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The Admission Conference Call: A Novel Approach to Optimizing Pediatric Emergency Department to Admitting Floor Communication

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Abstract

Background—Optimizing information sharing at transfer of care between teams is an important target for the improvement of patient safety. Traditional emergency department (ED) to floor handoffs do not support a shared mental model between physicians, residents, and nurses.

Objective—To describe and evaluate acceptance of a novel process for coordinating physician and nursing handoff calls for patients being admitted to an inpatient floor from a children's hospital ED.

Methods—Our Admission Conference Call (ACC) is a single conference call including the attendings, residents, and nurses from the ED and inpatient teams, currently used for 29.8% of admissions from our ED. We surveyed physicians and nurses to assess perception of its effects on patient care.

Results—653 ACCs were conducted during 2017. 43 nurses and 89 physicians completed the survey. Mean Likert scale findings were in favor of the process supporting safe patient care (4.5/5 (SD 0.6)); none said it increased risk. Ratings favored the process improving interdisciplinary alignment (4.0/5 (SD 0.8)) and the benefits outweighing the inconvenience (3.9/5 (SD 0.9)). Respondents were neutral on the effect of the ACC on throughput time (3.0/5 (SD 1.0)). Logistical concerns were expressed; mean satisfaction was 6.8/10 (SD 2.1). Free text comments varied widely, from pride to frustration.

Conclusion—The Admission Conference Call is a well-accepted alternative to a traditional multiple call process. Most participants feel it supports safe patient care. Further research would

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COMPETING INTERESTS

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be necessary to confirm measurable effects on patient outcomes, but this project provides encouragement to institutions considering innovative approaches.

Keywords

Admission; Emergency Department; Handoff; Communication; Pediatrics

INTRODUCTION

Effective information sharing at the time of the transition of care, or handoff, from one team of caregivers to another has been widely identified as a key driver of safety and quality of care.^{1–3} Breakdown in communication is an important factor in medical errors and preventable patient harm,^{4–9} and its improvement has been targeted as an area of focus in medical training.^{10–12} Studies have identified a number of communication-related barriers to a high quality transfer of care, including inefficient, disrespectful, incomplete, or sequential communication,^{9,13–16} and physicians often overestimate the effectiveness of their communication during handoffs.^{17–19} Efforts to improve handoff systems have multiplied over the past several years, employing mnemonics such as I-PASS and others,^{20–23} and new educational, operational and communication processes.^{23–31} Emergency Department (ED) to inpatient handoffs have been identified as an area requiring further study,³² and training and standardization of this process is known to be incomplete.³³ The development of a shared clinical understanding between team members, often called a shared mental model, has been shown to be an important aspect of effective teamwork.^{34–38} Some medical disciplines have developed approaches to group transitions, including huddles and “sterile cockpit” reports.^{25,26} However, despite the fact that patient care handoffs generally involve a transition from one *team* of physicians and nurses to another, most published approaches to transitions have focused on improvement of communication within one discipline, without consideration of improvement at the team level.³⁹ In a traditional handoff, conversations occur simultaneously or sequentially within disciplines, physician to physician and nurse to nurse. Recent literature on improving handoffs has generally left this separation intact.

With the goal of improving team-level communication during patient care handoffs, our institution has established a novel handoff process for transfer of patient care between the ED and inpatient units. This process, known as the Admission Conference Call (ACC), combines the handoffs between sending and receiving attending physicians, residents, and nurses into a single phone call.

The objective of this report is to describe our experience with this process over a six-year period as proof of concept, and to report results of a recent survey conducted to assess provider impressions of the ACC and its effect on patient care.

MATERIALS AND METHODS

Setting

This implementation and investigation were conducted in a 254 bed, quaternary care academic children’s hospital. The hospital has approximately 3600 patient admissions per

year, approximately 40% of whom are cared for by a team of pediatric hospitalist physicians on a teaching service. The remaining patients are cared for on subspecialty teaching services, including neonatal and pediatric intensive care units, a bone marrow transplant unit, and a number of dedicated subspecialty admitting teams. The pediatric ED is staffed by pediatric emergency medicine attending physicians supervising pediatric and emergency medicine residents. The ED sees approximately 15,000 visits per year, 18% of whom are admitted to the hospital; 75% of all admissions are initially evaluated in the ED.

Intervention

Prior to the implementation of the process reported here, the hospital's standard practice for ED to inpatient handoffs had been that the ED attending and resident would collaborate to make two handoff phone calls, one to the admitting hospitalist or subspecialty attending physician and one to the admitting resident; the ED nurse would make a separate handoff phone call to the admitting nurse.

In 2009 and 2010, our medical center was one of 10 centers that participated in the Joint Commission's Center for Transforming Healthcare Handoff Communication project. Initial surveys were conducted at nine participating healthcare systems to understand the underlying factors contributing to defects in handoff communication. After reviewing the survey results and conducting *in situ* simulations and value stream mapping, the ACC was designed to target the three domains that were the most common validated root causes for handoff failures based on the survey results: failure to standardize content for completeness, lack of a culture of teamwork and respect to support success, and failure to align expectations between senders and receivers. The goal of the process was to align shared mental models between senders and receivers at the time of handoff of care between the ED and the inpatient floor, by allowing the full team of sending and receiving nurses and physicians to participate in the same conversation. The ACC process was implemented in 2011.

Under the new process, when a provider places an order for admission from the ED to the inpatient unit, they have the option to request an ACC. This request triggers the Patient Placement Coordinator to send a simultaneous group page to relevant individuals with the time of the ACC, the patient's initials and date of birth, and the admitting unit. The goal is to schedule it promptly, but timing varies based on bed availability. Invitees include the ED attending and resident physicians, admitting team attending, fellow, and resident physicians, ED nurse, and admitting inpatient floor nurse. ED physicians in our system do not carry pagers; the ED charge nurse notifies them of the call. The ACC phone number is always the same; it is included in the pages and posted in the ED. During the ACC, the ED resident or attending physician attempts to ensure that all team members are present; when possible, missing participants are re-paged or located in person. However, to minimize delays, if any expected participants are not able to join within the first few minutes after the designated time, the call may begin without them by consensus of the group that is present. The ED resident or attending physician then leads a discussion of the patient's clinical situation to provide the key information for safe transfer of care. A standardized discussion template was designed and encouraged in the initial rollout of the process. It remains posted in the ED,

although ongoing promotion of its use has been limited. Following the physician portion of the report, there is an opportunity for anyone on the call to ask clarifying questions. The physicians exit the call, then the ED and admitting nurses continue the discussion with details specific to nursing care. Team members who miss the ACC are updated by their counterparts after the completion of the call. No specific process exists to document the conduction of or attendance on the call for a particular patient. Currently, although the decision to request an ACC is at the discretion of the ED attending, the ACC is commonly used for admissions to the general pediatric hospitalist service between 7AM and 11PM. However, due to call schedules and specialty team workflows, patients who are admitted overnight, to an intensive care unit, or to selected pediatric medical or surgical subspecialties are admitted with a traditional handoff process with separate attending, resident, and nursing handoffs. Because of this variability, providers practicing at our institution generally have experience with both handoff types.

Survey Design

We conducted a cross-sectional online survey of physicians and nurses who participate in the ACC at our institution, designed to assess their satisfaction with the ACC, its effects on patient care, safety, conversation quality, and logistics, and targets for improvement; see appendix for survey text. Questions were designed and tested by the study team, including a statistician and providers with personal ACC experience. A similar survey was conducted in 2012; where appropriate, these questions were included unchanged to allow comparison over time. Participants provided consent upon entering the survey. The University Institutional Review Board reviewed and approved the study.

Subjects and Recruitment

Subjects targeted for participation included the following groups: Pediatrics and Internal Medicine/Pediatrics residents, pediatric ED attending physicians, pediatric ED nurses, pediatric hospitalist attending physicians, pediatric fellow physicians, pediatric subspecialty attending physicians, and general inpatient floor nurses. Potential participants were identified from existing department electronic mailing lists. They were invited via email, with two reminder emails. Subjects who indicated on a screening question that they had participated in an ACC were directed to the main survey; those who had never participated were redirected to a shorter survey for internal purposes. The survey was conducted during April and May, 2017. Study participants were given an option to provide their email addresses to enter a drawing for one of three \$50 Amazon gift cards.

Data Collection

Survey information was collected via Google Forms (Google LLC, Mountain View, California). No personal information was collected other than voluntarily provided email addresses for the gift card drawing. Participants were allowed, if they preferred, to send their email address separately to an investigator, and email addresses were removed from the data prior to analysis. A database of responses from a similar ACC satisfaction survey conducted in 2012 was available for comparison. Numbers of hospital admissions and conference calls were obtained from hospital records. Data on the length of time spent on the calls was obtained from records kept in a two-month internal audit in 2015.

Statistical Analysis

Results from multiple choice questions are reported numerically or as a percentage of respondents; means and standard deviations are reported for Likert scale results. We compared Likert scale responses from the 2012 survey to the 2017 survey using Wilcoxon rank-sum tests. A p-value of <0.05 was considered statistically significant. Statistical analysis was performed using SAS version 9.3 (SAS Institute Inc., Cary, NC). The large number of comments and free-response answers were reviewed by the study team and summarized qualitatively.

RESULTS

In 2017, 653 Admission Conference Calls were conducted, representing 29.8% of the 2192 admissions through the ED. Hospitalist admissions, the primary target of the ACC intervention, represented approximately 40% of total ED admissions the same year. During the two-month timing audit, 142 calls were conducted. Mean call length was 9.04 minutes (SD 3.0); median was 9 minutes, range 3 to 21 minutes. We did not track specific participation on an ongoing basis, but during a four-month tracking period in 2012 after implementation, attendance by both types of nurses and all physicians except the admitting attendings was above 90%, with admitting physicians at 83%. In this same period, time to transfer to the floor was tracked and compared, with no difference noted between ACC and traditional handoff patients.

A total of 1072 individuals were invited to take the 2017 survey, of whom 625 were considered active members of the pediatric medical or nursing staffs. One hundred sixty-one respondents completed the survey, for a response rate of 26%. The breakdown of survey participants is outlined in Table 1; we did not collect specialty information from respondents.

Table 2 summarizes the findings of the survey. Of the 161 survey respondents, 29 indicated that they had participated in zero ACCs in the past year and were directed to the shorter survey. One hundred thirty-two respondents completed the full survey, including 48 nurses and 89 physicians; information is not available on how many staff members have ever participated in a call. Some individuals indicated that they had participated in multiple roles (e.g. both inpatient and ED nurse). These individuals are included in both relevant subgroups, but only once in the column reporting the totals.

Mean rating on a five-point Likert scale for overall safety of the process was 4.5 (SD 0.6), a small but statistically significant increase from the 2012 survey. Responses for this question ranged from 3 to 5, with no respondent selecting 1 or 2 to indicate risk of harm. There was also general agreement that the ACC improves interdisciplinary alignment, with more mixed responses regarding its effects on timing, content variability, and conversation quality. On the question of whether we should strive to utilize ACCs for a higher proportion of admissions, there was variability by discipline. The mean response from ED nurses on this question was neutral, and that from the inpatient attendings was slightly negative toward the ACC. However, the mean response from the group as a whole and from the subsets of inpatient nurses, residents, and ED attendings indicated a slight preference for the ACC over

a traditional handoff. Overall, mean findings among all groups favored benefits of the process outweighing inconveniences; mean satisfaction with the process was 6.8/10 (SD 2.1). There was no statistically significant difference between the 2012 and 2017 survey findings on questions regarding interdisciplinary alignment, patient throughput, and overall satisfaction.

When asked about the use of a structured checklist for the ACC discussion, 100 of 132 respondents (76%) reported that they were unaware that there was such a checklist. Of those who were aware of the checklist, 30 of 32 (94%) said that people mostly did not use the checklist. Of these, 16 (50%) said that they thought people should use it more.

Interest in extending the process to include overnight hours was mixed, reflecting the complexity of the balance between the needs of in-house providers and those of home-call providers (Table 3).

Table 4 shows mean Likert scale results for frequencies with which respondents endorsed particular logistical concerns about the ACC. In all cases, the mean response indicated that these impediments occur between rarely and sometimes. The concern endorsed by the largest number of respondents was waiting too long for everyone to join the call; only 1 of 132 (1%) reported that this never happened.

Logistical concerns featured prominently in the free text comments, as well. In particular, when asked about what areas needed improvement, the majority of comments focused on issues of timing and reliability. Respondents expressed the need to “mak[e] sure the correct team is called,” “mak[e] the paging... more reliable,” and “[get] everyone on the call in a timely manner.” Concerns were also raised about coordinating the timing of the ACC with patient care and shift changes, noting that it is “inconvenient” when “conference calls will happen right before team sign-outs on the floor.” Most respondents who commented on timing said “it takes too long to set up,” although some inpatient nurses wished for “more of a heads up.” Respondents also said they would prefer “clearer instructions regarding which type of patients receive conference calls,” and that it was sometimes hard to find or remember the number to call in. Both ED and inpatient nurses expressed concern that physicians sometimes include extraneous information or discuss other patients during the call. A number of admitting attending physicians mentioned that they thought re-instituting a checklist for the conversation would be helpful. Some commenters noted that the quality of the conversation is different, including that the presenting resident is “more nervous when presenting in group form and prone to more mistakes,” “sometimes [it’s] easier to ask questions attending to attending without 5 other people listening in,” and the “ED nurse does not give a report unless questions are asked;” one said “they are basically reading the provider note either way.” In addition, there were a few cautions that the call is at risk for being less multidisciplinary than it means to be, particularly if it is started without everyone present.

When asked about the benefits of the call, a majority of respondents who commented noted they appreciated the opportunity for the full team to hear the same version of the story, to allow the team to be “on the same page.” Nurses, in particular, said they found it helpful to

hear the physician portion of the report. One admitting nurse said “I feel it eases the patient and family’s mind if I have some idea why they are being admitted,” and an ED nurse said, “I have actually bragged to my neighbors and other former coworkers about how this makes me feel proud to be part of an organization that values safety. I like this handoff because I know I am a part [of] an organized systematic approach which is inclusive and safe.” Alongside this enthusiasm, however, there were a small number of commenters who said they could not think of any benefits and that the ACC process should be discarded.

DISCUSSION

There has been growing interest in the literature in improving communication at the time of handoffs of responsibility for patient care. Efforts have been described in a number of disciplines and using various approaches,^{9,20–26,29,40} and standardization of handoff communication has been shown to decrease errors.^{20,41} ED to inpatient handoffs have been the target of a number of investigations,^{9,15–17,24,29–31,42–49} and have been suggested as a target for improvement by professional organizations.⁵⁰

At the same time, effective collaboration between nurses and physicians has been shown to improve quality of care and health outcomes,^{51,52} and an effective shared mental model has been identified as beneficial to successful collaboration.^{34–37} Although a joint physician and nursing professional guideline notes that transitions of care generally happen separately by discipline,⁵⁰ that guideline and most literature on handoff communication between the ED and inpatient teams are largely silent on approaches to breaking down this separation.

We present here a novel approach to combining attending physician, resident physician, and nursing handoffs for children being admitted to an inpatient service from our pediatric ED, employing the simple technologies of group paging and conference calls. Our goal in developing this process was to improve the congruence of understanding among the physicians and nurses who constitute the admitting team, while also reducing the need for duplicative phone calls. As described above, we have found that a conference call approach, the ACC, is feasible and generally well accepted by staff. On the survey items for which matched comparisons were available, impressions were either stable or slightly improved between the 2012 and 2017 surveys, indicating successful maintenance of the process over five years.

Although specific assessment of safety outcomes is beyond the scope of this study, the development of a culture of safety has been shown to be associated with reduced adverse events.⁵³ No respondents to our staff survey indicated concern that this process compromises patient safety, and responses favored the idea that it supports safe patient care. Inpatient nurses were the most likely to prefer that some version of the ACC be instituted during the overnight hours and expressed the greatest preference for the ACC compared to the traditional handoff. They also provided the most favorable ratings of its effects on the quality of the handoff conversation. Overall satisfaction was highest among ED attending physicians. This may be due to the fact that although it was noted to be inconvenient to have to join the call at the scheduled time, this process cuts their responsibility for communicating with the admitting team from two phone calls (attending and resident, with some assistance

from the ED resident) to one. When the ACC is finished, the ED attending's communication work for that patient is considered done. Mean satisfaction was lowest among ED nurses and inpatient attending physicians. In the case of the inpatient attending physicians, this may reflect the difficulties of utilizing this process while taking call from home or engaging in other work, as well as the fact that there may be additional phone calls to be completed with the residents after they have evaluated the patient. A relative disengagement in handoff processes among admitting physicians has been noted before, as in the study by Horwitz, et al, of a voicemail handoff system in which the admitting physician only accessed the voicemails 70% of the time.³¹ Even so, the admitting physicians in our survey agreed with representatives of the other disciplines that the process is safe and that its benefits outweigh its inconveniences.

Our survey results did show that the logistics of organizing an ACC can be challenging, with particular concerns expressed over the ability to have the full team available to participate at the same time. The comments we received on the survey present a number of quality improvement targets to further optimize the process, from simple measures such as making the call-in number easier to find or recall for those without pagers to more complex goals such as working to better balance the timing needs of the inpatient and ED teams and expanding the proportion of ED patient admissions for which an ACC is conducted.

Given the growing literature on the value of handoff standardization,^{20,41} improved consistency of the content of the ACC discussion is another area for improvement. Although the initial rollout included a standardized discussion template, anecdotal reports indicate that providers found it to be cumbersome, and it has fallen out of use without being replaced. Our survey findings indicate that awareness of the existing template is extremely low, so a key next step will be to identify and implement an appropriate template for the ACC. In so doing, we will also look for means of making the conversation more fully multidisciplinary, meeting the needs and respecting the contributions of every team member. In order to secure the cooperation of physicians in the first iteration of the process, the decision was made to allow the conversation to begin as soon as the physicians were present, and to have the physicians leave the call at the completion of their component of the report. While this has the benefit of allowing the physicians to return to their other work sooner while the nurses discuss more nursing-specific aspects of care such as timing of medications and intravenous access, it may also have the effect of decreasing the sense that this is a fully shared handoff. An improvement in this balance may increase engagement in the process by all disciplines. Now that the ACC is an established process in our hospital, we aim to address this and other issues raised in this survey with process improvements.

Limitations

A few issues may limit the generalizability of our ACC process. First, it was implemented in a relatively low-volume, high-complexity pediatric ED, with quaternary care subspecialty patients and relatively few cases where patients board for long periods of time in the ED. Larger hospitals with higher-volume pediatric emergency departments or frequent boarding patients may have different logistical concerns, and settings with a higher proportion of medically straightforward admissions may find it less useful. However, more complex

patients may be at the highest risk of errors resulting from incomplete or misunderstood handoff communications. Second, the survey data presented here is intended to describe our ACC process and provide evidence of its acceptability to hospital staff, but it does not assess objective patient safety or logistical outcomes. Preventable harm episodes attributed to poor handoffs from the ED to inpatient floor are difficult to measure and likely infrequent, and without specific tracking information available on which patients had a completed ACC, we are not able to directly link safety or logistical outcomes to use of the process. However, communication at care provider handoff is one of the most common factors resulting in medical error, and an improved handoff communication process can be expected to support safer patient care. Third, the survey response rate was relatively low at 26%, although as we did not have access to the true relevant denominator of staff members who have ever participated in an ACC, it is possible that the effective response rate is higher. Finally, despite the presence of significant support from medical, nursing, and patient placement staff, an ACC is still taking place in only about 30% of ED to inpatient handoffs. The decision as to whether to conduct an ACC is partially based on the admitting service and the time of day, but ultimately lies with the discretion of the ED attending physician. Variability in this decision process may affect the perceived success of the process in unmeasured ways.

CONCLUSION

The Admission Conference Call is a feasible approach to Pediatric ED to inpatient handoffs, using simple and readily accessible technology to unite the physician and nursing reports. Our goal in undertaking this process was to further the development of a shared mental model of care between physician and nurse team members, thereby improving patient safety and reducing the risk of error, inconvenience, or confusion related to poor handoff communication. It is generally well accepted by participating staff, and considered to have a beneficial effect on patient safety. Although there are ongoing logistical and content challenges to be addressed, our experience with the ACC should provide support to institutions considering innovative approaches.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1:

Survey participants

	Invited	Responded N(%)
Nurses	385	57 (15%)
Residents	110	38 (35%)
Fellows	40	6 (15%)
Attendings	537 (~90 active; 23 pediatric hospitalists) ¹	60 (11%/67%)
Other (nursing assistant)	0 ²	1
Total	625 (active)	161(26%) ³

¹The invitation was sent to a listserv of 537 attending physicians in the medical center as a whole, of whom approximately 90 admit patients to the children's hospital or work in the ED.

²One respondent identified as a nursing assistant. S/he had participated in zero calls and completed the shorter survey.

³One individual had participated as both a resident and an attending, and is included in both totals.

Table 2:Survey responses by respondent type¹

	ED nurse	Inpatient nurse	Resident ²	ED attending	Inpatient attending/fellow	Total	2012 survey	P
How many ACCs have you participated in during the past year								
0 ³	0	14	1	0	13	29 ⁴		
1–10	3 (17%)	20 (67%)	13 (35%)	0	22 (55%)	58 (44%)		
10+	15 (83%)	10 (33%)	24 (65%)	12 (100%)	18 (45%)	74 (56%)		
N for survey subgroup (includes some individuals in multiple groups)								
	18	30	37	12	40	132		
Overall safety rating (1=Puts patients at risk for harm; 5=Supports the continuous safe care of patients)								
Mean (SD)	4.2 (0.7)	4.6 (0.6)	4.6 (0.5)	4.8 (0.4)	4.4 (0.7)	4.5 (0.6)	4.3 (0.9)	0.033
ACC improves interdisciplinary alignment (1=Strongly disagree; 5=Strongly agree)								
Mean (SD)	3.7 (1.0)	4.0 (0.7)	4.1 (0.7)	4.3 (1.2)	3.8 (1.0)	4.0 (0.8)	3.8 (1.1)	0.46
ACC effect on patient throughput (1=Significantly slower; 5=Significantly faster)								
Mean (SD)	2.9 (0.9)	3.2 (0.8)	3.3 (0.8)	2.9 (1.2)	2.8 (1.1)	3.0 (1.0)	3.2 (1.0)	0.24
Content variability compared to traditional handoff (1=Much more variable by provider; 5=Much more standardized by provider)								
Mean (SD)	3.2 (0.8)	3.4 (1.0)	3.2 (0.8)	3.7 (1.0)	3.3 (1.1)	3.3 (1.0)		
Quality of your conversation with your colleague (1= Much better WITHOUT ACC; 5=Much better WITH ACC)								
Mean (SD)	3.6 (1.2)	3.7 (1.1)	3.3 (1.2)	3.7 (1.2)	3.2(1.2)	3.4 (1.2)		
Amount of time spent on handoff (1= Much more with ACC than traditional; 5=Much less with ACC than traditional)								
Mean (SD)	2.2 (0.9)	2.4 (0.8)	3.2 (0.8)	2.8 (1.1)	2.4 (1.0)	2.6 (1.0)		
How do you feel about variability in whether there is an ACC (1=When YES ACC, very much wish for traditional; 5=When NO ACC, very much wish for ACC)								
Mean (SD)	3.0 (1.3)	3.7 (1.0)	3.4 (0.9)	3.4 (1.2)	2.9 (1.0)	3.3 (1.1)		
Benefits outweigh inconveniences (1=Strongly disagree; 5=Strongly agree)								
Mean (SD)	3.6 (0.8)	4.0 (0.8)	4.0 (0.8)	4.4 (0.8)	3.7 (1.0)	3.9 (0.9)		
Overall satisfaction (1=Least satisfied; 10=Most satisfied)								
Mean (SD)	5.9 (2.6)	7.1 (1.9)	7.2 (1.7)	7.8 (1.9)	6.5 (2.3)	6.8(2.1)	6.3 (2.7)	0.18

¹Where applicable, responses are presented as N (% of non-missing values for that question).²Residents in this program rotate through both the ED and the inpatient floors³These respondents were referred to a shorter survey, and are not reported further⁴Including one nursing assistant

Table 3:

Interest in using ACC overnight

	ED nurse	Inpatient nurse	Resident	ED attending	Inpatient attending/fellow	Total
How do you feel about conference calls on the overnight shift?						
Should default to traditional handoff overnight, NOT ACC	3 (17%)	4 (13%)	11 (32%)	6 (50%)	20 (57%)	42 (34%)
Should have ACC overnight with in house team only	3 (17%)	14 (47%)	11 (32%)	1 (8%)	8 (23%)	35 (28%)
Should have full ACC overnight	4 (22%)	2 (7%)	1 (3%)	3 (25%)	4 (11%)	14 (11%)
Indifferent	8 (44%)	10 (33%)	11 (32%)	2 (17%)	4 (11%)	33 (27%)

Table 4:

Concerns by respondent type

Answer choices	ED nurse N=18	Inpatient nurse N=30	Resident N=37	ED attending N=12	Inpatient or consulting attending/fellow N=40	Total N=132 ^I
For all questions: 1=Never, 2=Rarely, 3=Sometimes, 4=Often						
We have to wait too long for everyone to get on the line						
Mean (SD)	3.1 (0.7)	2.7 (0.7)	2.8 (0.7)	2.8 (0.8)	3.2 (0.6)	2.9 (0.7)
It is hard to find or remember the number to call in						
Mean (SD)	1.5 (0.9)	2.2 (0.9)	2.6 (0.9)	1.8 (1.1)	1.9 (1.2)	2.1 (1.1)
The call is a waste of time because people are missing or the wrong people are there						
Mean (SD)	2.6 (0.8)	2.0 (0.8)	1.9 (0.7)	2.2 (0.7)	2.2 (0.9)	2.2 (0.8)
I end up having to have a separate call with someone who didn't join						
Mean (SD)	3.2 (0.6)	2.3 (0.9)	2.1 (0.7)	2.0 (1.0)	2.4 (1.3)	2.4 (1.0)
People share too much information on the conference call						
Mean (SD)	2.4 (0.8)	1.9 (0.7)	2.1 (0.7)	2.2 (0.8)	2.0 (0.8)	2.1 (0.8)
People share too little information on the conference call						
Mean (SD)	1.9 (0.5)	2.4 (0.8)	2.3 (0.6)	1.5 (0.7)	2.0 (0.9)	2.1 (0.8)
Not everyone receives the notification to join the call in time						
Mean (SD)	2.8 (0.5)	2.4 (0.9)	2.3 (0.7)	2.5 (0.9)	2.3 (0.8)	2.4 (0.8)

^I Some individuals are included in more than one group.