The surgery department is critical to a hospital’s financial well-being and patient safety initiatives, so there’s little room for inefficiencies. Improvements in perioperative operations can have major impacts on hospital staff and finances. Efficiencies in patient handling and throughput help drive surgical revenues by adding more surgical cases to the bottom line.

Inefficiencies occur when workflows are fragmented, disjointed and ineffective. The biggest factors negatively affecting perioperative workflow efficiencies are lack of effective communications, and limited access to information. Studies have shown that the lack of, or outdated information and structural barriers to communications were responsible for many procedural delays, procedural interruptions, staff member workarounds and medical error.

‘The biggest factors negatively affecting perioperative workflow efficiencies are lack of effective communications, and limited access to information.’
The perioperative team is made up of a diverse group. It has staff from multiple health care professions; surgery, anaesthesiology, and nursing with supporting representation from laboratory, radiology, pathology and intensive care staff. When care providers aren’t aware of key patient information or a patient’s status in terms of important milestones in the care process, they can’t readily do their part in facilitating an efficient workflow process. Closing the gap between people and processes through the use of real-time technology systems may help coordinate surgical patient care and perioperative throughput, while enhancing patient and family satisfaction and reducing medical error.

‘When care providers aren’t aware of key patient information or a patient’s status in terms of important milestones in the care process, they can’t readily do their part in facilitating an efficient workflow process.’

Impact of poor communication
The negative impact of poor communication mechanisms in the perioperative workflow can be seen through a wide variety of scenarios:

• Without an effective, bidirectional way to communicate that a patient’s pre-op assessment has been completed and the patient is prepped for surgery, the patient may not be transported to the OR for an on-time start.
• Lacking a method to communicate a patient’s allergies, the OR suite cannot be appropriately set up with the right supplies, often delaying the procedure and causing anxiety and dissatisfaction in the patient.
• Without alerts to exceptions, perioperative management and staff don’t have the ability to take proactive actions, make room and staffing adjustments, to address changes and maintain patient flow throughout the daily OR schedule.
• Lacking real-time data, perioperative staff doesn’t know when to expect patients to arrive to the holding area prior to entering the OR, or to the recovery room after surgery.
• Without an interface to bring together the many alerts going off (many which are false positives) perioperative staff can be hampered in their ability to appropriately respond.

Delayed case starts due to operational issues, patient delays, space availability and poor communication can produce a domino effect in the schedule, causing later cases to be delayed or all together cancelled. The dynamic nature of the perioperative environment requires communication and management tools that can keep pace in the OR and support optimal resource utilization care teams resulting in improved communications and faster response times allowing surgery cases to start on time. For example, perioperative staff can automatically receive pre-operative lab results directly to their mobile devices as soon as they are posted to the Lab system, saving them from calling the laboratory or checking the EMR.

How it systems can help
Surgical staff relies on a mixture of communication technologies such as mobile phones, tablets, laptops, pagers, radios, hands-free communication devices such as Vocera, and overhead pages to communicate and coordinate care, access critical patient information, to ask for advice, or help a colleague in another location without having to leave a patient’s side. These technologies are seen as an important tool in making workflows more efficient and reducing medical errors. Rapid and reliable methods of bi-directional text communication to perioperative and ancillary staff are important to patient care and to efficient operating room management. Examples of how this technology, and others, can improve communication in the perioperative environment include:

• HIPAA compliant texting is used to communicate with ancillary personnel assigned to assist with room cleaning, picking supplies/instruments for following cases, handling specialized equipment hook ups and disconnects, etc.

A confirmation response back from ancillary personnel lets the surgical care team and supervisors know that someone is taking responsibility for the activity or issue.

• Patient tracking solutions, otherwise known as Real Time Location Services (RTLS), track patients through the perioperative process. This information provides insight into when patients are to arrive to the holding area prior to entering the OR, or to the recovery room after surgery. For example, combining this technology with Alerts/Alarm Management technology allows automated text messages to be sent to anaesthesiologist when the patient arrives reducing lag time between patient wheels in and anaesthesia induction.

• RTLS automatically notifies OR managers, surgeons, when the perioperative schedule becomes backed up providing added visibility to scheduling delays.

• RTLS, especially when used to track patients and perioperative staff, assists with data collection and analysis that can highlight inefficiencies in the perioperative process.
Secure text messaging assists with surgical room delays related to incomplete pre-admission testing, missing or incorrect equipment delays, surgical instrument sets not arriving on time can be sent to the laboratory, radiology, pathology or other ancillary care teams resulting in improved communications and faster response times allowing surgery cases to start on time. For example, perioperative staff can automatically receive pre-operative lab results directly to their mobile devices as soon as they are posted to the Lab system, saving them from calling the laboratory or checking the EMR.

Medical supervisors in charge of multiple rooms use secure text messaging to communicate with staff to start correcting any issues that occur even when in another room.

RTLS information is automatically sent to HIPAA compliant family messaging display boards to keep family members apprised to the patient’s surgical location status.

Another way to communicate with family members whose loved ones are undergoing surgery is for the surgical team to send secure text updates to ease anxiety and help alleviate some of their concerns.

Health technology hazard?
Mobile devices and complementary technologies such as HIPAA compliant texting, alarm management and RTLS have a great capacity to reduce start time tardiness, turnover times and medical risk. However, no one wants a physician’s interaction with technology to interfere with the delivery of patient care. And one certainly doesn’t want to see smartphones or tablets in the operating room being used for personal use - a newer phenomenon known as “distracted doctoring”. In fact, smartphones made their first appearance in 2013 on ECRI Institute’s Annual Top 10 List of Health Technology Hazards. The report notes that industry associations, such as the American Academy of Nurse Anaesthetists, are looking at developing best practices for how smartphones should be used in the OR.

Conclusion
The complexity of the OR is in part due to the multi-disciplinary stakeholders, each with a vital role, and the high level of collaboration required. Communication failures results in inefficiency, delayed case starts, workarounds patient inconvenience, and medical error at its worst. The ability to leverage mobile and RTLS technology to deliver access to patient data and clinical systems, to receive real-time alerts from clinical systems, and to send communications to the perioperative team has the potential to increase efficiency, improve OR throughput, reduce medical errors and enhance patient outcomes and satisfaction.

‘Medical devices and complementary technologies such as HIPAA compliant texting, alarm management and RTLS have a great capacity to reduce start time tardiness, turnover times and medical risk.’

‘Secure text messaging assists with surgical room delays related to incomplete pre-admission testing, missing or incorrect equipment delays, surgical instrument sets not arriving on time can be sent to the laboratory, radiology, pathology or other ancillary care teams resulting in improved communications and faster response times allowing surgery cases to start on time. For example, perioperative staff can automatically receive pre-operative lab results directly to their mobile devices as soon as they are posted to the Lab system, saving them from calling the laboratory or checking the EMR.

Medical supervisors in charge of multiple rooms use secure text messaging to communicate with staff to start correcting any issues that occur even when in another room.

RTLS information is automatically sent to HIPAA compliant family messaging display boards to keep family members apprised to the patient’s surgical location status.

Another way to communicate with family members whose loved ones are undergoing surgery is for the surgical team to send secure text updates to ease anxiety and help alleviate some of their concerns.'