Patient Safety Movement: History and Future Directions

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Despite progress within the past 15 years, improving patient safety in health care remains an important public health issue. The history of safety policies, research, and development has revealed that this issue is more complex than initially perceived and is pertinent to all health care settings. Solutions, therefore, must be approached at the systems level and supplemented with a change in safety culture, especially in higher risk fields such as surgery. To do so, health care agents at all levels have started to prioritize the improvement of nontechnical skills such as teamwork, communication, and accountability, as reflected by the development of various checklists and safety campaigns. This progress may be sustained by adopting teamwork training programs that have proven successful in other high-risk industries, such as crew resource management in aviation. These techniques can be readily implemented among surgical teams; however, successful application depends heavily on the strong leadership and vigilance of individual surgeons. *(J Hand Surg Am. 2018;43(2):174–178. Copyright © 2018 by the American Society for Surgery of the Hand. All rights reserved.)*

Key words Error, patient safety, safety culture, surgery, teamwork.

Patient safety did not garner national attention until the late 1990s, on the publication of the Institute of Medicine report, "To Err Is Human." This report estimated that nearly 44,000–98,000 patients die from preventable errors in American hospitals each year,[1] a statistic that galvanized patient safety into the public eye and sparked activity among various health care stakeholders at both national and institutional levels. Since this landmark publication, substantial efforts have been made to identify sources of error, develop safety metrics, and create impactful policy initiatives to improve safety in hospitals nationwide.

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Received for publication February 27, 2017; accepted in revised form November 14, 2017.

The project was supported by a Midcareer Investigator Award in Patient-Oriented Research (2 K24-AR053120-06) to K.C.C.

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0363-5023/18/4302-0010$36.00/0
https://doi.org/10.1016/j.jhsa.2017.11.006

Although awareness has increased, patient safety endeavors have yielded mixed results in the reduction of preventable harms, errors, and adverse events. Recently, the National Patient Safety Foundation summarized the 15-year progress since "To Err Is Human" and concluded that improvements have occurred at a much slower rate than initially expected.[2] They stated that initiatives targeting specific and individualized harms, such as central line infection and venous thromboembolism, have demonstrated clear improvements; however, proposals aimed at broader spectra of harm have not achieved similar success.[3–5] Recent patient safety research revealed that defining and measuring "preventable harm" extends beyond mortality, and should also include metrics such as morbidity, diagnostic errors, decreased quality of life, and loss of dignity. This paradigm shift has broadened the scope of patient safety, classifying it as an issue pertinent not only to hospitals, but rather to all settings within the health care continuum. Solutions, therefore, must be approached holistically and implemented at the systems level, as indicated by National Patient Safety Foundation recommendations (Fig. 1). Creating sustainable change relies on the leadership of physicians and administrators to establish cultures of safety

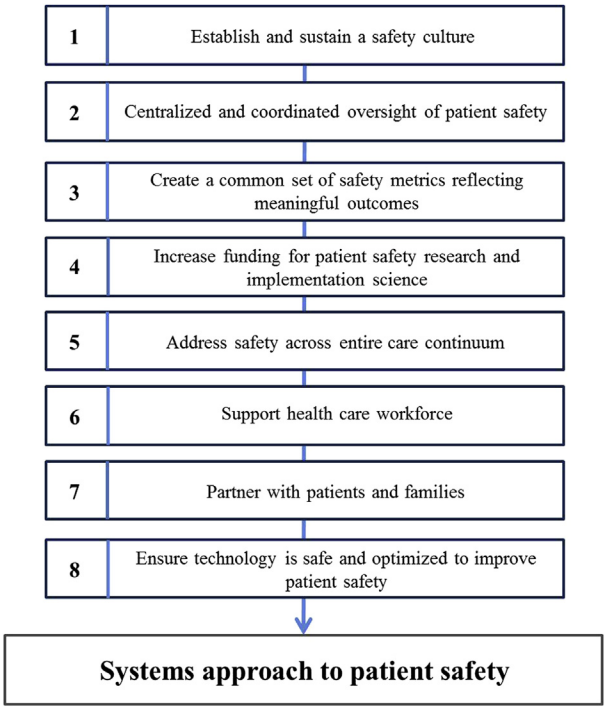

FIGURE 1: National Patient Safety Foundation recommendations for a total systems approach to safety.

amongst medical teams, which requires a high degree of accountability at both institutional and individual levels. For these reasons, it is imperative that current solutions for improving patient safety are well understood and that the ideals of widespread initiatives are translated into the actions of individuals, especially for leaders in high-risk fields of health care such as surgery.

A PROBLEM OF MANY HANDS

A common barrier to developing solutions for widespread issues is the "problem of many hands," or the inability to hold an individual agent or group accountable for outcomes at the systems level.[6] First applied to politics, this historical concept describes the absence of responsibility occurring in large systems that thrive on the interaction of many different agents. In these cases, structural weaknesses are more likely to go unnoticed and accumulate over time, which can eventually lead to a widespread crisis with an unidentifiable cause. This problem is particularly salient in addressing and strategizing change in the health care system as a whole and may further explain the inability to improve broader issues of patient safety.[7]

The health care system is a unique example of a large network of intensely specialized, yet discordant, actors who have different goals, priorities, and problems. The ability of these various actors to coordinate medical efforts as a team is a key focus of patient safety literature; improvement in communication is the primary aim for current patient safety solutions. The effects of communication errors in operative settings are especially well described in surgical literature, as teamwork deficiencies in surgery can lead to complications or adverse events that can immediately endanger patients or unnecessarily stress surgical teams.[8]

Although the operating room resembles the problem of many hands on a smaller scale, applying systems-based solutions can benefit surgical teams and help alleviate common structural and procedural errors. An observational study carried out by Lingard et al[8] monitored 48 surgical procedures and found that observed communication failures could be categorized into 4 different types: timing errors, inaccurate information, unresolved issues, and exclusion of team members. Furthermore, these errors are linked to observable effects on the intraoperative process such as procedure inefficiency, tension within the surgical team, delay, and wasted resources. Improving on these patterns of error requires a formal culture change, as well as uncomfortable levels of transparency, disclosure, and dialogue to facilitate accountability at all levels of the surgical team.

SOLUTIONS AND FUTURE DIRECTIONS

Many techniques have been used in surgery to formally change how safety values are applied in the operating room. For example, the World Health Organization created a "Safe Surgery Saves Lives" checklist that features checkpoints of certain safety verifications that should be performed at different times in all perioperative processes to protect against universal safety hazards.[9] An important component of this checklist is marking of the surgical site by the surgeon while the patient is awake, a process that has also been advocated for by the American Academy of Orthopaedic Surgeons "Sign Your Site" campaign, which was first introduced in 1998.[10] In addition, the Joint Commission developed a preoperative safety initiative called "Speak UP," which emphasizes similar checkpoints in the preoperative time period to reduce wrong site and wrong patient surgical errors. A critical aspect of this protocol is having a "time-out" in the preoperative period that is led by a