

Building an Integrative, High Fidelity Simulation Program to Enhance Teamwork and Patient Safety

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Aim Statement:

Build an integrative, interdisciplinary, high fidelity simulation program for faculty and staff that enables cycles of learning and performance improvement at individual, team, and organizational levels within 6 months of launch.

Background

When rare but potentially devastating emergencies arise in the operating room, swift, superb interdisciplinary teamwork is critical to patient safety. Previous studies show that team practice in preventing and managing adverse events using high fidelity simulation is challenging to implement but can improve team effectiveness and efficiency, reduce risk, mitigate declines in skills that are infrequently used, and lead to design of new and better processes of care. The National Academy of Medicine (2017) cites team-based training as one of four essential infrastructure needs to achieve better health at lower cost.

Problem Analysis

Our interdisciplinary faculty team designed and prioritized perioperative scenarios in a Co-management of Operating Room Emergencies (CORE) simulation program based on analysis of findings from past Emory adverse events, surveys, national closed claims analysis data, the Stanford Operating Room Emergency Manual, and the literature from health care, aviation, and other high-stakes industries. Building on previous work at Emory such as The Pledge, simulation scenario objectives focused on (1) use of checklists; (2) closed loop communication; and (3) crew/crisis resource management techniques.

Measures

Pilot metrics:

- ≥6 interdisciplinary faculty trained and active as CORE leaders
- ≥6 interdisciplinary participants engaged per session
- ≥90% of participants agree that 3 key objectives were met
- Majority of participants agree that simulation is realistic and reflects actual operating room challenges
- Participant feedback: Strengths outnumber opportunities for improvement
- Infrastructure established within 6 months of launch to systematically integrate CORE simulation with performance excellence results in continuous, rapid cycle feedback loops

Future metrics:

- Evidence of translation to practice and clinical impact

Actions/Tests of Change

Within 6 months of launch, the leadership team:

- Designed and implemented monthly, half-day, high fidelity simulation sessions with an electronically enabled mannequin including orientation, three scenarios and debriefings using video playback, and structured feedback, insights, and recommendations at individual, team, and system levels.

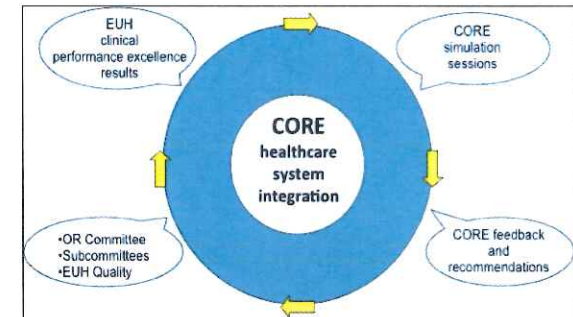


- Tailored cases and scenarios to participant subspecialty areas: General Surgery, Colorectal Surgery, Transplant Surgery, Surgical Oncology.
- Used participant feedback and faculty/staff after action reviews and checklists to make iterative improvements to sessions (e.g., more explicit orientation, decrease distractions that detract from full immersion)
- Identified significant insights and recommendations, e.g., clarify emergency protocols; assign roles quickly in emergencies, especially leader role; streamline and standardize processes, equipment, location, training; optimize facilitators and address barriers to speaking up; use effective communication strategies such as closed loop communication, avoidance of thin air requests, call for help early; make CORE available to other Emory Healthcare sites
- Learned that participants particularly value respectful discussion across disciplines, all opinions heard, realistic scenarios.

Results

In <6 months of launch, we have conducted four monthly, half-day simulation sessions. Results include:

- 6 interdisciplinary faculty members trained as simulation debriefers
- 8 surgeons, 8 anesthesiologists and anesthetists, and 9 RNs engaged as participants and resident role models (N=25)
- Participant feedback: Key objectives met; simulation is realistic and appropriate; strengths > opportunities for improvement



- Quarterly feedback to EUH OR Committee; monthly feedback to relevant Subcommittees.

Reflection/Follow-up

Next challenges:

- Ensure protected time for participant and faculty role models
- Create concurrent protected time for 90-day teams to systematically act on emerging insights and recommendations
- Engage newly trained faculty role models with residents using high fidelity, interdisciplinary simulation

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