall under such protocols, institutional arrangements routinely dictated the hospital to which a patient transfer would first be attempted, but the nature of those arrangements varied. At Site 1, formal ownership dictated that nearly all transfers were sent to the owning hospital—and there was explicit discussion of "keeping the monies in the family." A nurse described the selection of a receiving hospital this way: "If it can't be done here, then we're a feeder hospital to the hospital" which owns Site 1. In contrast, despite recently-established formal ownership at Site 2, patients were routinely transferred to two proximate tertiary care hospitals without clear preference—but primarily to those two hospitals. At Site 3, a referral center had actively cultivated a relationship as a receiving hospital within a broader quality improvement agenda. While that quality improvement work nominally focused on only a single condition, the relationship extended broadly whenever a transfer for any condition was needed. A nurse described the fidelity to the receiving hospital of choice:

> I mean we choose between [Referral Site A] and then [Referral Site B] but really… we're basically straight to Site A… If it was emergent and Site B could handle this and they could get there quicker for some reason, we would definitely do that if it wouldn't, you know, hinder care, but 99% of the time, 99.9% of the time, it's Site A.

In the face of such routinization, we found little evidence that patient-centered factors played a decisive role in the hospital selection process for either protocolized or unprotocolized patients. Patient preferences and pre-existing doctor-patient relationships were offered cursory—if any—discussion. There was no discussion in any interview of the comparative quality of care at different hospitals to which the patient might be referred, despite explicit probing about the role of quality indicators and other hospital characteristics

in the choice of transfer destination. As noted above, a patient's insurance could play a determining role in where the patient was transferred—and insurance was sometimes seen as slowing the process of a necessary transfer or as routing the patient to a more distant, but not necessarily better, hospital.

Of course, not all transfer requests were accepted—although participants asserted that this was for only a small minority of patients.

Negotiating the Transfer

For the patients with indications for transfer that were protocolized, those protocols typically included a simple process for insuring that the patient was accepted in transfer by a designated hospital. In contrast, for transfer indications that were not well protocolized, an important part of the transfer process was negotiating whether or not the patient actually needed to be transferred. This typically occurred between medical staff, and was frustrating and time consuming. An illustrative example is quoted at length as Figure 1. Frankly put, community hospitals routinely needed to convince the accepting hospitals that the patient was not a "dump" (a transfer of patient who could be appropriately cared for at the community hospital)—with the frequent implication that community hospitals were being lazy or inept.

Before such a negotiation could occur, however, an accepting physician needed to be identified. Often this task could not be delegated to clerical staff at the community hospital —the clerical staff at the potential receiving hospital required detailed clinical information before they would contact their own medical staff. Staff complained of personally waiting on the telephone, as they were required to speak directly with physicians at the receiving hospital site to ensure acceptance for their patient.

Common to all sites is a discrepancy between bureaucratic and clinical expectations for a "timely" response. A ten or fifteen minute delay between returning phone calls or requests for information may meet standards for being highly responsive in many settings. However, with an acutely unstable patient, such delays were reported to be profoundly challenging for the health care providers. An Emergency Physician described her role in caring for patients in need of transfer as often waiting by the phone to ensure that all the information was given to make the transfer possible—rather than being at the bedside of the patient so sick they needed more intensive care.

Accomplishing the Transfer

After a patient was accepted for transfer, community hospitals still faced at least 3 barriers to actually getting the patient to the receiving hospital.

All sites reported conflict with the Emergency Medical Service (EMS) transfer teams, as well as difficulties with the availability, timeliness and skill level of ground transportation systems. A nurse complained that patients "can sit here for 45 minutes waiting for us to … get the helicopter here, to find the MICU [ambulance]." Basic EMS teams often had policies or practice against the transport of patients with who were perceived to be unstable, despite the fact that such instability might be the thing that required transfer – and providers belief that such transport would be safe. Advanced EMS teams were seemingly in short supply. Aeromedical transfer was sometimes used because the crews were perceived to be more likely to transport the critically ill patient, rather than some specific aeromedical need.

Once a receiving hospital was arranged, patients needed to be converted to dosings and medications acceptable to the receiving hospital. These included not only vasopressors, but antihypertensives, anticoagulants, and antiplatelet agents. Site 3 had protocolized these

regimens as part of the acceptance processes for STEMI, and nurses noted that "that really helped, having everything just be laid right out for you," particularly given the time pressures of many transfers.

Finally, all the information compiled by the sending hospital needed to be rapidly transmitted with the patient—a process made more difficult by a lack of interoperable electronic medical records. At these sites, transfer involved extensive photocopying of documentation. Although usually undertaken by administrative staff, this often took substantial input from nurses and physicians.

DISCUSSION

Interhospital patient transfers are a routine part of hospital care, but have been subjected to little systematic research. While interhospital transfer processes have often been taken for granted in health policy circles, our data revealed a multi-component process requiring substantial work beyond identifying patients who may benefit from transfer. Identifying a destination hospital and successfully transporting the patient to that hospital entail overcoming significant interorganizational friction. Put another way, there are substantial transaction costs in the process, difficulties that prevent wide-spread search for optimal individualized patient care. Paradoxically, the difficulties of transfer do not seem to be driven by the medical complexities or wishes of patients, per se. Instead, the transaction costs appear to come from an incompletely developed system. Notably, our data suggest that the magnitude of these transaction costs might be reduced by protocolization of certain complaints at referring hospitals in partnership with particular destination hospitals. Moreover, it is possible that more effective deployment of health information technology could reduce some of the transaction costs inherent in patient transfers. Consequently, further development of the transfer system may offer important benefits to patients and increase the feasibility of important health policy interventions.

Our results revealed a consistent transfer process followed by providers of the transfer process. In contrast to our initial expectations, this process showed little difference between ED and ICU patients at these small hospitals. This process model – previously undescribed in the literature – offers a framework within which to examine the potential impact of national-level policy efforts (*e.g.*, selective referral based on objective quality data) and local quality-improvement efforts.

The underdevelopment of the current transfer system neglects an opportunity to improve quality of care. For example, recent Medicare data suggest that the AMI patients are rarely transferred to the nearby hospital with the lowest "Hospital Compare" mortality rate. (17) Systematically transferring patients to the nearby hospital with the lowest published mortality rate might meaningfully improve AMI outcomes, even considering the very substantial uncertainty in those published rates. (17) Quantitative analysis showed that transfer decisions tend to emphasize proximity over hospital quality. The present interview data suggest that destination hospitals are rarely chosen on an explicit basis of the hospital best able to serve a particular patient's needs. Instead, processes established without clear regard to patient outcomes appear to drive the choice of hospital.

The aforementioned transaction costs may limit the potential impact of improved hospital quality information on patient outcomes. The data suggest that at the point-of-care, there is little opportunity for public reporting of quality to result in different decision-making. If there is no decision-maker considering hospital quality at the point of transfer, then such information can only act through formal contracting or competition-for-reputation—and consumer choice for such big-ticket items as AMI care or critical illness does not seem to

occur at the time of transfer. This may explain some of the difficulty in demonstrating a compelling effect of quality information. (41–43) (Second-order feedback effects of information on hospital relationships over longer time frames cannot be ruled out by this data, of course—but we found no evidence of them.)

A maintained assumption in hospital choice literature is that there is a well-functioning infrastructure to support interhospital patient transfers. For example, Dy *et al.*'s early study of the transfer process includes little about how a destination hospital is chosen, nor how the transfer is actually accomplished. (32) In such an idealized world, patients seamlessly move to the destination hospital of their (and their physicians') choice. An analogy might be drawn between this idealized transfer process and internet routing protocols. Internet technologies provide simple rules for standardized handling of data packets in ways that require little of each of the distinct computer networks that make up the internet. The transfer process has been assumed to function similarly, unproblematically binding together the distinct hospital care networks into a broader health care system. In marked contrast, the patient transfer infrastructure is currently cumbersome, with little fluidity. Indeed, we appear to be a long way from being able to regard the transfer system as a universally mature infrastructure that fully prioritizes the needs of ill patients.

The data presented in this manuscript have limitations that need to be considered. Our data were developed using rigorous qualitative techniques in order to ascertain a range of perspectives on the transfer process; these techniques are not appropriate for determining the relative rates of any particular theme that was observed. We conducted interviews at intentionally chosen community hospitals in diverse settings; however, additional perspectives may be present in other settings and from other respondents. As other authors have interviewed patients, (32) our study focused on care providers. We also heavily interviewed nurses, given the prominent role they play in patient care at community hospitals. Complementary data from direct ethnographic observation and other providers would be of use to examine the extent to which actual behavior varies from the self-reported models of behavior examined here, and to address other issues of interest, such as which practitioners are particularly influential in decision-making.

In sum, we found that the process for transferring patients between hospitals could be divided into 4 distinct components, outlined in Table 3. Each institution at which we interviewed staff had streamlined the process of transfer by protocolization for some patients, a fact which highlighted the substantial difficulties in accomplishing even routine transfers for non-protocolized patients. The transfer process appears to have been overlooked in practice as an opportunity for improving the care of patients, even as an idealized version of the system undergirds important health policy recommendations. Efforts to increase the ease of transfers, and improve their effective integration with policy and quality improvement initiatives, may offer substantial benefits.

Acknowledgments

This work was supported by 1K08HL091249-01 from the NIH/NHLBI and by the Office of the Vice President for Research of the University of Michigan. We are grateful to Sarah Krein and Barbara Haas for their insightful comments.

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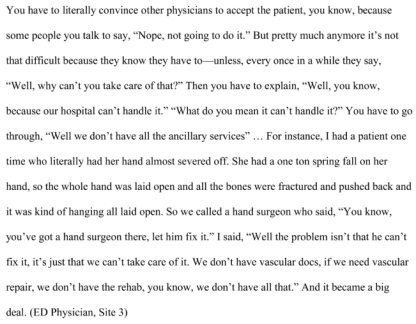

Figure 1. Report of Challenges of Negotiating a Transfer

Table 1

Characteristics of 3 Sites.

	Site 1	**Site 2**	**Site 3**
Setting	Urban	Suburban	Rural
Relationship to Tertiary Care Center	Long-standing ownership by tertiary care center	Recently purchased, not clinically integrated	Independent
Teaching Hospital	No	No	No
Cardiac Catheterization Facilities	No	No	No
Hospital Beds (Not Critical Care)	74	69	57
Critical Care Beds	16	6	3
Payer Mix: % Medicare (of inpatient days)	62%	28%	38%
Payer Mix: % Medicaid (of inpatient days)	5%	1%	1%
% of Medicare Transfers to Most Common Transfer Hospital, as defined in (5)	68%	71%	87%

Table 2
Roles of Respondents at 3 Interview Sites

We also interviewed a coordinator who worked closely developing transfer protocols with one of the sites.

Staff	Site 1	Site 2	Site 3
Nurses	8	6	7
Physicians	0	1	2
Patient Technicians & Clerks	0	2	2

Table 3

Key Components and Recurrent Issues in the Transfer Process [a].

Components	Recurrent Issues
Identifying Transfer-Eligible Patients	Protocolized vs. Unprotocolized Chief Complaints[b]
	Hospital Capabilities for Treatment
	Hospital Capabilities for Possible Complications
	Insurance-Mandated Moves
	Patient Age, Demographics
Identifying a Destination	Existing Institutional Relationships
	Routinization
	Insurance-Mandated Moves
	Quality & Proximity of Destination Hospital
	Patient Preferences
	Pre-Existing Patient/Doctor Relationships
Negotiating the Transfer	"Is this a dump?"
	Contacting the Receiving Physician
	Timeliness of Phone Calls
Accomplishing the Transfer	Transportation Difficulties, including EMS Policies for Unstable Patients
	Synchronizing the Medications
	Processing the Paperwork

[a] Patients did not necessarily progress unidirectionally through the processes, since they were, to a degree, interrelated.

[b] "Chief complaint" is a medical term for the patient's most prominent reason for seeking care, framed in the patient's own words.