Productive Complications: Emergent Ideas in Team Communication and Patient Safety

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Communication is recognized as one of the central factors underpinning safe, high-quality teamwork in complex systems. Without effective communication, competent individuals form an incompetent team. Healthcare, traditionally predicated on the excellence and autonomy of the individual practitioner, has been somewhat slow to embrace this reality. It is only recently that we have recognized that both technical and communicative expertise are necessary for safe care.

The past decade has seen important advancements in our attitudes and knowledge regarding team communication. There is increasing evidence of an association between effective team communication and valued clinical outcomes (Alfredsdottir et al. 2007; Gawande et al. 2003; Mazzocco et al. 2009; Neilly et al. 2010; Nurok et al. 2011). Research in this domain has developed a knowledge base sufficient to drive international change initiatives, such as the World Health Organization's Safe Surgery campaign (WHO 2010). Team communication is becoming a standard component of health professional education, recognized in competency frameworks (Royal College of Physicians and Surgeons of Canada 2005) and supported by a catalogue of validated measurement tools to track trainee performance (Mishra 2009; Yule et al. 2008).

Unquestionably, great strides have been made in what might be called the "first generation" of research regarding team communication and patient safety. However, some of the messier, murkier aspects of team communication remain poorly explored. In fact, one of the hallmarks of the first generation of team communication research is arguably an oversimplification of what is, at its essence, a highly complex phenomenon. Oversimplification may be a natural consequence of our efforts to make early headway in the face of a complex social phenomenon. However, the major contribution of the "second generation" of team communication research will be to build on these starting points through *productive complications* of what we already know. In what follows, three promising areas of study are sketched: the meaning of silence, the uptake of communication innovations and the phenomenon of intertextuality.

The Meaning of Silence

To date, team communication research has attended to the *presence* of speech: what team members are saying to one another, or what they should be saying to one another, in the course of their clinical work. The *absence* of speech, by contrast, has received little attention. The importance of this distinction is evident to anyone who has spent time with healthcare teams at work: there is much more being communicated in teams than simply what is being *said*. Teamwork is full of meaningful silences; so far, however, our research efforts and teamwork improvement initiatives have paid little attention to the silent end of the speech-silence continuum.

An exception is the literature on organizational silence, which

explores why team members may not "speak up" during or after dangerous clinical situations. This literature is concerned mainly with error reporting; silence in this context is conceived as the failure to report, and the research in this domain describes the organizational characteristics and professional attitudes that create such silences (Chamberlain 2008; Espin et al. 2007, 2010; Maxfield 2005, 2010; Tangirala 2009), the socially shared nature of silence as mutual censorship (Hart 2011) and "consensual neglect" to report, which may present a hidden threat to safety (Henriksen 2007). Overall, this literature on silence as "not reporting" shares an orientation toward silence as problematic and, once understood, ameliorable. This orientation is appropriate in the context of cultivating a culture of error reporting for quality and safety. However, not all silence is problematic.

Many kinds of silence punctuate the everyday communications of a clinical team. They include the matter-of-fact silence required for conversational turn-taking etiquette (Sacks 1974); the pregnant silence of a request that is unanswered (Gardezi 2009); the uneasy silence that descends when something unexpected emerges intra-operatively (Moulton et al. 2010); the face-saving silence when a junior team member cannot answer a teacher's Socratic question (Lingard et al. 2003); and the comfortable silence of routine work among familiar colleagues. Silence is recently becoming recognized by communications experts, such as linguists, as a rich communicative resource (Kurzon 2011). While some recent studies point to the presence of silence as a meaningful marker in a team setting (Moulton 2010), few explore more fully its motivations and implications on hierarchical teams (Gardezi 2009) and its role in serving tacit purposes such as both patient and psychological safety in the operating room (Lingard et al. 2009).

The absence of speech has received little attention.

An emerging literature is grappling with the meanings of silence for teamwork and safety. Fivush (2010) has laid out, using a feminist socio-cultural lens, the distinction between "being silent" and "being silenced"; the former may entail a shared understanding that need not be voiced, whereas the latter may entail an imposed loss of power. Working with similar attention to the complexity of silence, Gardezi et al. (2009) took a critical ethnographic approach to exploring the patterns of nursing silence on operating room teams. They described three forms of recurring silences – not sharing information, not responding to requests and speaking quietly – and found that these could be defensive or strategic. These authors argue that current improvement initiatives, such as preoperative team briefing, need to take into account the ways in which silence functions, both productively and problematically, in everyday team communications.

Silence in team communication can be functional or dysfunctional as far as patient safety is concerned; it depends on the team members involved, the particular situation and the broader organizational context. The second generation of team communication research is poised to more fully explore *what silence is doing* on teams, by tracing patterns of silence in particular work settings and describing their impact on patient safety issues such as situational awareness and adaptive flexibility in the face of emergent challenges.

The Uptake of Improvement Initiatives

Initiatives aiming to better team communication in order to improve patient safety have proliferated in recent years. This section focuses on one particularly popular effort: a checklist approach to support pre- and post-operative surgical briefings in operating room teams. Such checklists support a communication protocol that is designed to create a proactive, inclusive and non-hierarchical communication event that ensures the transfer and explicit verification of salient information about a surgical procedure (WHO 2010). A growing body of evidence testifies to the ability of surgical briefings to better patient safety by improving the timing of antibiotic prophylaxis (e.g., France et al. 2008; Lingard et al. 2011; Paull et al. 2010; Rosenberg et al. 2008) as well as other basic standards of care (Weiser et al. 2010); decreasing non-routine surgical events (Einav et al. 2010); and reducing rates of errors (de Vries et al. 2010), death and complications (Haynes et al. 2010; Weiser et al. 2010).

The development of this evidence base has supported a cultural shift in attitude, from the acceptance of a tradition of ad hoc communication among team members to the insistence that a surgical checklist is a necessary and straightforward practice that must be adopted (Gawande 2009). On the one hand, this "just do it" attitude is constructive. It is partly responsible for both the widespread implementation of the checklist by healthcare organizations around the world and its uptake into policy and accreditation standards (Ontario Ministry of Health and Long-Term Care 2010). On the other hand, the just do it attitude has resulted in a measurement project devoted almost exclusively to the documentation of checklist compliance rates. Hospitals proudly report high checklist compliance rates (Mount Sinai Hospital 2010) or establish programs to improve unsatisfactory rates (Purvis 2011).

The simplicity of such evaluation is problematic for a few reasons. First, it belies the complexity of the organizational intervention required to cultivate checklist practice (Whyte et al. 2009). As Bosk et al. have argued about the Keystone ICU project (Pronovost 2006), stories about "the triumph of the 'simple checklist' as a solution to [patient] safety problems" are problematic because they "[obscure] the complex labour necessary to create a collective local faith in checklists … and [to mobilize] support for coordinating work" (Bosk et al. 2009: 444).

Second, high compliance rates imply that good team communication has been achieved. Very few studies have measured the impact of the checklist on communication practices (Lingard et al. 2008). However, a positive association is commonly assumed. For instance, Weiser et al. (2010: 979) speculate that "team interactions and communication … were likely enhanced with use of the checklist," although they present no data in support of this speculation. This lack of rich data regarding what happens to a team's communication when checklists are introduced perpetuates the assumption that, if checklists are in place, then team communication must, of course, be better. This assumption signals a serious threat to safety, characterized by Bosk et al. as "the complacency induced when an organisation thinks that a problem is solved" (2009: 445).

The aura of simplicity around checklists is perhaps most starkly evident in the term itself. A checklist is a *tool*, a technical intervention, while a briefing is an *activity*, a socio-cultural intervention. Attention to checklists leads, quite naturally, to questions about whether boxes are being ticked. Attention to briefings, by contrast, leads to questions about what team members are doing – or not doing – when they take up this communication intervention. These questions cannot be answered by compliance rates; richer, ethnographic data are required, informed by socio-cultural, theoretical perspectives with a capacity to complicate the taken-for-granted assumptions that underpin safety interventions (Kitto 2011; Zuiderent-Jerak et al. 2009). Dixon-Woods (2011) argues that we need to better acknowledge the organizational and professional politics involved in a team's uptake of a safety innovation in order to move the field beyond normative assumptions about how things ought to be, and toward describing how things are. For example, rather than assuming that the checklist *ought to be easy*, we can investigate the elaborate, interdependent processes that need to come together for a team to share a two-minute briefing at 8:00 a.m.

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How teams brief is also a critical question elided by compliance rates. The normative assumption in the research literature is that, if teams brief, they *ought to brief well*. More attention is needed to workarounds or deviations – instances in which *something* is happening that gets checked off as "done" for checklist compliance but does not reflect the fundamental principles of briefing or is not recognized by all team members as constituting a briefing (Allard et al. 2007). Interestingly, while resistance and workarounds are commonplace in the stories of leaders, administrators and educators at the front end of implementing team communication innovations such as the WHO Surgical Safety Checklist, they are only rarely studied and formally reported (National Health Service 2010; Vats et al. 2011). More work is required that richly describes the complicated uptake associated with team communication innovations such as the briefing; examples are the emerging work regarding the role of staff attitudes toward safety in briefing implementation (Allard et al. 2011; Wolf 2010) or the phenomenon of poor briefings and their paradoxical effects (Whyte et al. 2008). This work reports good, bad and indifferent practices in the face of such innovation and studies the impact of these on the safety of the work they are intended to support.

The Phenomenon of Intertextuality

To date, research on the links between communication and safety has tended to focus on distinct communication practices such as oral handovers between clinicians (Arora et al. 2005; Catchpole et al. 2007; Leonard et al. 2004; Manser and Foster 2011) or medication reconciliation in discharge summaries (Grimes et al. 2011; Wong et al. 2008). Such focused study has advanced our understanding of particular communication events and their impact on quality and safety; however, rarely has research considered *systems* of such communication practices and how they invoke, imply and impact one another. This phenomenon is referred to as *intertextuality*. Intertextuality is not a new idea in disciplines such as literary theory (Kristeva 1980), genre theory (Devitt 1991) and linguistics (Fairclough 1992), where scholars have long been concerned with understanding how texts coexist, and how that coexistence produces multiple meanings and shapes interpretation. Intertextuality is only beginning to be explored in team communication research, but it has much to tell us about how communication events upstream can shape, often invisibly, patient safety events downstream.

Consider the example of communication practices of an internal medicine team in an academic teaching hospital that employs an extensive system of oral and written communication practices to care collaboratively during in-patient stays (Goldszmidt et al. 2011, May). Goldszmidt et al. explore how these communication practices, such as student case presentations, admission notes, test results and discharge summaries, influence one another. Early findings suggest that important concepts can get distorted as they move from one communication practice to another; that concepts can appear at one point in the communication system and then inexplicably disappear; and that some communication practices can exert an inappropriate, and apparently unnoticed, influence on others.

More research is needed that considers intertextuality within systems of team communication practices. Such work could be particularly helpful at "transition points" – admission, transfer between care settings and discharge – where poor transfer of information is responsible for as many as 50% of all medication errors and up to 20% of adverse drug events in hospitals (Institute

for Healthcare Improvement 2006). Attention to the system of team communication practices that feed into problematic transition points could offer critical insights. Other relevant examples include the issue of surgical briefings discussed earlier, which could be considered within the broader communication system in which they are situated: the daily case board in the operating theatre, the computerized procedural record completed by the circulating nurse during the case, the surgeon's "pic list" (their list of preferred instruments), the patient's chart, the anaesthetist's instrumentation protocols and the teaching discourse during the surgical procedure. The question of how coexisting communication practices influence the meaning of a particular communication event such as a briefing or handover has the potential to significantly advance our understanding of a communication event as a complex, situated practice with ripple effects that may influence the safety of patient care.

Intertextuality has much to tell us about how communication events upstream can shape, often invisibly, patient safety events downstream.

Conclusion

Considerable progress has been made in evidencing the links between team communication and patient safety. With the first generation of research in this domain having achieved strong consensus on these links, the major contribution of the second generation will be to *productively complicate* existing knowledge. The three issues presented in this paper – the meaning of silence, the uptake of communication innovations and the phenomenon of intertextuality – challenge us to avoid indulging in a sense of complacency as researchers, hospital leaders and policy makers. There is still much to be learned about how teams communicate and what their communication means for patient safety. Efforts to improve teamwork at the hospital management and policy levels need to acknowledge the complexity of the relationship between how teams communicate and the safety of the care they provide. Currently popular initiatives, such as team communication checklists, should be complemented with more sophisticated tracking measures than mere compliance. We should strive to understand the multi-faceted meanings and impacts of silence, and, rather than seeking to eradicate silence from team communication, we should educate practitioners to use and interpret silence wisely and safely. And, finally, efforts to improve single communication practices, such as handover, should, when possible, take into account their intertextual relationships with other practices in the clinical setting to ensure maximal impact and avoid unintended consequences in communication practices up- or downstream. HQ

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