

2014 Gage Awards

Reference #	7492018
Status	Complete
Name of hospital or health system	UK HealthCare
Name of project	SWARMING to Improve Patient Safety and Increase Health Care Quality
CEO name	Michael Karpf, MD
CEO approval	Check here to confirm that your CEO approves of this project being submitted for a 2014 Gage Award
Submitter name (first and last)	Shane O'Donley
Submitter title	Public Policy Manager
Submitter email	shane.odonley@uky.edu
Submitter phone	8592291524
Project contact person's name (First and Last)	Jeff Norton
Project contact title	Director of Enterprise Quality and Safety
Project contact email	jeffrey.norton@uky.edu
Project contact phone	8593234090
Within which of the two categories does your application best align?	Quality

<p>1. Provide a brief description of the project. (This section should resemble an abstract for a poster presentation or an abstract for a peer reviewed journal. Include an objective, data sources, study design, findings, and conclusions.)</p>	<p>The purpose of this application is to describe how UK HealthCare changed the way we attack adverse and unexpected events which negatively impact patient care. Within a relatively brief four year time period, UK HealthCare's new approach successfully improved overall patient safety as evident by dramatic reductions in our observed to expected mortality ratio from historical levels in excess of 1.5 to current levels below 0.7. Prior to 2009, adverse events were addressed at the department level rarely reaching the Office of Enterprise Quality and Safety or administration unless and until there was a potential for litigation. Relying upon a decentralized approach unnecessarily delayed investigations and action until the details of the event were no longer easily recallable by the participants. Lapses in time and accusatory resolutions led to a culture of blame and discouraged thoughtful analysis which inevitably resulted in the same events reoccurring time and time again.</p> <p>In 2009 UK HealthCare's leadership team committed to make our institution the safest, highest quality health care system in the region. We recognized this is a journey with no end, and that we needed to build a system that improves on its own. We began by looking at how other organizations solved problems. NASA relied upon root cause analysis; the Veterans Administration used triage cards while Toyota implemented an 8 step problem solving approach. We developed an internal process called SWARMing (not an acronym) that was influenced by the successes of these institutions as well as Steven Spear's description of high velocity (high performing) organizations. By identifying clear measures of success, we have been able to consistently improve our process to bend the observed to expected mortality ratio curve and as Dr. Rick Lofgren claimed SWARMing was a "Cultural Game Changer" for UK HealthCare.</p> <p>A SWARM is initiated shortly after the occurrence of an adverse incident or undesirable event, the people directly involved are empowered to "stop the line" when they observe a problem. But to effectively change the imbedded culture, we needed to implement a process that aided our efforts to respond correctly once the line is stopped.</p> <p>Much like the flying insects most commonly associated with swarming, our process requires them to SWARM in a blame-free environment to quickly analyze what happened, why did it happen and decide what needs to be done to prevent it from repeating in the future. Although no specific action plan resulting from a SWARM can be credited with the overall reduction in our observed to expected mortality ratio, we believe the data reflects that the cumulative effect of hundreds of interventions have resulted in system-wide improvement. We will describe the SWARM method in further detail later in this application.</p>
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2. Describe the methods use in this project. Include where, why, and how the project was accomplished.

Since 2009, UK HealthCare has hosted over 700 SWARMS focusing on a multitude of events ranging in severity from patient falls without injuries to unanticipated death. This process begins when an adverse event occurs and the front line staff completes an incident report. Once the report is received by the department administrator, the risk management manager and the Office of Enterprise Quality and Safety, they evaluate the incident report and instruct all relevant participants to SWARM with a goal of scheduling a SWARM as close in time and physical proximity to the event as possible.

There are 5 steps to an effective SWARM: (1) Opening by reassuring the participants that this is a blame free environment with legal protections and encourage candor; (2) Introduce everyone in the room so there is common familiarity and respect. The invited participants are dictated by the circumstances and issues. A typical SWARM may include frontline staff, hospital leadership, attending physicians, housestaff, nursing leadership, security, housekeeping and/or pharmacy; (3) Review the facts that prompted the SWARM; (4) Discuss what happened and theorize as to why and how it happened; and (5) Conclude with proposed focus areas for action and assign task leaders with specific deliverables and completion dates.

During the SWARM, participants often rely up on the following tools to structure the conversation, clarify the problem and manage outcomes: Timeline/Flowcharts, Go-See, Fishbone, Pareto and 5-Why's. A key task to ensure adequate follow-up is for the SWARM to elect a single participant to act as the quarterback for this process and ensure all other task leaders perform their duties as assigned and on schedule with a goal of completion within 60 calendar days. A weekly Quality and Safety Scorecard is distributed system-wide and specifically identifies the volume of active SWARMS which have not completed their tasks within the target 60 day window.

During the infancy of this culture change, we experienced many unanticipated obstacles along the way. For example, it took a concerted, deliberate effort to ensure the SWARM included the right individuals. Timing and hosting the SWARM in a neutral location helped our staff overcome natural levels of fear and distrust. In addition, individuals had to be reconditioned against coming to the SWARM too prepared as it tended to shut down the conversation. We also learned that too many SWARMS led to alarm fatigue by administration and we reacted by expanding to unit-level SWARMS in addition to enterprise-wide SWARMS.

<p>3. Describe the results of the project. What data was used to support improvement results?</p>	<p>As stated earlier, although no specific action plan resulting from a SWARM can be credited with the overall reduction in our observed to expected mortality ratio, we believe the data reflects that the cumulative effect of hundreds of interventions have resulted in system-wide improvement. During this time period our staff completed over 30,000 incident reports and performed over 700 SWARMS. As evident in the attached graph, as the volume of incident reports and SWARMS increased, our observed to expected mortality ratio declined. As a testament to our improvement, the University Healthcare Consortium increased UK HealthCare's mortality O/E quality ranking among over 100 other academic medical centers from 72nd in 2008 to 8th in 2013 and recently awarded us the Rising Star Award to highlight our achievement.</p>
<p>3A. Attachment, if applicable (Only graphically displayed data such as charts will be accepted. Data should include baseline and improvement data)</p>	<p>UKHealthcareIncidents-Swarms-Mortality.pptx (109k)</p>
<p>4. Describe what happened as a result of the project. Was the improvement related to the intervention? Can the project be duplicated by other organizations?</p>	<p>Although we have previously discussed the overall reduction in our observed to expected mortality ratio from historically high levels of 1.5 to the current level of 0.7, the following example describes how the outcome of a single SWARM contributed our system-wide reduction in observed to expected mortality ratio.</p> <p>A recurring pattern that we observed in the SWARMS was unrecognized patient deterioration and in some cases circumstances were such that we didn't recognize the deterioration. Because we saw this pattern recurring we knew it wasn't an individual problem or a unit problem but the signals of deterioration were being missed system-wide. Post SWARM, the team recommended adding a monitor to our electronic medical record ("EMR") that observes several different vital signs and some basic patient characteristics such as age, BMI, etc... The EMR now alerts staff when a patient is deteriorating and has dramatically reduced unrecognized deterioration to the point of elimination. Automation of the alert system has been a critical tool to eliminate this avoidable event.</p> <p>In general the approach has culturally changed our organization. Currently, employees no longer tolerate processes or protocols that are not working. Instead, they now report these events because they are confident that their decision to report will be non-punitive and that the team will act quickly to improve the situation.</p> <p>As we have worked to perfect our process we have acted to share the SWARM technique with several affiliated acute care hospitals, behavioral health institutions and ambulatory care settings and found that this technique's efficacy is not limited to inpatient hospital settings.</p>

5. Describe how patients, families, and if appropriate, community was included in the work.	<p>When adverse events occur, our patients and their families want to know what really happened as well as why we believe the event occurred and what the facility is doing to ensure it doesn't happen ever again. Although in rare circumstances we will include a patient or family member in a SWARM, we always provide them with timely feedback describing what happened and our actions to prevent the event from occurring again. In addition, sometimes incidents occur as patients are admitted to or discharged from our system. In these cases, we have engaged our community's emergency responders as well as leadership from other transferring and receiving institutions. By opening lines of communication and engaging patients, families and other professionals in the process, we have increased qualitative measurements such as improved patient satisfaction scores and also improved our reputation as a high quality health care provider.</p>
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