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Disconnection in Information Exchange During Pediatric Trauma Transfers: A Qualitative Study

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Abstract

Pediatric patients experiencing an emergency department (ED) visit for a traumatic injury often transfer from the referring ED to a pediatric trauma center. This qualitative study sought to evaluate the experience of information exchange during pediatric trauma visits to referring EDs from the perspectives of parents and referring and accepting clinicians through semi-structured interviews. Twenty-five interviews were conducted (10 parents and 15 clinicians) and analyzed through qualitative thematic analysis. A 4-person team collaboratively identified codes, wrote memos, developed major themes, and discussed theoretical concepts. Three interdependent themes emerged: (1) Parents' and clinicians' distinct experiences result in a disconnect of information exchange needs; (2) systems factors inhibit effective information exchange and amplify the disconnect; and (3) situational context disrupts the flow of information contributing to the disconnect. Individual-, situational-, and systems-level factors contribute to disconnects in the information exchanged between parents and clinicians. Understanding how these factors' influence information disconnect may offer avenues for improving patient–clinician communication in trauma transfers.

Keywords

pediatric trauma, information, transfer

Introduction

Ineffective communication among health care providers has been recognized as a major contributor of poor care outcomes, including delayed treatment, medication errors, patient injury, and death (1-4). For this reason, extensive efforts have been made to mitigate miscommunications in the health care setting (5). While prior research focused largely on clinician–clinician communication (1,5-7), the importance of effective communication among patients, families, and clinicians has risen to prominence in the past 2 decades (8-12).

For pediatric patients, parent and guardian (hereafter referred to as "parents") communication with clinicians impacts patient safety, parent experience, and hospital utilization (9,13-15). Unfortunately, communication challenges not only exist, but the awareness of these problems among clinicians is limited. For example, parents of hospitalized children report receiving conflicting or delayed information at 4-fold higher rates than physicians report (8).

Designing health care delivery practices that improve parent–clinician information exchange is not only important during hospitalizations, but also during transitions of care such as the hospital-to-home discharge process or the hospital-to-hospital transfer process (16-18). Pediatric interfacility transfers for nontrauma, general pediatric patients can involve misinformation, omission of information, and outdated information (19). Clinicians and patients often disagree about the reasons for transfer (20), resulting in dissatisfaction, patient safety events, and unnecessary transfers and thus burdens to the patient and family (21-23).

The recognized challenges experienced during interfacility transfers are potentially exacerbated for injured pediatric

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patients, because trauma emergency department (ED) visits, such as motor vehicle accidents or falls, are inherently acute events that can have high illness severity. Research focusing on parent–clinician information exchange during pediatric trauma transfers is particularly important, because these transfers are increasing in frequency as pediatric trauma care to level I trauma centers becomes more regionalized (24). There has been limited assessment of patient and family experiences and information exchange in this context; prior studies focused on longer-term, post-traumatic stress in parents (25,26) or the information exchange challenges experienced by adults after a trauma (27). Research is thus needed to fill this knowledge gap about information exchange during pediatric trauma transfers. We therefore conducted a qualitative study to examine the dynamics of information exchange during pediatric trauma visits to referring EDs from the perspectives of parents and clinicians.

Methods

Study Design

We conducted a qualitative study using semi-structured interviews and qualitative thematic analysis (28,29). Qualitative methods were chosen as a way to gather information on the perceptions and experiences of patients and clinicians (i.e., their lived experience). Thematic analysis provided a method to identify patterns and create an overall narrative for our findings. To inform the development of the interview guides, we reflected on study team members' experiences with transfers, and reviewed the literature (25,26,30-32). The initial interview guides (Appendix 1 and 2) were revised as data were analyzed and new themes emerged. Interviews were conducted by a graduate-level researcher trained in qualitative methods (HSF) via phone or Zoom (San Jose, CA) and were audio recorded and professionally transcribed verbatim. The transcripts were reviewed for accuracy by the interviewer. Participants provided verbal informed consent and received a $50 gift card.

Study Population

Parents of children who experienced a trauma were included if their child was initially taken to a rural or nonchildren's ED within the past 10 years. Clinicians were included if their primary clinical role involved caring for pediatric trauma patients at either a referring ED or accepting pediatric trauma facility. Clinicians included physicians (and residents), nurses, and nurse practitioners (NPs). All clinicians from the accepting pediatric trauma facility represented a single site. Eligible participants were 18 years and older and English speaking.

We began with convenience sampling (33), including referrals from study team members, to recruit the initial sample. We then used purposive sampling (34) to identify additional participants to expand our sampling groups and further explore topics that arose in the initial interviews. Sampling continued until thematic saturation (35) was reached. Interviews were conducted October 2020-January 2021. Demographic information, including sex, age, role, and years of professional experience, was collected during interviews.

Setting

The accepting facility represented in this study is a level I adult and pediatric trauma center with a 121-bed children's hospital. The hospital is a quaternary care center located in Northern California and is the referral center for many children across a 33-county region covering 65,000 square miles and serving approximately 6 million people (36).

At the time of this study, the process for pediatric trauma transfers to the accepting pediatric trauma facility involved the referring hospital ED clinician calling the accepting facility's transfer center, connecting with the accepting facility's trauma surgeon for a brief description of the case, recommendations as necessary, and transfer of the patient for definitive care. Once the patient arrived to the trauma facility, they were evaluated by the trauma team, which included trauma NPs, as well as ED physicians, ED nurses, and subspecialty residents (eg, orthopedic surgery residents and neurosurgery residents).

Data Analysis

Data collection and analysis occurred concurrently. We used a deductive and an inductive thematic analytic approach (28,29). Four researchers independently coded and wrote memos reflecting on the transcripts. The iterative process included the following steps: (1) individual open-coding of the first 3 interviews, whereby investigators independently identified both predetermined codes identified in literature searches and prior experiences (eg, family experience, parental anxiety, cost) as well as unanticipated codes that emerged from the transcripts (eg, risk mitigation, complexity of transfers, disorientation); (2) meeting to discuss application of initial codes, discuss the identification of new codes, and generate the initial codebook; (3) individual analytic memo-writing and focused coding of subsequent 2-5 transcripts using identified codes while remaining open to new emergent codes; (4) continued meetings to compare codes, work through discrepancies to reach consensus, refine dimensions of existing codes or add new codes, develop tentative concepts and categories using constant comparisons, and examine the data for patterns and variations; and (5) final review to develop tentative hypotheses about relationships among categories, revisit prior transcripts in search for negative and qualifying evidence, and identification of theoretical direction. The process was repeated until the full group agreed thematic saturation (35) was reached and we had critically evaluated the themes to understand the full range of variation in the phenomena. Additional data validation

Table 1. Participant Characteristics.

	N (%)
Sex	
Male	10 (40)
Female	15 (60)
Age, years	
25-34	5 (20)
35-44	14 (56)
45-55	6 (24)
Role	
Parent	10 (40)
Referring emergency department nurse	3 (12)
Referring emergency department physician	4 (16)
Accepting trauma nurse practitioner	3 (12)
Accepting physician	5 (20)
Years in profession	
N/A (parents)	10 (40)
0-4	6 (24)
5-10	3 (12)
10+	6 (24)

occurred through investigator triangulation (37) in order to help guard against bias.

The research team consisted of an inpatient pediatrician (JR), a PhD sociologist (SH), a research manager (HSF), and a research analyst (JA). Three investigators (JR, SH, HSF) had extensive qualitative research experience. A fifth researcher and pediatric critical care specialist (JM) reviewed the final themes to verify and validate the interpretations of the data. We used Dedoose (38) to organize coding and data analysis. The local Institutional Review Board approved the study (IRB# 1623227).

Results

We conducted 25 interviews, which ranged from 20-40 min in length. Participants included parents (N = 10), referring ED nurses (N = 3), referring ED physicians (N = 4), accepting physicians (N = 5), and accepting trauma NPs (N = 3). Characteristics of participants are provided in Table 1.

Through a review of the data, we found there were challenges in the way information was exchanged between parents and clinicians. These challenges often led to an information deficit which was detrimental to parents' and clinicians' experiences. Within these overarching findings, we identified the lack of information corresponded to a broader disconnection that was exacerbated by individual-level experiences, system-level arrangements, and situational dynamics. These 3 themes are explored below and in Table 2.

Theme 1: Parents' and Clinicians' Distinct Experiences Result in a Disconnect of Information Exchange Needs

During pediatric trauma ED encounters, parents and clinicians had very distinct experiences of the event and setting, which often led to a disconnect between the information expected and received. For most of the parents, their child's injury and subsequent ED visit was perceived to be a sentinel event. Even if the injury was not clinically categorized as severe, the experience was significant to the parent. Parents often described the setting as disorienting and reported being too overwhelmed to process much information. Within this disorienting and chaotic setting, parents described focusing on big picture information, such as whether their child would be okay and when the child would be well enough to return home.

In contrast, clinician participants' perspectives on pediatric trauma events were shaped by the fact that these events had become routine to them; this finding was especially true among accepting clinicians. Clinicians focused on strategic and instrumental information exchange among other clinicians, often leaving parents out of the conversation. Additionally, the information they did exchange with parents was often more tentative than parents expected. This heightened the disconnect between the information that parents wanted and/or were able to receive and the information that clinicians delivered. When probed on how they or their colleagues shared information with parents, some clinicians recognized that parents had different abilities to receive and process information but acknowledged that this recognition did not always lead to changes in the way they communicated information to parents.

Importantly, this disconnect was amplified when clinicians did not include parents in shared decision making. Participants explained how decisions were often made solely by physicians and subsequently relayed to the parents; this exacerbated the information exchange disconnect, given that parents often did not feel they had opportunities to raise questions or concerns. Included among these reported information exchange challenges were numerous examples of information disconnects related to the need, mode and timeline of transfer transport, especially helicopter transfers. Even though parents acknowledged being overwhelmed, they reported wanting to be presented with options when possible, instead of decisions being made and then relayed to them.

In cases where shared decision making occurred, it improved communication and decreased disconnects. Some accepting clinicians reported that the interactions with parents were improved when the parents had been generally informed of the plan and given time to ask questions. For example, one neurosurgery resident (ID 7) said: "It has been really helpful when someone [from the transferring site] has given [the parent] at least a broad explanation of what's going on, so then they're not completely shocked by it… They're already kind of ready for that rather than, '….They just said we had to come here. I don't know what's going on.'"

Theme 2: Systems Factors Inhibit Effective Information Exchange and Amplify the Disconnect

Many clinicians discussed system-level factors that inhibited their ability to effectively exchange information with parents.

One system-level factor that almost every clinician mentioned were informal and formal institutional policies and procedures. For example, most of the referring ED physician participants indicated that their hospital rarely, if ever, kept patients with traumatic injuries who needed more than simple treatment in their ED before being discharged home. While some referring physicians expressed willingness to treat some pediatric trauma patients, they acknowledged that it was not standard practice at their ED, especially because they often did not have pediatric surgeons or subspecialists, such as orthopedic surgeons or neurosurgeons, who would treat children. Referring clinicians, in general, deemed such pediatric trauma transfers as appropriate, although unfortunate, given their ED's limited resources. Accepting clinicians also acknowledged that some children were transferred unnecessarily, but that the practice of their pediatric trauma facility was to accept everyone; accepting physicians noted they would never consider denying a patient transfer. However, rarely were these informal institutional policies communicated to the parents. In some

Table 2. Themes with Representative Quotes.

Theme 1: Parents' and clinicians' distinct experiences result in a disconnect of information exchange needs
The gal who was going to take us out to the waiting area, it was almost like she was surprised. She was like, "Oh my god are you okay?" I'm like, "No! I'm not okay. This is horrible. This is terrible." I think there's just a culture – and I get why it is – but I think there's a culture that gets built into medicine because that's what people are doing all day every day that they sometimes forget how incredibly stressful that moment is for the people who are experiencing it. [Parent, ID 12]
I'm sure he [the surgeon] told us what they had to do, but I was like, "Okay. When will we get to go home?" I was looking for more information. "When do we get to come home? What are the next steps?" He was just like, "I can't tell you that right now. I've got to go" and went back. It was very – even after the surgery was done and a social worker and the chaplain took me in a room to meet with him, he was very like, "This is what happened," and not like – I was looking for the answer of is she going to be okay, what's this going to look like now, what's happening now. He's just like, "I can't tell you that. I can't tell you that. I can't tell you." It was very – he seemed almost annoyed that I wanted to know what was going on. [Parent, ID 8]
It's kind of like when the kid gets there, and the parent gets there, you know, I — I feel like speaking with my colleagues everyone's kind of like, "It's not a big deal, it's not chaotic. We do it very calmly." But in reality, I don't think that's the truth. I think it's kind of like it's — it is odd. The parents aren't used to this kind of situation. They've never done it before. So, it's very weird for them. [Trauma NP, ID 25]
We've tried to do that [send patients in a personal vehicle] a couple of times and have had the consult be, "No, absolutely not. They have to come, and that goes by air." And at that point, then we just talk to the family like, we talked to the specialist. They're the experts in this field. They don't feel safe with you driving down there because they're worried for XYZ reasons, decompensation or whatever. And they recommend transport and I can't argue with that, because this is their recommendation and I have to abide by that. [Referring ED Physician, ID 3]
When they first told me [we were being transferred], it just kind of sounded like that was the way it was going to be and that was what we had to do kind of thing. I mean, I know we could have probably just taken her home, but I was like, "Okay, I don't understand exactly why we're going or what's happening." [Parent, ID 22]
Theme 2: Systems factors inhibit effective information exchange and amplify the disconnect
And I think that's a good thing that we're [pediatric trauma facility] so open, we take everybody. But I don't think there's often like a huge dialogue. [Trauma NP, ID 5]
[O]ccasionally we'll have someone get transferred over who is either brain dead or neurologically devastated to the point where there's nothing really, we can do. The family has been told, "Oh, we're going to send you to [pediatric trauma facility]. They're going to help you. Don't worry. They're the experts." They come all very hopeful…. Then, we walk in, and after our exam and we discussed imaging, we say, "I'm sorry, but there's just nothing we can do. [The family] gets very upset that they were kind of told different things. That can be a very difficult situation. [Neurosurgical resident, ID 7]
The Transfer Center usually requests that the images be placed in our outside server, so that we can view them beforehand. It doesn't work very smoothly, and I'm not sure like why, and I've asked a bunch of times, why can't this work more smoothly? We have the ability to have images placed, and we should be doing that for every patient. [Trauma NP, ID 5]
Theme 3: Situational context disrupts the flow of information contributing to the disconnect
They were presumably transferred because they're told that they might need surgery or this and that. And so I think that there's a lot of parent anxiety that gets worked up even more just because they get multiple messages that aren't always consistent. [Orthopedic Surgery Resident, ID 2]
I kept asking, "What's happening? What's going on?" They kept saying they were going to check; they were going to go check. Now I know looking back on it, they weren't sure she was going to live, so obviously they were waiting to see how a surgery went and whatnot. But still not easy for me just sitting there going, "What's going on?"" [Parent, ID 8]
There was no way to just know how she was going [to be] – you can't just give a prognosis on day one, like you hear on TV or something, right? Like, they were providing the information that they knew. But to us, it always felt very cagey. Like, well, okay – is she going to be okay or not? Is she going to walk or not? Is she going to be able to talk? Is she going to wake up? How long until she wakes up? When are these things going to happen, right? And no one knew anything. It was always, "Well, we'll see how she does." [Parent, ID 11]

circumstances, clinicians did not provide parents with a clear reason for transfer to the pediatric trauma facility.

Most clinician participants also shared that electronic health record (EHR) systems resulted in information exchange disconnects. One trauma NP described an encounter whereby a transferred pediatric patient's images from the referring ED were visible in the accepting facility's EHR. This feature allowed information to be exchanged more easily between clinicians and between parents and clinicians. This example was an atypical case, however. Most clinician participants reported challenges and frustrations with the EHR, specifically with the inability to review images from referring EDs. Many clinicians described how trauma patients' essential images were frequently sent on a disc that could not easily be read, was lost or damaged in transit, or forgotten. They explained that these information breakdowns often led to a delay in care and parent frustration, because the patients had to be reimaged. Amplifying the frustration and information disconnect, some parents described not being informed why images had to be repeated, and clinicians reported feeling frustrated.

Theme 3: Situational Context Disrupts the Flow of Information Contributing to the Disconnect

In interviews, both parents and clinicians shared specific encounters of pediatric traumas that had significant challenges with information exchange. One factor that was common among these various stories was that patient information was continuously evolving and thus, often difficult to convey in real time. Disruptions in the information exchanged with parents often occurred as a result of the patient's clinical circumstance changing more rapidly than the information was relayed. Parents also described sometimes receiving multiple messages from different health care workers as each clinician spoke from their specialty perspective. In addition to receiving multiple messages, parents also reported challenges with working off of partial information. They felt like they were not always being told the full story about their child's care or prognosis. While this was sometimes true, referring physicians and nurses also reported that they often did not know the full story, especially what would happen to patients once they arrived at the trauma center.

Another factor that exacerbated the challenges with information exchange was the patient's injury severity. For patients with severe or life-threatening injuries, clinicians reported challenges in relaying uncertainty to the parent, even if the parent was requesting whatever information was available. Parents wanted a definitive prognosis, but the clinicians could not always give one. This sometimes resulted in parents being suspicious of the care team, reporting that some interactions felt like clinicians were withholding information. In contrast, for patients with a simple injury with a clear prognosis, both parents and clinicians reported that the information exchange process seemed smoother.

Finally, almost every participant shared that the information exchange process was influenced by how busy the environment was. If the referring ED was busy, physicians admitted they often did not provide parents with detailed information about why they were being transferred. ED physicians often relied on the nurse to relay this information. However, when it was less busy, the information exchange process was less challenging with less disconnect.

Discussion

Our study examined the dynamics of information exchange during pediatric trauma visits to referring EDs from the perspectives of parents and clinicians. We found that the information exchange process among parents and clinicians during pediatric trauma transfers was challenging. In this paper, we specifically identify factors at the individual-, situational-, and systems-level factors that could exacerbate the challenges and lead to a disconnection for the information parents wanted and what clinicians provided. While prior research has explored communication during pediatric transitions of care (19,21,22,39-41), this study examined how the specific context, in this case pediatric trauma transfers, may introduce unique complications to the information exchange process.

As our findings suggest, some of this disconnect was due to the circumstance whereby pediatric injuries are often sentinel events for parents, causing parents to feel overwhelmed and disoriented. This finding of parents struggling to receive and process information during acute periods of stress is similar to results from prior research exploring the parent experience in a different context, the hospital-to-home transition. Prior qualitative research has reported that parents are "in a fog" during the hospitalization and discharge transition process, which resulted in them being unable to fully process discharge instructions (39). This prior research, combined with our present study findings, suggests that parents are potentially in a persistent fog from the time of the initial trauma ED encounter all the way to the child's transition home. In light of these findings that parents' debilitated state inhibits effective information exchange, further research is needed to identify strategies to support parents during these challenging encounters so they are better prepared to receive information. Given the fog likely persists throughout the hospitalization, intervention strategies can target any phase of the hospitalization.

Regarding potential intervention strategies to support parents and thus improve communication, we propose increasing the practice of shared decision making. As our study identified, lack of shared decision making between parents and clinicians magnified the information exchange disconnect. This finding is consistent with prior pediatric interfacility transfer research, which has suggested that parent–clinician information exchange often lacks shared decision making, resulting in increased stress and burdens experienced by the parents (21). This concept of heightened

burdens is consistent with our present study's findings. Our parent and clinician participants emphasized ways in which the lack of shared decision making negatively impacted patient care, such as resulting in unnecessary transfers. Avoidable transfers impose unnecessary travel and cost burdens on parents. In light of the fact that our clinician participants perceived that the situational context of a busy environment inhibited effective information exchange, strategies that target shared decision making must not impede the fast-paced workflow needs. Increasing shared decision making requires more than simply increasing information sharing; it requires fostering conversation (42). Consequently, shared decision making is perceived by some to require more time. Care providers thus need to learn how to effectively practice shared decision making, especially in fast-paced environments such as the ED. The prioritization of teaching care providers how to practice shared decision making has become increasingly prioritized in recent years (43). Ongoing research is needed to monitor if shared decision making is being practiced in such settings as pediatric trauma ED visits, and how use of shared decision making impacts parent and child outcomes.

Another strategy suggested by the findings in our present study is to target the siloed systems that heighten the disconnect in information exchange. For example, a more easily accessible universal medical record could improve some of these EHR limitations that impede effective information exchange. While our study focused on parent–clinician information exchange, our findings echo prior nontrauma pediatric research exploring clinician–clinician information exchange processes. Both our present study and prior studies have identified the presence of misinformation, omission of information, and outdated information among clinicians (19,44). Finally, our study found that the situational context for each individual encounter impacted the information exchange process. This included the fact that the child's diagnoses and prognosis may be changing rapidly as diagnostic information is obtained, including the severity of the child's injury. Less siloed systems would potentially permit more real-time, streamlined communication.

It is important to note, that although the theme of disconnection ran through our interviews, the degree of information disconnect described varied and was impacted by the contextual factors outlined. Even in the best cases, however, clinicians acknowledged the need for someone to provide more and clearer information to the family, but there was a lack of consensus on who should be the messenger. Some clinician participants suggested that telehealth could be used for this information exchange, whereby the accepting clinician would communicate directly to the family via a virtual connection. Use of telehealth to virtually bring the accepting clinician to the bedside would alter the communication paradigm during transfers to enhance patient- and family-centered care. The promise of this suggested solution is supported by research. Prior studies have examined the utility of telehealth for emergency transfers of noninjured children (45-47). A qualitative study that evaluated pediatric critical care telehealth consults found that telehealth increases collaboration among clinicians and parents; specifically, that telehealth helped to integrate families and referring clinicians into the conversation (48). These findings indicate that a telehealth intervention prior to transfer may reduce the information exchange disconnect for both parents and clinicians. However, telehealth may not always be feasible or beneficial (49). Also, while telehealth and other interventions might serve to minimize the challenges with information exchange, this study suggests that the disconnect between parents and providers is not just poor communication. The inherent complexity of the trauma event, the setting and the larger structure are interdependently impacting the exchange of information. To address the disconnect, multi-level interventions are likely to have more success.

This study is not without limitations. The findings represent only the perspectives of our participants. However, we interviewed 25 participants from a variety of backgrounds, and had a mix of parents, physicians, NPs, and nurses from both referring and accepting sites. While participants represented multiple referring facilities, our study included clinicians from only one accepting facility. Participants were also limited to those with English proficiency. Parent participants with limited English proficiency would have likely had exacerbated communication disconnects. Some of the parents described incidents that happened >1 year ago, which may introduce recall bias. However, because these are sentinel events for the family, recall generally seemed strong. Finally, we relied solely on participants' description of the information exchange process; we do not have direct observations of these processes. Direct observations may have resulted in us seeing the disconnect as a process of negotiation or focusing on the power dynamics within parent-clinician interactions.

Conclusion

In conclusion, our qualitative study examining the experiences of parents and clinicians involved in pediatric trauma emergency encounters found that there was a significant disconnect in the information exchanged between parents and clinicians. The lived experiences of the participants, a lack of shared decision making, system factors, and situation-specific factors contributed to this disconnect. Future studies can examine potential interventions that may be able to address this disconnect.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical Approval

This study was approved by the UC Davis Institutional Review Board (1623230).

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Statement of Human and Animal Rights

All procedures in this study were conducted in accordance with the UC Davis Institutional Review Board (1623230) approved protocols.

Statement of Informed Consent

Verbal informed consent was obtained from the participants for their anonymized information to be published in this article.

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Appendix

Appendix 1. Interview Guide for Clinicians.

Topic	Example probing question
General Experience/Perspectives • with pediatric traumas • System? Culture? Habits?	• Tell me about your thoughts and opinions in caring for pediatric trauma patients who require interfacility transfers. • What things are working, what things aren't working?
Referring Providers Experience/Perspectives • Services/specialists not present (admit?) • Time of day? • Comfort • Busy	• In your experience, what factors contribute to initiating a transfer request for a pediatric trauma patient? • Do you feel that your system is equipped to manage pediatric trauma patients? What could be improved in your system? • Tell me a bit about a recent pediatric trauma transfer • Did you feel that the physicians taking your transfer request calls are able to get an adequate understanding of the patient's clinical scenario (injuries, physiology, needs) from your conversation? • How satisfied are/were you with the transfer request conversation? • If [tertiary center] had not accepted the transfer, what would the next steps have been at your institution?
General Experience/ Perspectives • with Telehealth	• Have you ever used telehealth before? • Tell me about the last time or a recent time you used telehealth for a consultation, even if it wasn't for a pediatric trauma patient. • What worked well? Please elaborate. Anything about the technology, or interaction with the family? • What would you do differently next time? Please explain why.
Outcomes • communication experience • (if they don't talk about distress/anxiety, probe about this) • transfers • cost	• Tell me about a time where the communication with a family regarding a transfer went well? • What about a time when communication went poorly? • Tell me about a time where a family was really anxious about a transfer? • Tell me about a time was unnecessarily transferred? • Have you ever had a family talk to you about their concerns about costs?
Closing	• Is there something that you might not have thought about before that occurred to you during this interview?

Appendix 2. Interview Guide for Family.

Topic	Example probing question
General Experience • Emergency department (ED) experience	• Tell me about your experience when you took your child to the ED. • What went well? What could have gone better?
Outcome • Communication experience • Anxiety • Transfer • Cost	• How would you describe the communication you received from the care team about your child's care while in the ED? Potential probes: what type of information did you receive? Any other information you would have liked that you didn't receive? • Do you remember some of the feelings and emotions you had during the experience? Probe: what were some of the things that helped with the feelings? Made them stronger? • Did your child get transferred to another hospital? • If yes, describe what the transfer experience was like. • What understanding do you have about how the decision was made to transfer? • What went well with the transfer process? What could have gone better? • What do you wish you would have known about the transfer process? • Describe how the transfer affected the rest of the family (travel to [hospital], time from work / school, out of pocket costs, other children and childcare, etc.). • What, if any, follow-up care was needed for your child after the ED visit? Where, types of care / visits, etc.?
Closing	• Is there something that you might not have thought about before that occurred to you during this interview? • Is there something else you think I should know to understand your experience better?