There’s nothing coy about the phrase “never event”; ensuring these types of mistakes don’t occur in an operating room (OR) involves consistent protocols and a deep commitment to patient safety. “Time outs” to actively review surgical safety checklists have proven highly effective at preventing never events, and by 2013 had long been part of perioperative procedures at Bruce W. Carter VA Medical Center in Miami (VAMC Miami).

But Dr. Seth Spector, chief of surgery at the Miami VA, wanted more. In June 2013, he oversaw the implementation of LiveData OR-Dashboard™ with Active Time Out®. Prior to the new system, time outs were performed by an OR nurse reading from a paper checklist. Dr. Spector felt the arrangement placed undue responsibility on each nurse and prevented information from being thoroughly disseminated to the surgical team.

Dr. Spector was already looking for tools to enhance OR efficiency and data collection. When he saw that LiveData, Inc. was partnering with DSS, Inc. to provide automated data flow from its products into the VA’s VistA electronic health record (EHR), he was sold. “DSS was able to make all the barriers go away,” says Dr. Spector. “Without that, this project would not have been as successful.”

Today at VAMC Miami, the electronic dashboard integrates patient data from hospital medical records and physiological devices with automated surgical workflow and patient safety processes to display the information on large wall-mounted screens in the OR. Active Time Out integrates an electronic safe surgery checklist into the surgical workflow. Combined, the solutions enable the surgical process to take less time and be more effective, overall. Surgical safety checklist items for Sign In, Time Out and Sign Out display the steps of the surgical process. As the team focuses on the screen, a surgical team member uses a “clicker” to initiate review of the checklist items, record team answers and capture start and end times. The system automatically documents the process, answers and durations in the VistA electronic record.

Dr. Spector is understandably pleased to report his organization performs time outs before 100 percent of its procedures. An internal survey shows 86 percent of OR nurses believe the system improves communication within the OR. The same survey shows 93 percent of OR nurses believe the new dashboard increases the opportunity to prevent OR errors and near misses.

Strengthening pre-op communication
After seeing the efficiencies and data from OR-Dashboard – including data regarding on-time case starts – Dr. Spector began evaluating systems to refine OR scheduling and workflow. He looked at solutions from LiveData and other vendors and once again felt VistA integration was essential. “The fact that data now can traverse our OR, recovery room, scheduling and other systems is key,” he says.

A case study on Miami VA Medical Center’s LiveData Implementation
Before implementing LiveData PeriOp Manager™, communication was disjointed. OR scheduling took place on a grease board, patient tracking was done verbally or on paper and many issues were not addressed until after the surgical team was assembled.

**Dramatic changes occurred after the implementation, including a rise in on-time starts from 46 percent to 82 percent within the first five months.**

Location was part of the problem: Surgical check-in was on the seventh floor while the surgical suite was on the fourth floor. Administrators often resorted to calling their counterparts on other floors to track down patients, only to be put on hold. They also spent time answering status questions from family members and manually entering data such as procedure duration, safety precautions and room turnover times.

PreOp Board™ provides a dynamic checklist to ensure every step is completed before a patient enters the OR, including site marking, consent, final labs and preoperative antibiotics. Nurses no longer have to wait on hold to see where patients are in the pre-op process, and patients arrive in the OR ready for their procedures. As a result, dramatic changes occurred after the implementation, including a rise in on-time starts from 46 percent to 82 percent within the first five months.

**Greater efficiency and safety**

The VAMC Miami OR operations team also benefited from the implementation. OR-Schedule Board™ shows the status of each case in real time and allows for fast reassignments. Additionally, Family Waiting Board™ offers a Health Insurance Portability and Accountability Act (HIPAA)-compliant way to inform families of patient status, relieving this burden from staff members while increasing patient/family satisfaction.

Dr. Spector notes that significant improvements have been made by smoothing out daily OR operations and enhancing patient safety, though there are even more profound benefits to be gained. Using the system’s analytics function, he and his staff are working to further diminish delays and cancellations, and improve procedure coding.

“We can quickly and clearly identify problem areas, so we’ve seen a reduction in issues that occur before we go into the OR. They get taken care of before the patient enters the room,” he says. “There’s no question that if your OR is focused on patient safety, this is a necessary component.”

Here are a few specific ways VAMC Miami has benefitted from the new system:

- **Improved adherence to safety protocols** – Teams now perform time outs on 100 percent of surgeries and debriefs on more than 90 percent of procedures. The team receives detailed safety reports that include when each time out occurred and how long it took to complete. During a review last fall, The Joint Commission (TJC) was so impressed with VAMC Miami’s surgical safety checklist procedures and results that they asked the team to document and submit their process to TJC’s Best Practice Library.

- **More in-depth analytics** – “We’re able to look at a case and break it down by code and how long it took. We can look at six months at a time, or one month, or one day and really drill down quickly to find more documents or reports.” VAMC Miami recently won a Health Data Management Analytics All-Stars Award for innovative use of perioperative technology in healthcare improvement.

- **Increased patient and family satisfaction** – Patients are no longer being asked questions multiple times and are spared inquiries like, “Has the anesthesiologist been in to speak with you?” Families can easily follow the progress of their loved one through the process without having to ask busy staff members.

**What is a checklist and how was it developed?**

The World Health Organization (WHO) Surgical Safety Checklist is a 19-item tool that was created by an international group of experts gathered by WHO, with the goal of improving the safety of patients undergoing surgical procedures around the world. Anesthetists, operating theatre nurses, surgeons, patients and other professionals were extensively involved in its development.

It requires the coordination of the operating team – the surgeons, anesthesia providers and nurses – to discuss key safety checks prior to specific phases of perioperative care including: a “Sign In” prior to the induction of anesthesia, a “Time Out” prior to skin incision and a “Sign Out” before the team leaves the operating room. Many of the checks are already routine in some institutions, but surprisingly, few operating teams accomplish them all consistently, even in the most advanced settings.²

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