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Multicenter Handoff Collaborative

by Philip E. Greulich, MD, FASE, and Joseph R. Keebler, PhD

Communication and team-based care are at the heart of patient safety. As anesthesia professionals, we witness this at its very best and worst when transferring patients to and from the operating room (see article by Dr. Lorinc on types of transfers in this issue). In response, we have an opportunity to take a leading role in redesigning the most ubiquitous teaming event in hospitals in a manner that promotes team-based behaviors. The impact of unreliable handoffs on communication failures and medical errors is well known. To combat this issue, mandates by The Joint Commission (TJC) in 2006 and the American Council for Graduate Medical Education (ACGME) in 2013 established requirements for creating a more structured handoff process.^{1,2} However, like much of the quality improvement movement, progress has been slow. This isn't necessarily due to lack of tactics and technology, but appears to be related to the culture and infrastructure needed to address problems of this scope and complexity. In other words, *we need to change our approach to managing our collective efforts.*

A New Change Model is Needed for Systemwide Adoption

The most successful work on perioperative handoffs has been limited to creating standardized processes at the unit-level (see article by Drs. Agarwala and Lane-Fall in this issue). Although considerable work remains to build an evidence base for designing efficient and effective handoffs, scaling successful pilots and demonstrating reduction in unintended events represents an even greater challenge, given the need for a supportive culture and a more sophisticated infrastructure and change model. What would an alternative approach look like? What guidance might we glean from other high-stakes industries requiring high reliability? Experts in human factors and ergonomics (HFE) and implementation science believe successful redesign and implementation efforts must adhere to some basic principles.³⁻⁶ These include 1) a systemwide commitment by health care leaders and executives; 2) participation of all stakeholders; 3) multimodal, multilevel training reinforced by decision support systems (EMR, data analytics); 4) multi-source feedback (learning, behaviors, outcomes) communicated to all stakeholders; and 5) facilitative project management with subject matter experts (e.g., education, team training, human factors, quality improvement, information technology, etc.). Even though this represents a significant institutional commitment, the ability to model high reliability behaviors during this ubiquitous teaming activity

has substantial collateral benefits in promoting a culture of safety.

Nationally, our ability to translate HFE and implementation science principles to handoffs will also require a more collaborative organizational ergonomic. Our initial step is to create a culture that values sharing information and building agile teams. Specifically, current work on handoffs has been done mainly at the institutional (or unit) level, with little cross talk between organizations. There are a multitude of nationwide efforts that could help to inform and support one another. Therefore, we propose those conducting research and making policies surrounding handoffs and care transitions must begin to act as a multi-team system by forming a multicenter handoff collaborative. Inspired by the successes of the Emergency Manual Implementation Collaborative (EMIC) and others, we believe a learning collaborative built on a shared purpose and trust is the most effective way to accelerate the redesign and implementation of perioperative handoffs.

Recent groundbreaking work by Starmer *et al.* implementing the IPASS handoff bundle serves to illustrate what can be achieved with advanced design. This project demonstrated harms can be reduced when a structured handoff bundle (team training, cognitive aids, checklists, etc.) is put into place.^{7,8} In their two-unit, single-institution pilot, teams of clinicians, educators, quality improvement specialists, medical informatics, and investigators successfully redesigned and implemented handoffs in a pediatric ward setting.⁷ An even larger network of teams was then assembled to successfully demonstrate this could be scaled to multiple institutions.⁸ A deeper analysis of their work illustrates some of the essential attributes that will need translating to the perioperative setting. Notable among them are special training (workshops, modules, simulation) with faculty development and feedback, tools, including the electronic medical record (EMR), and active surveillance to detect medical errors.

Formation of the Multicenter Handover Collaborative

The Anesthesia Patient Safety Foundation (APSF) recognizes the need for a more comprehensive approach to redesigning perioperative handoffs, and in 2014 awarded Dr. Meghan Lane-Fall a grant to study "Handoffs and Transitions in Critical Care (HATTRIC)." By 2015, similar efforts were being made at several other institutions. Bound by a shared vision, yet facing similar barriers, physicians from multiple medical centers (Duke, Harvard, UPENN, UT Southwestern,

Vanderbilt) gathered at the American Society of Anesthesiology (ASA) in the Fall of 2015 and formed the Multicenter Handover Collaborative (MHC). Given his pioneering work 30 years ago in this arena, Dr. Jeffrey Cooper was asked to serve as our mentor and he graciously accepted. In the monthly teleconferences that ensued, we identified the need to create a national dialogue and consensus on foundational questions (core elements/behaviors, education, tools/training, measurement, implementation, and patient involvement) to accelerate efforts to respond to this national patient safety priority. The second national meeting of the MHC, at the 2016 ASA conference, included experts in human factors and ergonomics, education, and EMRs. During this session, we formed a MHC Steering Committee. A Scientific Program Committee was also formed in response to an invitation by the APSF to sponsor the 2017 Stoelting Consensus Conference on "Perioperative Handoffs: Getting it Right."

Mission, Vision, Values, Objective, and Goals

The MHC intends to adopt a multi-team system approach to conducting handoff research nationwide. The MHC will act as a facilitative hub for individuals and teams testing and implementing changes in care transitions to share their strategies, successes, and failures. We hope this will create a fertile bed for innovation and collaboration for further funding, publication, and professional partnerships with the ultimate goal of improving patient outcomes. Our **vision** is that *no patient is harmed from preventable errors or information loss during the transfer of care.* Our **mission** is to *continue to build an evidence base through multicenter collaborations and teams to determine the best implementation strategies and tactics to ensure highly reliable handoffs and prevent unintended perioperative adverse events.* Our **values** include *transparency* (always speak the truth and be forthright about our motives), *engagement* (all pull our weight, no free riders), *innovation* (not afraid to try new things, don't mind failing) and *high reliability* (approaching errors as a source of learning and route to positive organizational change). We agreed that our primary **objective** would be to *create a pragmatic, sustainable, receiver-centric method for efficiently and accurately transferring information that allows clinicians to anticipate the needs of the patient and their families.* To achieve these ends, our **goals** will be the following:

1. To understand the current state of perioperative handoffs nationally by conducting a needs analysis from all stakeholders;

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The MHC Defines Its Goals

“Multi-Team,” From Preceding Page

2. To publish a national consensus statement on critical elements, metrics, research questions, and strategies to guide the redesign and implementation of highly reliable perioperative handoffs;
3. To organize funded single-institution and multicenter studies (partnering with experts in human factors/ergonomics and implementation science) to compare the effectiveness of potential interventions and strategies;
4. To promote multimodal, multi-dimensional and multilevel undergraduate, graduate, and continuing medical educational and quality improvement vehicles to scale and sustain handoff redesign.

Stakeholder and Needs Analysis

The 2017 Stoelting Consensus Conference connected members whose knowledge and influence must be leveraged to best achieve the goals outlined above. In addition to multi-specialty (anesthesia professionals, intensivists, surgeons, and nurses) and multilevel representation (students, trainees, junior and senior clinicians), we plan to include subject matter experts in the fields of human factors and ergonomics, team training, education, quality improvement, implementation science, information technology, and medical scientists. Further, our experience has taught us several additional key stakeholders must be engaged, chief among them are those with resources, such as hospital and health system executives, large practice groups and industry executives (informatics, etc.), The Joint Commission and the ACGME’s Clinical Learning Environment Review (CLER) program.

Next Steps

The Consensus Conference’s goal was to develop a broad set of recommendations to serve as the way forward. Coordinated efforts to expand the MHC will require individuals willing to bring the energy and ideas from their respective teams to this collective effort. If needed, the MHC will develop a membership committee and chair tasked with creating platforms for linking mem-

ber-teams and sharing experiences on translating conference recommendations into clinical practice. In the coming year, the steering committee will focus on presenting the conference findings at national meetings similar to the APSF-sponsored panel at the International Anesthesia Research Society (IARS) meeting earlier this year. On behalf of the MHC Steering Committee, we look forward to learning more about your needs and ideas as we all journey to reduce harms associated with perioperative handoffs.

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