The path to safe and reliable healthcare

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ABSTRACT
The ability to deliver safe and reliable healthcare is the goal of all healthcare delivery systems. To bridge the current performance gaps in quality and safety, organizations need to apply a systematic model that effectively addresses both culture and reliable processes of care. The model described in this article provides a comprehensive approach to improving the quality of care in any clinical domain. It also provides a roadmap for people working in clinical improvement to assess the strengths and current needs within their care systems, so they can be strategic and systematic in their work, essential elements for success. The concepts and tools provided can be readily applied to improve the quality and safety of care delivered.

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1. Introduction
There are challenges to the successful delivery of safe, reliable healthcare that require different ways of thinking and learning. Healthcare economists speak of these challenges as the “perfect storm”—an aging healthcare workforce, an increasing demand of aging citizens requiring more complex care, and a financial cost of care that is increasingly difficult to sustain. These issues apply across the globe. The healthcare organizations and delivery systems that will be successful in this ever-changing care environment are applying a systematic approach to improve quality, safety and operational efficiency. Several components of this approach are discussed below.

2. Leadership at multiple levels of the organization
The teaching and modeling of effective leadership behaviors is essential within a high performing system. Senior leaders must be able to clearly articulate and message clear goals regarding organizational values and patient care.

An important insight from Thomas Krause’s work in safety is that leadership behaviors are also operationally efficient and cost effective. Based on Krause’s extensive experience in multiple industries, the hallmarks of leaders whose organizations excel is that they define very specific behaviors that create value, hold everyone accountable for those behaviors regardless of their position or role, and continuously strive to positively improve organizational culture [1].

The strategic goals being discussed among senior leadership need to be clearly and succinctly communicated to front line care providers. It is critically important that senior leaders are also connected to the care process, and engaged in ongoing dialogue with both front line providers and patients and their families. Front line clinicians need to also consistently model effective leadership behaviors. This is an area of need within healthcare, as rarely do we teach effective leadership behaviors in our educational process. Physicians especially need to be aware that every time they walk into a clinical environment, whether an examination room or an operating room, the tone gets set for the patient and the team within seconds. This has a major impact on both the patient’s perception of the care experience and how well the team will work together. This needs to be active, mindful behavior that happens every time. These specific behaviors are described in the teamwork and communication section.

Healthcare education has historically weighted the training of clinicians on the acquisition of technical expertise and this is no longer sufficient for today’s healthcare environment. This can often contribute to profound disconnects and lack of understanding with patients and families, who are processing the care experience in social terms. If the clinicians are thinking “we did the correct procedure and gave the right medicine at the right time,” and neglecting to really understand the dialogue that is really occurring with patients and their families who are having profound social experiences, then the perceptions of the quality of care suffer and can contribute to very different interpretations of the care experience.

3. Safety culture
Culture has a profound impact on behavior and the ability to consistently deliver safe care. Safety culture lives at a clinical unit
level and has to be measured as such. With more than six times more variation at the clinical unit level than at the hospital level, hospital level measurement will dilute out the profound insights that can be gleaned from the perceptions of the various caregivers in that particular unit. What is essential is to accurately reflect the various perceptions of different caregivers working together. Often physicians, higher in the hierarchy, will perceive that “we have great teamwork, nursing input is well received, and everyone is comfortable speaking up and voicing a concern about a patient.” What is critically important is whether other caregivers – the nurses, technicians and other personnel – share the same perception. When caregivers have very positive, concordant views of their care area, the culture is much healthier, being part of the team is a more positive experience, and the teams are able to consistently deliver better and safer care. As patients and their families pay close attention to the social dynamics among the care team and themselves, they are quick to pick up on the level of teamwork and respect among the caregivers.

An interesting piece of data that supports the notion that highly collaborative cultures are able to deliver better care comes from the work done to reduce central line infections across the state of Michigan. Prior to the Keystone project, the aggregate measure of safety culture in 103 intensive care units was measured. As presented in Fig. 1, there is a wide range of perceptions of teamwork from quite weak on the left to very positive on the right hand side. What is particularly interesting is that 44% of the units scoring in the upper one third of teamwork were able to achieve the goal of no central line infections, whereas only 21% of the units in the lower third of scores were able to achieve that goal. We are beginning to see the value of collaborative environments in being able to work effectively toward delivering optimal patient care [2].

Having high quality safety culture data at a unit level allows the team to identify specific area of cultural strength they can build upon, and focus on specific areas of weakness or cultural opportunity for improvement. Perceptions of leadership, comfort voicing a concern about a patient, conflict resolution, how positively nursing input is received, perceptions of teamwork and how openly errors can be safely discussed are examples of important aspects of safety culture.

4. Human performance in a complex environment

The science of human factors relates to human performance in complex environments. In fact, a compelling argument can be made for effective teamwork in healthcare simply based on the complexity of the clinical environment. The work of Tucker and Spear observing nurses in a general ward environment found that during 8 hours of work nurses perform at least 100 different tasks lasting about 3 min each with frequent interruptions and distractions [3]. The human brain can remember five to seven items in short term memory. Imagine trying to effectively manage an ever-increasing list of tasks and it is no wonder people forget things. This is why one takes a list to the grocery store. Interruptions and distractions are significant risk factors for making errors. Driving a car and talking on a cell phone increases the accident rate 50%, making it similar to driving while intoxicated. Texting while driving multiplies the accident rate some 23-fold! The literature on fatigue is clear. Twenty-fours without sleep is equivalent to a blood alcohol of .10, equivalent to being legally intoxicated! [4] Nurses after 12 h of sustained work are three times more likely to make mistakes, which presumably applies to all care providers [5].

Given this complex environment where the consequences of mistakes can be catastrophic, it is essential to have good teamwork and clear communication about the plan of care and how the team is going to measure success and avoid complications. This realization requires a systematic transformation from the classical culture of the individual expert in medicine to one of working in expert teams. One component is the awareness that highly skilled people make mistakes and that effective teams are much more capable than individual groups of experts in detecting and mitigating errors and risk. The second, and critical component is building and sustaining a culture of safety, in which providers can openly discuss errors in an environment that is psychologically safe to do so. Given that the majority of medical errors are derived from system flaws, and that the error chains that allow the multiple factors to progress and hurt patients are usually not obvious to the skilled clinicians, why is there such hesitation to discuss these issues openly?

The fear of malpractice is often cited, there are much more powerful factors at work. First, in a culture that says “good, highly trained providers don't make mistakes”, errors are seen as clear evidence that the individual wasn’t trying hard enough, wasn’t paying attention or was incompetent. This makes it very hard for someone to raise his or her hand and say, “I made a mistake.” Additionally, in a culture of the individual expert, the response to mistakes and avoidable adverse events is “Who did it?” rather than the appropriate question, “How was this possible?” Highly skilled and dedicated providers get out of bed every morning to provide optimal care; they just work in systems that are full of surprises and often don’t support the complexity and risk involved. A simple model of accountability is essential so we clearly differentiate problematic individuals from good, skilled people set up to fail by system errors they never saw coming.

While clearly we need to be able to look directly into the eyes of our patients and their families when we tell them that our clinicians are capable, conscientious and trying hard to do the right thing, we also must have, and must talk about, the rules designed to ensure that mistakes can be safely discussed in a way that helps healthcare systems improve. Otherwise, we will continue to have what exists today – people keeping quiet because they don’t know if they will be punished or fired – leaving us in the position of making the same mistakes over and over again. If we can’t learn, we can’t fix the problem. Allan Frankel’s distillation of James Reason’s Unsafe Act Algorithm and David Marx’s Just Culture model results in being able to ask a very short list of questions: was the harm intentional? [6,7] See Fig. 2 for a summary.

Was the individual knowingly impaired? Did the individual consciously decide to engage in an unsafe act? Did the caregiver make a mistake that individuals of similar and training would be likely to make under the same circumstances (substitution test)? And does the individual have a history of unsafe acts? This short list of questions provides a clear model of accountability and also tells providers “what the rules are”, so they feel safe to speak up so we can learn and continually improve. This is essential in a culture
of safety. Many healthcare organizations have similar models that have been approved by trustees and senior leaders, but are virtually unknown by front line clinicians (Fig. 2).

A very simple definition of a culture of safety is an environment in which people feel safe to speak up, i.e. no one concerned about a patient is hesitant to voice their concern, and when they do speak up, not only are they treated with respect but also they have confidence that leadership will act upon their concerns. In a sense, this is building a cycle of trust.

5. Effective teamwork and communication

There are practical tools and behaviors to enhance effective teamwork and communication [6]. Communication failures are a central factor in the large majority of medical errors. There are four basic components of effective teamwork and communication: structured communication, effective assertion/critical language, psychological safety, and effective leadership behaviors.

Structured communication relates to tools like briefings, using checklists, situational briefing models like SBAR and debriefings. High-risk industries routinely use briefings to share the plan and “get everyone in the same movie.” Briefings are applicable in every care setting. In a procedural setting like cardiology, interventional radiology or surgery, the team can spend 1 minute briefing to both look broadly at the schedule for the day, anticipating needs, equipment, information and specific skills. Now the team has the “big picture” and can be proactive rather than reacting to events as they unfold, as described by the aphorism “luck favors the prepared mind.” Additionally, the team can quickly and efficiently brief a particular procedure to insure everyone knows the plan, they have the necessary equipment, skills, medication and resources to work effectively and deliver optimal care. Studies support the notion that briefing can reduce avoidable delays, which are both frustrating and expensive.

Building structure around briefings with checklists provides additional value. Examples include daily goals in intensive care and the WHO Surgical Checklist, both of which have shown to deliver clinical benefit [2]. In obstetrics, having clear guidelines around the induction of labor, dealing with shoulder dystocias or responding to emergencies help in the delivery of better, safer care and help create and environment that is safer both for patients and providers [8].

Primary care environments are great places to use briefings at the beginning of the day—“how many patients do we have, are any complicated, do any have extra emotional needs today, how are we for resources, is the team short handed, is there anything we need to know, are they any test results or information we need to get ahead of time, etc.? “ Now the team has looked at the big picture. Also, re-briefing is valuable – when something significant changes – getting the team together and discuss what’s happened, what changed, etc. The key is to be quick and efficient, which sends the message that people’s time is valued and respected. When practiced well, providers see briefings as valuable tools that make the day simpler, safer and easier.

Debriefing is an essential tool for effective teamwork and an environment of continuous learning and improvement. Getting the team together for 1–2 minutes and asking three questions: what did we do well, what did we learn, and what would we like to do differently the next time? It is critical to create a safe place to have the conversation. Effective debriefings are never judgmental or critical. If there are concerns with someone’s behavior or technical performance, that is a separate, individual conversation. Two things are critical to the success of a debriefing process: one that it feels safe to speak up, and second that there is a systematic process to capture the information from the debriefing, take action and provide feedback to the front line staff who provided insights for the debrief.

Effective assertion through the use of critical language is a central part of effective team performance. Critical language refers
to a single phrase or word that when it is spoken everyone knows it means “please stop and talk to me, and let's take a minute to insure we're doing the right thing for this patient.” This is essential as often providers see things that are concerning or don’t make sense but are hesitant to speak up for fear of looking dumb or offending another team member. Having one clear term that everyone knows that everyone has agreed to makes it much easier to speak up. A very effective term that came out of Allina Hospitals in Minnesota is “I need a little clarity.” The beauty of asking for “clarity” is that it is a nice neutral term that can be used in the presence of the patient and family members, and will not upset them. Also in a culture where people keep score by knowing the answers and being competent, asking for “clarity” is a very neutral request and is not perceived as questioning anyone’s judgment or skills. This is really important within the culture of medicine.

Actively creating an environment of psychological safety is critical for effective team performance. Every caregiver needs to feel that they will be treated with respect and that their contributions and inquiries are valued. This is an active process by the leaders within the care environment—it does not automatically happen. The assumption that everyone feels valued and safe to speak up is a very dangerous one indeed [9].

Effective leadership behaviors are essential to delivering safe care and good team performance. Often in the educational process, we have focused too heavily on technical skills, and not placed enough emphasis on the social skills needed to be an effective leader. Effective leaders always set a positive, active tone within seconds of the team coming together. They also share the plan of care and continuously invite the other team members into the conversation both for their expertise and to voice concerns. This results not only in a bidirectional sharing of information, but active reduces the inherent power distance between the leader and the other team members. Large power distances or authority gradients are dangerous, as they make it harder for people to speak up. Effective leaders are always approachable because they have actively worked to reduce power distance. Someone still needs to be the leader, but effective team leaders exhibit these specific behaviors. Teaching practitioners how to be effective leaders is an essential need in our current educational process. Some people are natural leaders, many are not. Lack of effective leadership can have catastrophic consequences in high-risk environments.

6. Patient and family centered care

Being a patient is a profound social experience. In order to deliver safe, high quality care, the care process needs to be designed around the needs of the patient, not the people providing care. There needs to be a fundamental understanding that patients and families will process the care experience socially, whereas many caregivers keep score technically—“we gave them the right medicine, did the correct procedure at the right time and they were still unhappy.” Knowing that patients and family members are scared and will interpret their medical experience differently provides the need and the opportunity for us to engage with them “where they are,” rather than having the expectation of them “meeting us where we are.” Always trying to place ourselves in their place and think of how they experience the care process and how we can improve both the perception and the care itself, is an important question that should be asked continuously.

A key aspect of patient centered care is the concept of health literacy. As patients frequently do not adequately understand the process of their care and what they need to do when they go home to get better, using “teach-back” techniques to actively assess their level of understanding is essential. In using a “teach-back” or return demonstration, we avoid the risk of them appearing to agree and tell us they understand by asking them to “please tell me how you are going to explain this to your family.” This is indirect and feels safer for the patient, but allows us to quickly assess basic gaps in patient understanding. If they don’t understand, they will often hide it, as they think it is their fault. This is a pervasive problem that has major implications in the quality of care delivered, but will be invisible unless actively assessed [10].

7. Reliable processes of care

To consistently provide consistent, high quality care, reliable processes are necessary to administer antibiotics in timely fashion, place central venous catheters safely, or respond to high-risk events like cardiac arrest. Given that medicine has been an art, with many skilled practitioners doing it “their way”, there has been lots of variation in the quality and consistency of care. Having reliable processes not only provides predictability in how the care will be delivered, but also provides a stable process that can be measured and improved. The problem with individual provider variation is that often the care processes are so inconsistent that they cannot be measured. It is hard to define and continue to close the performance gap in the absence of accurate measurement. The cultural resistance that surfaces is that clinicians are expert and must apply their expertise, which is true. What is needed is to provide the basic aspects of care consistently and reliably in a given situation, so the results can be measured with an eye toward continual improvement.

8. An environment of continuous learning and improvement

This is an area of fundamental need and opportunity within healthcare. Rarely are there effective mechanisms in place to capture information for front line providers as a source of consistent learning and improvement. Building in effective debriefing can be done in any care environment. The team can take 1 minute to debrief at the end of a shift, at the conclusion of a procedure or any clinical event. By making the debrief quick and efficient – asking the three questions previously mentioned – it becomes practical, does not interfere with the care process, and captures information when the experience is fresh in people’s minds. What is essential to make the debriefing process valuable is that there is a systematic process to capture, analyze, act on the information and provide feedback to the individuals involved. The absence of a systematic approach to handling the information and provide feedback every time is where the process usually fails. If done well, debriefing provides valuable insight into the opportunities and care failures that exist within an organization. This helps to guide leaders as to where to provide resources and engage clinicians not only to enhance the care process, but also where waste can be cut out of the system. The more that leadership understands the context in which front line providers are providing care and the basic system failures they are working around, the greater the opportunity for improvement. High performance healthcare organizations constantly work to learn about opportunities to not only provide better care, but also make the care process more efficient and reliable.

9. Conclusion

In summary, what has been provided is a systematic framework containing the elements necessary for delivering safe and reliable care, while providing the opportunity to continually learn and improve the care process for both patients and the clinicians providing care.
References