



# "Mr Smith's been our problem child today...": anticipatory management communication (AMC) in VA end-of-shift medicine and nursing handoffs

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## ABSTRACT

**Background** Tools and procedures designed to improve end-of-shift handoffs through standardisation of processes and reliance on technology may miss contextually sensitive information about anticipated events that emerges during face-to-face handoff interactions. Such information, what we refer to as anticipatory management communication (AMC), is necessary to ensure timely and safe patient care, but has been little studied and understood.

**Objective** To investigate AMC and the role it plays in nursing and medicine handoffs.

**Research design** Qualitative thematic analysis based on audio recordings of nurse-to-nurse, medical resident-to-resident and surgical intern-to-intern handoffs.

**Subjects** 27 nurse handoff dyads and 18 medical resident and surgical intern handoff dyads at one VA Medical Center.

**Results** Heads-up information was the most frequent type of AMC across all handoff dyads (N=257; 108 resident and 149 nursing). Indirect instructions AMC was used in a little over half the resident handoff dyads, but occurred in all nursing dyads (292 instances). Direct instructions AMC occurred in roughly equal proportion across all dyads but at a modest frequency (N=45; 28 resident and 17 nursing). Direct (if/then) contingency AMC occurred in resident handoffs more frequently than in nursing handoffs (N=32; 30 resident and 2 nursing).

**Conclusions** The different frequencies for types of AMC likely reflect differences in how residents and nurses work and disparate professional cultures. But, verbal communication in both groups included important information unlikely to be captured in written handoff tools or the

electronic medical record, underscoring the importance of direct communication to ensure safe handoffs.

## INTRODUCTION

Eighty per cent of serious and preventable adverse events in hospital settings have been linked to breakdowns in communication when patient care responsibilities are transferred from provider-to-provider, service-to-service or facility-to-facility.<sup>1</sup> In both medicine and nursing, poor communication during end-of-shift handoffs has been associated with adverse outcomes and near misses in patient care.<sup>2,3</sup> The increasing frequency of end-of-shift handoffs due to the restriction on training physician duty hours<sup>4</sup> has generated additional concern and attention to this topic. Documented root causes for handoff communication failures include: workplace culture, differing expectations between handoff senders and receivers, inaccurate or incomplete information and ineffective methods of communication.<sup>5</sup> Technology use (eg, electronic medical records) and standardisation (eg, forms and checklists) are two solutions that have been proposed for these communication problems. Additional scholarship across a variety of high reliability organisations has produced a set of generalised handoff strategies that are likewise associated with more formality, structure and standardisation.<sup>4,6-9</sup>

At the same time, there are no specific requirements, recommendations or curricula that teach healthcare professionals how to separate technical from interpersonal language nor how to minimise



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potentially ambiguous statements. In addition, current research suggests that the local culture of microsystems (the smallest unit of work in hospital settings) may vary from service-to-service or even shift-to-shift, making uniformly applied standardisation difficult, if not impossible to achieve.<sup>5</sup> The limits of standardised checklists in handoffs are becoming more clear, that is, they cannot replace critical and narrative thinking that is necessary when it comes to the unpredictable variation of complex situations.<sup>10</sup> Moreover, there is growing recognition that there are other handoff characteristics (beyond standardisation) that still need to be further understood, such as the relative importance of general medical facts versus anticipatory guidance.<sup>11</sup>

For instance, prior research on a nationally implemented handoff tool (CAIRO) for use among residents (which incorporated both technology and standardisation) within the VA Health Care System revealed that they did not always receive a list of shift tasks and anticipated problems as part of the handoff, although such information is necessary to achieve high quality and reliability. Notably, in one-third (37%) of the shifts examined, an unanticipated patient event was reported.<sup>12</sup> Additionally, in one-quarter (23%) of the shifts, residents reported needing additional information that they had not received during the handoff. In other research, handoffs among internal medicine house-staff teams have likewise been found to have key anticipatory guidance inadvertently omitted, including scheduled events, tasks to complete and specific plans of action.<sup>13</sup>

Although these findings suggest that there is a gap between the information available using standardised and/or technology-dependent handoff processes and procedures and the contextually sensitive information about anticipated events that emerges in the handoff interaction, there is little research that has explored this phenomenon. Such information, what we are calling anticipatory management communication (AMC), is necessary to ensure that the information being exchanged is of optimal and immediate use, in transferring care responsibilities from one professional, service or facility to another. As there is no a priori definition of AMC for handoffs, we define it as a family of conversational strategies in which one party (typically the outgoing/dispatching healthcare professional) informs or alerts another party (typically the responsible incoming/receiving healthcare) about the current status and projected course of events that are likely to be encountered in assuming the care of the patient.

For instance, in the case of end-of-shift handoffs, what do nurses and residents actually say to their handoff partners (with or without the aid of an electronic or written tool) to alert them to anticipated patient events, and what discourse strategies do they use to accomplish this task? To answer these questions, we used audio-recorded data from a study of face-to-face end-of-shift handoffs in one VA facility, to

explore the role and function of AMC in medicine, nursing and surgery units.

## METHODS

### Research design and participants

This study was a multimethod qualitative project. Because the goal was to evaluate discourse strategies, data collection methods included one-point-in-time direct observation and audio/video recording of nurse-to-nurse, medical resident-to-resident and surgical intern-to-intern handoffs. All handoffs occurred on two medicine wards and one surgical service at the Indianapolis VA Medical Center in Indiana, USA. Data collection took place over a 14-month period, from March 2010 through May 2011. Purposive and snowball sampling techniques were used to include as much diversity as possible among nurses and physicians with regard to variations in shifts for nurses (eg, morning, evening and night) and residents and interns (eg, 30 h shifts for interns who were on call). Ethics approval was obtained from the University Institutional Review Board and VAMC R&D Human Subjects board prior to recruitment for this study (IIR 07-241-2).

### Recruitment and procedures

To recruit medical residents and surgical interns, the Chief Residents for each service explained the voluntary study, collected names of those residents interested in participating and shared the information with the research team. Once participants were identified, a research assistant (RA) approached them, answered questions and acquired their informed consent.

To recruit nurses, the Chief Nursing Officer contacted unit managers and charge nurses to explain the purpose, risks and benefits of the voluntary study. The charge nurse then forwarded the written description of the study goals and procedures to her team to see which nurses were interested in voluntarily participating as the 'incoming' nurse during end-of-shift patient handoffs. An RA then approached the identified nurses and acquired informed consent. Prior to the shift handoff, the RA explained his/her presence to the outgoing nurse and sought his/her informed consent and permission to audio-record or video-record the handoff. Twenty nurse dyads gave their permission for their handoffs to be audio-recorded, whereas seven nurse dyads and all resident dyads (n=13) and intern dyads (n=5) gave their permission to be both audio-recorded and video-recorded. Handoffs were conducted in non-patient care areas including nurse stations, team workrooms or offices. The recorded handoffs were transcribed, checked for accuracy and any identifying patient or provider information was removed.

### Analysis

We conducted a qualitative thematic analysis<sup>14</sup> of the transcribed data. Because the majority of nursing

handoffs were audio (and not video) recorded, a decision was made to limit the analysis to transcripts produced from the audio recordings and the audio track from the videotaped handoffs. Using an iterative consensus-based process, two of the authors (non-clinicians) independently reviewed four nurse and four resident transcripts focusing on highlighting those segments of the handoff (eg, sentences or phrases) that appeared to contain anticipatory communication. Starting with a generic code of 'AMC', and using an iterative consensus-based approach, the authors then created a coding list consisting of subcategories of AMC that more specifically captured the purpose and function of any particular instance (eg, giving instructions, giving a 'heads up', etc).

The new categories were then presented to the rest of the authors (including one author who has a clinical background) and the group used it to code a sample of randomly selected transcripts. This process led to a discussion and revisions to the coding list. Next, two authors resumed coding five additional transcripts, continuing to refine the categories to capture more subtle nuances in the AMC function (eg, giving instructions for the upcoming shift can be done by using both direct and non-direct communication). After the rest of the authors reviewed the additional coded transcripts, consensus on a final code list was reached. All 45 of the medical resident, surgical intern and nurse transcripts were then coded by one author and verified by another author using the final classification of AMC. Any discrepancies between the two authors were resolved through discussion with the rest of the authors. As a final step, summaries of AMC that occurred in each category and subcategory, for residents and interns and nurses were generated through discussion among all the authors.

## Results

A total of 27 separate nurse handoff dyads were observed (and either audio or audio/video recorded), covering a total of 137 patients; and a total of 18 medical resident and surgical intern handoff dyads were observed, covering 101 patients.

We found that AMC ranged from formal instructions or directives such as, "You will need to change Mr Jones' IV at 0700 hours," to indirect suggestions or hints at future actions such as, "They might be doing a fasting blood sugar later and Mr Jones was asking for his dinner just as I was getting ready to hand off to you." In addition to involving standard clinical language and test results (eg, "His EKG was normal and he is on 100% room air"), AMC can also consist of informal language and references that rely on 'personal knowledge' and informally shared conversational conventions (eg, "Mr Smith's been our problem child today").

We identified three types of AMC: (1) direct task-oriented; (2) indirect task-oriented; (3) heads-up information (figure 1).

## Direct ('You') task-oriented

With few exceptions, direct task-oriented AMC originated from the outgoing nurse or resident, and was characterised by the use of the pronoun 'you' to give instructions or advice to the incoming resident or nurse (eg, "And there's a note in there, if *you* could talk to [NAME] about it"). In other words, there were no ambiguities or built-in assumptions about *who* needed to do what (ie, specific tasks that the incoming him or herself should or might need to accomplish during the shift). Direct '*you*' task-oriented AMC often took the form of a directive (expressly assigning tasks, issuing instructions or telling the incoming nurse or resident what to do in the event of a given scenario).

Below, we describe two subcategories of direct anticipatory management: (a) direct instruction(s) (ie, giving instructions to the incoming provider to perform specific tasks, and (b) direct contingency (ie, offering contingency plans ['if X occurs, then do Y']). Box 1 illustrates the two types of direct ('*you*') task-oriented AMC with illustrative quotes from the recorded handoff interactions.

## Indirect task-oriented

Indirect task-oriented AMC included identifying tasks and presenting if—then scenarios, but without explicit mention of *who* was or should be responsible for carrying out the action; instead, the *who* (as well as sometimes even the explicit naming of the task) was implied and often inferred. We identified two subcategories of *indirect* AMC: (a) indirect instructions and (b) indirect contingency plans.

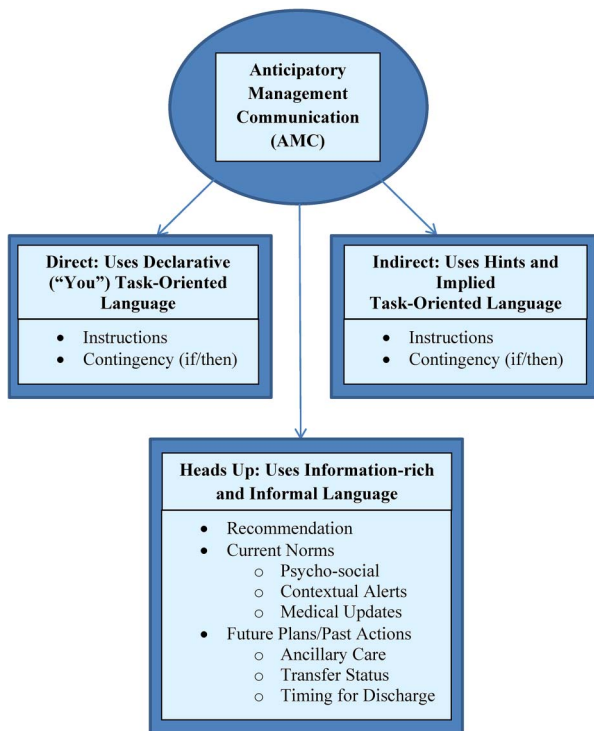
In many instances, when giving indirect instructions (or presenting indirect contingency plans), the outgoing nurse or resident used an assumed 'we' to refer to tasks (eg, 'we're supposed to give...'). Although the incoming residents or nurses appeared to have sufficient context and a shared knowledge base to infer what they needed, the lack of specificity sometimes led to confusion.

For instance, in one handoff dyad, the outgoing nurse discussed a task with the incoming that she had not yet completed during her shift, but did not explicitly ask or suggest that the incoming nurse complete it. At the end of the handoff, the incoming nurse had to ask for clarification about whether the outgoing would still complete the task before leaving, or if she should do it herself.

Box 2 includes examples of the two types of indirect task-oriented AMC.

## Heads-up information

Heads-up AMC was information given to the incoming nurse or resident (and occasionally to the outgoing by the incoming) that was not necessarily tied to an immediate action that needed to be taken, but rather served as an informal alert or warning of



**Figure 1.** Types and characteristics of anticipatory management communication.

something that was relevant to patient care or might be relevant at a later point in time (eg, “I hope you don’t get called on him but if you do it’ll probably be some big mess between him and the nurses”). Such information pertained to recommendations (ie, nurse advice about patient wishes or preferences, or resident

### Box 1 Two types of direct (‘You’) task-oriented anticipatory management communication (AMC)\*

#### Direct Instruction(s)

“He’s already got DC [discontinue or discharge] orders in and DC instructions in. So *you* can start working on his discharge.” [outgoing to incoming nurse, dyad #6]

“(You) watch Mister [Name]. He’s our Alzheimer patient. He has severe dementia and it’s like really rapidly decline...” [outgoing to incoming resident, dyad #4]

#### Direct Contingency:

“If he starts to desat a little bit and *you’re* in there just tell him to you know just try to calm him down have him breathe through his nose, not his mouth, [and] sit the bed back up ‘cause he likes to lay that bed down.” [outgoing to incoming nurse, dyad #5]

“One big thing is if he spikes definitely (*you*) re-culture him and start him on Vanc and Zosyn if he spikes.” [outgoing to incoming resident, dyad #2]

\*Direct ‘you’ statements are italicised; implied statements are in parentheses and italicised

### Box 2 Three types of indirect task-oriented anticipatory management communication (AMC)

#### Indirect Instructions

“He’s got cream for his bottom. He has a big old rash on his bottom um and in between his legs” [outgoing, nurse dyad #1]

“So I gave him 10 units of Glargine this morning ... we’re not giving him any tonight because we don’t know how sensitive he is.” [outgoing to incoming resident, dyad #13]

#### Indirect Contingency

“There is an order in there still for NPO at midnight, but of course, if they’re not going to do anything, we don’t need to worry about that.” [outgoing, nurse dyad #2]

“If he has any Accu-Cheks below 60 we’re supposed to give him another dose of Octreotide.” [outgoing to incoming resident, dyad #2]

advice about titration of pain medication), current norms (eg, patient psychosocial information, contextual alerts, medical updates) or future plans and/or past actions (eg, ancillary care, transfer status, timing for discharge).

Some heads-up information was quite indirect in nature, but had implications that were implicitly understood by the receiver of the message, due to shared expertise, experience and knowledge across the handoff dyad. For instance, the heads-up “He [patient] did not have a bowel movement for me last night” relates to current norms and can be understood to have implications for an incoming nurse’s shift without explicitly stating what has to be done. Similarly, heads-up recommendations often allowed room for interpretation or leeway in terms of individualised approaches, but did not always contain specific verbalisation of who would or should accomplish this task. Moreover, they were sometimes mitigated using words like ‘could’ and ‘might’ which served as a way of giving advice without ordering or insisting that the incoming nurse or resident to complete the recommended action.

Unlike some of the task-oriented AMC, it is important to note that such alerts or warnings about what to anticipate on an upcoming shift may be absent in written or electronic patient medical records, handoff documents, etc, and conveyed only in the verbal interaction from one nurse or resident to another during the handoff (eg, “At 10 o’clock last night I guess he was spitting out his meds, would not take them.”). In addition, heads-up AMC also included informal information about tasks that did *not* need to be completed by the incoming professional or circumstances that were not going to be of concern. Box 3 includes quotations from various handoff interactions as examples of heads-up AMC.

**Box 3 Examples of heads-up information (anticipatory management communication, AMC)***Recommendations*

"I think maybe early morning you could probably go up to 60 [feeding tube rate]." [outgoing to incoming nurse, dyad #9]

"He doesn't want to get his PJs on until bedtime." [outgoing, nurse dyad #4]

"And fluids, this is the last liter that's going now but he's no nausea or vomiting today he's eating and drinking well so we really didn't think we needed to continue those tonight." [outgoing to incoming resident, dyad #1]

*Current Norms*▶ *Psychosocial Information*

"He's got a personality disorder so just be aware you know I'd avoid the room if you go into the room ah just be prepared that, you know, things won't be quite as easy." [outgoing to incoming resident, dyad #13]

▶ *Contextual Alerts*

"He leans on the light. He doesn't really need anything but he leans on the light, and I went in there and I asked him, do you need anything? Do you need your TV? He said, no, so." [outgoing to incoming nurse, dyad #4]

▶ *Medical Updates*

"He has a PCA but he's still saying his pain's at a 10 so if they call you in you know that he needs something" [outgoing to incoming surgical intern, dyad #1]

*Expectations/Plans*▶ *Ancillary Care*

"Neurology...I consulted [an] order and they will be seeing him today." [outgoing to incoming resident, dyad #9]

▶ *Transfer Status*

"So both of them just got transferred out of the ICU, and I don't know how well [name] is on managing postop patients so you might get called on them." [outgoing to incoming surgical intern, dyad #3]

▶ *Timing for Discharge*

"He'll probably be discharged on Wednesday." [outgoing to incoming nurse, dyad #1]

**Comparison of AMC frequency counts in medicine and nursing**

The most frequent type of AMC across all handoff dyads was heads-up information (N=257; 108 resident and 149 nursing). Indirect instructions AMC was used in a little over half the resident handoff dyads (32 instances), but occurred in all the nursing dyads (292 instances). Direct instructions AMC occurred in roughly equal proportion across all dyads but at a modest frequency (see [table 1](#)). An additional difference between how AMC was used between resident and nursing dyads was that direct (if, then) contingency AMC occurred in resident handoffs more frequently than in nursing handoffs. A complete breakdown of the AMC frequency counts for both

**Table 1** Number of dyads using each type of anticipatory management communication (AMC), and the count of AMC instances

|              | Residents (n=18) |                   | Nurses (n=27) |                   |
|--------------|------------------|-------------------|---------------|-------------------|
|              | # Dyads          | # Total instances | # Dyads       | # Total instances |
| Direct AMC   |                  | 58                |               | 19                |
| Instructions | 9                | 28                | 10            | 17                |
| Contingency  | 10               | 30                | 2             | 2                 |
| Indirect AMC |                  | 34                |               | 292               |
| Instructions | 10               | 32                | 27            | 292               |
| Contingency  | 2                | 2                 | 5             | 5                 |
| Heads up     | 18               | 108               | 27            | 149               |

medicine and nursing is included in [table 1](#) along with the total number of AMC frequency counts across all dyads for both groups. As well, the number of dyads across the two groups that used at least one instance of AMC (from any category) is also represented.

**DISCUSSION**

Across nursing and medicine dyads, three types of handoff AMC were identified: (1) direct task-oriented (direct instruction and direct contingency); (2) indirect task-oriented (indirect instruction and indirect contingency) and (3) heads-up information. The most frequently used type of AMC across all dyads was heads-up information, although the frequency was greater among nurse dyads. As a form of anticipatory management, heads-up AMC plays a key role in orienting an incoming professional to elements of care (eg, events that are possible but not necessarily predictable) that may be difficult to capture in a textual or electronic format. It has been noted that nurses and physicians communicate differently; while nurses focus on the details of care delivery at the bedside, physicians tend to focus on pertinent medical management information.<sup>15</sup> This difference might explain why nurses had so many more instances of heads-up AMC.

Heads-up AMC is not typically contained in electronic medical records, which underscores the importance of better understanding the dynamics of handoff conversations. For instance, heads-up AMC can include important physical information (eg, patient is too shaky or weak to hold a urinal without spilling it) or psychosocial information (eg, the emotional state of the patient) that serves to more informally prepare an incoming nurse or resident for what they might expect to do, hear or see during the upcoming shift. Sharing a heads-up, or what Michael Polanyi referred to as personal knowledge in a handoff conversation,<sup>16</sup> helps create situation awareness, a state of affairs in which one member of a handoff dyad makes a partner aware of what is happening currently and how

information, events and their own actions may impact immediate and future goals.<sup>17 18</sup>

Implied and often inferential, indirect instructions AMC was used with moderate frequency in resident handoff dyads, and to a much greater degree in nursing dyads. In fact, indirect forms of AMC (identifying tasks and presenting if/then scenarios without explicit mention of *who* needed to do what and/or the explicit naming of the task itself) were present in every nursing handoff dyad as compared with approximately half the resident handoffs. The differences in task organisation between nurses and residents may offer a possible explanation for this finding. For instance, nurses are typically assigned to a specific group of patients during a shift and literally have hands-on responsibility for tending to their ongoing needs. Medicine and surgery residents, on the other hand, are tasked with handing off a diverse group of their own and others' patients whom they may or may not know, to incoming residents with whom they have varying degrees of relationship. As a result, one might expect the language of AMC to differ in its explicitness given the differences in relationship and tasks each provider type is expected to perform. In other words, indirect task-oriented AMC may save time and eliminate the need for redundancies in speech among speakers whose tasks and relationships are well circumscribed, such as in nursing.

As has been noted by linguists, such words and expressions in conversation, known as indexical expressions, are tacitly understood by speakers based on context or shared history.<sup>19</sup> For example, use of personal pronouns such as *it's*, as in, '*It's still not working?*' may convey meaning that is obvious to two speakers who share a common experience or history, but whose meaning would be opaque to an outside listener. Unfortunately, it also leaves the door open for misinterpretation and misunderstanding. Previous research on task completion in small groups/teams indicates that part of performing effectively in an environment in which tasks are constantly changing, is recognising when to use tacitly coordinated action versus explicit strategy planning.<sup>20</sup>

Another reason why indirect AMC may have been so much more frequent among nurses could be due to the long-standing working relationships nurses are apt to have with one another. As a result, they may have more at stake in maintaining ongoing relations than residents who may be on a service for a short time before rotating to their next assignment. One way of maintaining relationships is through the use of politeness or face-saving strategies,<sup>21 22</sup> and among the categories we found, indirect AMC has the most face-preserving and relationship-preserving potential since it does not explicitly direct the incoming nurse to do something, but hints at the fact that something needs to be done without explicitly assigning responsibility. At the same time, such forms of AMC may lead to ambiguity and

uncertainty, especially in instances where it is not clear when the roles and responsibilities of the outgoing nurse end and those of the incoming begin (eg, if the outgoing nurse did not complete a task during her shift, will she complete it before leaving, or should the incoming nurse complete it instead?).

Frequent use of face saving and indexical language among highly inter-related team members can be seen as an efficient way of relating but it also can lead to short-cuts and incorrect inferences about what is meant. For example, Diane Vaughan's analysis of the space shuttle *Challenger* disaster found that the team responsible for the accident had developed short-cuts in their interactions and communication that were responsible for installing two 'O' rings where only one was called for.<sup>23</sup> In aviation and aerospace, this problem has been addressed through specific attention to testing for comprehension of communication using 'teach-backs' or 'talk-backs' as a way to reduce ambiguity.<sup>24 25</sup> Such was not the case, at least not in the handoff communication in medicine and nursing that we studied.

This study has several limitations. Although the ability to compare and contrast AMC between nurses, residents and interns (representing variations in shifts) was a strength, the disparate nature (and different stages of training, operating cultures, communication styles, etc) of these groups may make it more challenging to draw meaningful conclusions. Along with the study period (14 months) spanning a large swath of training and professional development for the residents, there was not a sufficient number of surgical intern dyads to report resident data broken down by surgery or medicine. Moreover, the study was conducted at a single site/VA Medical Center. It will be beneficial for future research to systematically examine AMC on a larger scale across a multitude of healthcare organisations. It will also be useful to investigate potential differences in AMC based on level of advancement and organisational tenure of the individual and dyad.

Because we limited our analysis to audio recordings, we only focused on verbal interaction and not non-verbal communication or the use of paper based or electronic handoff tools, and we may have missed important contextual information relating to AMC that occurred during the handoff. Another limitation of our study that future research might address is the lack of connection between our observations of handoffs and the consequences in terms of subsequent care. Although it has been pointed out that up to 80% of all adverse events in the hospital setting can be traced back to breakdowns in communication during transfers of care,<sup>1</sup> it is unclear which elements of the handoff carry the greatest risk for errors and misunderstanding that increase the risk of an adverse event. For future studies of AMC, it will be interesting to see if different styles of communication impact clinical outcomes (eg, how many tasks get completed on signout, or adverse patient events).

Use of techniques such as cognitive task analysis and observation of the care delivery process once a handoff is completed could help to provide a more comprehensive understanding of the relationship between handoffs and subsequent care delivery. Moreover, it will be beneficial for future research to understand the organisational norms in place at the micro-, meso- and macro-levels. For example, semi-structured interviews with administrators may uncover variations in the ways in which handoff rules and regulations are interpreted. Such differences in the attitudes of administrators may explain some of the variation in handoff processes and outcomes that have been noted in our study and the literature. Finally, further verification and application of the AMC framework in future research should include uncovering ways in which AMC can help the incoming provider understand a possible trajectory and events for a patient (eg, knowing what can they expect when they walk into a patient's room).

## CONCLUSIONS

Contextually sensitive communication about anticipated shift tasks and potential problems are important components of handoffs but are frequently unaccounted for or missing in research reports and recommendations. We found that heads-up information AMC filled the gap between the information available in standardised and/or technology-dependent handoffs and the contextually sensitive information around anticipated events. Such information is often informal in nature, but outlines tasks and serves as an alert of something that might later be very relevant for the incoming resident or nurse to ensure timely and safe patient care.

Based on the form and function of heads-up AMC, one practical finding of this study is that even an optimal electronic tool cannot necessarily replace a handover that is conducted verbally (ideally in person) because important parts of handoffs cannot be anticipated, and occur only verbally. Therefore, the content of these important components (many of which are complex, evolving and unpredictable) will not always be captured in checklists or written handoff tools,<sup>10</sup> and sometimes occur in unlikely moments that do not adhere to a prescribed pattern, such as one might encounter with Situation, Background, Assessment, Recommendation (SBAR).

Although such tools typically do a good job of capturing formal categories of behaviour and test results, they are notably insensitive to informal discourse that often contains psychological or social information critical to understanding the context of care, its likely course, and outcome. Ultimately, using conversational exchange to make information contextually relevant in transferring roles and responsibilities (referred by conversation analysts as 'recipient design'<sup>26</sup>) is a key feature of timely and safe patient

care. To raise awareness and skills, we recommend that handoff training include a communication skills component that emphasises the importance of direct verbal communication as part of safe handoffs. Moreover, standardised or technology-dependent nursing or medicine handoffs should include strategies for achieving clarity (for both the giver and receiver) when unstructured psychological or social information is shared.

In addition, due to the implied and often inferential nature of indirect task-oriented AMC, especially for nursing handoffs, we recommend the use of verbal 'teach-backs' and 'talk-backs', when tasks have been identified, if/then scenarios presented, and recommendations offered. Indirect task-oriented AMC may save time, be polite and/or eliminate the need for redundancies in speaking, but it is important for patient safety to ensure that ambiguous language is clarified by handoff partners. With such a large proportion of adverse events in hospitals attributable to breakdowns in handoff communication, it is imperative that creative solutions to gaps in achieving high reliability be found to improve the safety and quality of care delivered to hospitalised patients.

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