

STATE OF THE ART AND SCIENCE

Time-out: The Professional and Organizational Ethics of Speaking Up in the OR

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Abstract

Participation in patient safety is one concrete expression of a foundational principle of medical ethics: do no harm. Being an ethical professional requires taking action to prevent harm to patients in health care environments. Checklists and time-outs have become common patient safety tools in the US and other nations. While their use can support ethical practice, recent research has revealed their limitations and has underscored the importance of interpersonal collaboration in developing and using these patient safety tools. This article summarizes key research and discusses the professional and organizational ethics of patient safety, using the surgical time-out as a case study.

Introduction

A decade ago, research by clinician-investigators such as intensivist Peter J. Pronovost and surgeons Atul Gawande and Martin A. Makary was instrumental in clarifying that communication problems within patient care teams were a major factor in surgical errors and in errors associated with the care of patients following common medical and surgical interventions, such as central venous catheter (central line) placements [1-4]. For example, miscommunication within surgical teams can lead to wrong-site surgery [2]. To prevent patient harms associated with miscommunication, shortcuts, or the lack of a defined opportunity to speak up to ask a question or draw colleagues' attention to a problem, innovations such as checklists and the surgical "time-out" were developed, evaluated, and promoted [3, 4]. [Checklists](#) are step-by-step protocols of evidence-based measures for team members to follow before a surgical procedure or during medical care, often including a built in time-out for a final review and for team members to speak up. Patient safety checklists are now familiar to medical students beginning their clinical training and are ubiquitous in clinical practice, with nurses bearing significant responsibility for ensuring checklist adherence. Similarly, surgical checklists are familiar to surgical and anesthesiology residents and fellows and to other operating room (OR) professionals. The idea that such checklists could save lives, prevent injuries, and reduce risk to institutions and costs to systems, professionals, and patients became so popular that it was even dramatized in an episode of the television medical drama *ER* [5]. In this article, we consider the limitations and ethical dimensions of this everyday but sometimes problematic aspect of contemporary health care work, giving special

attention to the surgical time-out as an intervention intended to support communication within an interdisciplinary team preparing for a patient's surgery.

Research on Checklists

Medical sociologists Charles L. Bosk and Mary Dixon-Woods have studied Pronovost's Michigan Keystone ICU Project [6], which successfully reduced central line infections in ICUs and made use of checklists developed by participating clinicians [1]. In 2008, they joined with Pronovost and his co-investigator Christine A. Goeschel to publish a "reality check for checklists" [6]. Although some commentators attributed the success of the project to a "simple" checklist [3], Bosk and colleagues cautioned against oversimplifying the challenges of encouraging professionals to recognize how their own behavior was contributing to iatrogenic harm, to make and sustain behavioral change, and to support each other in a social change process that also required organizational leaders' buy-in. A more extensive analysis of Pronovost's ICU study, led by Dixon-Woods and Bosk, described how checklists developed by participating clinicians were an outcome of a successful social change process in the interest of patient safety rather than the catalyst for that change [7]. This descriptive account (which is essential reading for anyone interested in how patient safety and quality improvement initiatives succeed or fail) identified "six reasons that explained why Michigan worked" [8]. These included the engagement of clinical and administrative leaders in participating institutions; opportunities for participating teams to meet and to share findings across institutions; careful redefinition of infection prevention as a fixable (rather than an intractable) problem and as a social problem that caused avoidable harm and whose solution depended on behavior change; changes in ICU layout and clinical roles (in particular, giving nurses the authority to halt unsafe procedures); and mandatory data reporting and data sharing [5, 7]. A continuing theme of this analysis is that having a stake in a checklist development process promotes professional, psychological, and social investment in the success of the process as measured in patient outcomes [9].

These observations are crucial to understanding a built-in challenge in efforts to reduce iatrogenic harm through checklist-type interventions: the experience of developing a checklist is different from the experience of following a checklist developed by someone else. On the one hand, patient safety interventions such as surgical time-outs and other features of surgical checklists have been widely endorsed [10, 11] as integral to good practice. Systematic reviews [12, 13] suggest that these interventions have an effect on measurable patient safety targets. On the other hand, studies conducted in the US [14] and other wealthy nations with comparable health care systems [15, 16] also describe the limitations of checklists [17]. Checklists, which are sets of memory prompts, do not, in themselves, help team members to [communicate more effectively](#) about matters not included in a checklist, nor do checklists alone change "culture" [7]. These studies also suggest that "checklist fatigue"—too many checklists or the introduction of checklists that do not seem to be the right tool for the task at hand—and resistance to using

potentially effective tools as designed are continuing roadblocks [9, 17], despite the early efforts of innovators to warn of these very problems [6]. Makary and Daniel estimate that medical errors, which can be caused by “communication breakdowns, diagnostic errors, poor judgment, and inadequate skill,” now constitute the third leading cause of death in the United States [18]. It is reasonable to conclude that the problematic aspects of checklist implementation and use are a factor in this continuing problem.

Professional Ethics

Participation in [patient safety](#) is the most basic and concrete expression of a foundational principle of medical ethics: do no harm. It applies to all health care settings and all forms of care. Being an ethical professional requires taking action to prevent harm to patients in the “intrinsically hazardous” environment of a health care system [19]. This ethical obligation includes supporting the ability of others—colleagues, students, family caregivers, and patients themselves—to maintain safety and prevent harm. The process of becoming a surgeon or a medical specialist includes recognizing the specific harms associated with the delivery of health care in an area of clinical practice and participating in initiatives to improve safety through one’s own specialty as well as in the workplace. It requires acknowledgment that “system” error always involves human error; the safety of systems is created, improved, or diminished by the judgments and actions of people, not by the mere existence or absence of safety policies and protocols such as checklists.

Medical training is an explicitly [hierarchical system](#)—interns are supervised by residents, residents by attending physicians, fellows by specialist attending physicians—and within health care organizations there are official and unofficial hierarchies. In the context of surgery, senior surgeons clearly hold high status relative to other OR professionals, and this status may extend to nonsurgical contexts. A surgeon who produces high revenues for an organization, for example, will hold high status in that organization. The pronounced hierarchy of the OR may also make preoperative communication by a nurse or surgical resident concerning a potential harm to a patient more challenging than in other clinical settings [20, 21]. The surgical time-out is a strategy that, in part, is designed to support personnel often seen by some as subordinates—such as nurses, students, and resident physicians—in their roles in maintaining patient safety, as well as to prevent harm by compensating for difficulty of [speaking up in hierarchical environments](#) and challenging one’s own supervisor or other superior in those environments. When time-outs and other features of potentially effective surgical checklists fail—resulting in preventable, often harmful errors—studies indicate that the behavior of senior surgeons is often a factor [9, 22]. When surgical leaders resist the efforts of other students or clinicians to use an appropriate checklist as designed, early-career clinicians observing this behavior receive a powerful negative message about professional conduct.

With time and experience, surgical residents become more confident in challenging superiors during life-threatening crises [23]. Resident physicians and nurses need training and consistent support from mentors, peers, and organizations to challenge potentially unsafe conditions prior to the start of a procedure; delaying speaking up until a crisis that may be caused or exacerbated by unsafe conditions is ethically insufficient.

Organizational Ethics

Health care organizations exist to do good: to care for the sick, to relieve suffering, to cure disease, to contribute to human flourishing. The policies and actions of health care organizations are not intrinsically good. Rather, they must be scrutinized to ensure that organizational priorities consistently reflect the interests of patients, both under normal conditions and during periods of change. Because patient safety is fundamental in health care and medical harm remains an ever-present risk to people in need of health care, leaders and managers in health care organizations must acknowledge how the health care work environment can undermine efforts to make this environment safer.

Health care organizations are “complex” systems by definition [5], and adaptation is a feature of work in complex systems: professionals must adjust their behaviors to respond to changing conditions, patient populations, or economic pressures. Pressure to be “efficient” is typical in health care organizations, as are pressures to reduce costs and maximize revenues. These pressures, on top of the need to adapt to changing conditions and the obligation to follow multiple sets of rules, can lead to professional uncertainty about how to reconcile competing organizational expectations.

Research on why checklists fail [9, 16, 24] suggests that when surgical leaders or team members perceive a checklist to be a waste of time or question the checklist’s value in a particular situation, they will devise workarounds—skipping steps, for example—to get through the checklist requirement. If a checklist’s design is perceived to be flawed, or if this patient safety tool does not appear to work in some other way under real clinical conditions of competing organizational expectations, clinical users need nonpunitive ways to discuss these barriers to patient safety with clinical leaders.

Speaking Up in the OR: Communication about Safety as an Ethically Significant Activity

Communication among the members of a surgical team, represented by the time-out feature of a checklist, is itself an ethically significant activity, encompassing both the obligation to “speak up” about a potential harm to a patient and the [obligation to listen and respond](#) appropriately to this concern. Research findings suggest that communication failures contribute to medical error [20, 21] and that interventions to improve interprofessional communication also improve patient outcomes [25].

One safety challenge in the OR concerns how different professions in this setting perceive the quality of communication and other aspects of teamwork. Research suggests that surgeons tend to perceive nurse-physician interactions as more positive than do nurses considering the same interactions [26, 27]. In other words, a relatively more powerful surgeon tends to perceive that things are going well while the nurse (or other subordinate) perceives a problem. If nurses or resident physicians express a concern during the time-out but do not perceive that their concerns are being taken seriously by senior surgeons, they may stop expressing these concerns [28]. Speech can be an ethical act aimed at preventing or mitigating harm [29], but its usefulness depends on the speaker being confident that she will be listened to and that action will be taken, if appropriate.

Conclusion

After a decade of development, use, and study of surgical and comparable procedural checklists in medicine, it is clear that the best outcomes are associated with a process of [quality improvement](#) that includes checklist creation or adaptation rather than simple adoption. By now, there are many checklist models available, and new checklists do not have to be developed from scratch for each procedure. However, as Pronovost's groundbreaking research demonstrated, the process of collaborating to adapt evidence-based guidance to a team's own setting strengthens buy-in and uptake [9]. Health care organizations should offer the whole surgical team, starting with senior surgeons, a stake in the creative process. Aligning team members with a shared goal of preventing harm should include consideration of the clinical and ethical value of a time-out in addition to memory prompt items on a checklist. When senior surgeons are seen to be willing to spend time on the "how" and "why" of the time-out, their actions can support and improve interprofessional communication and patient safety in the OR [30].

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