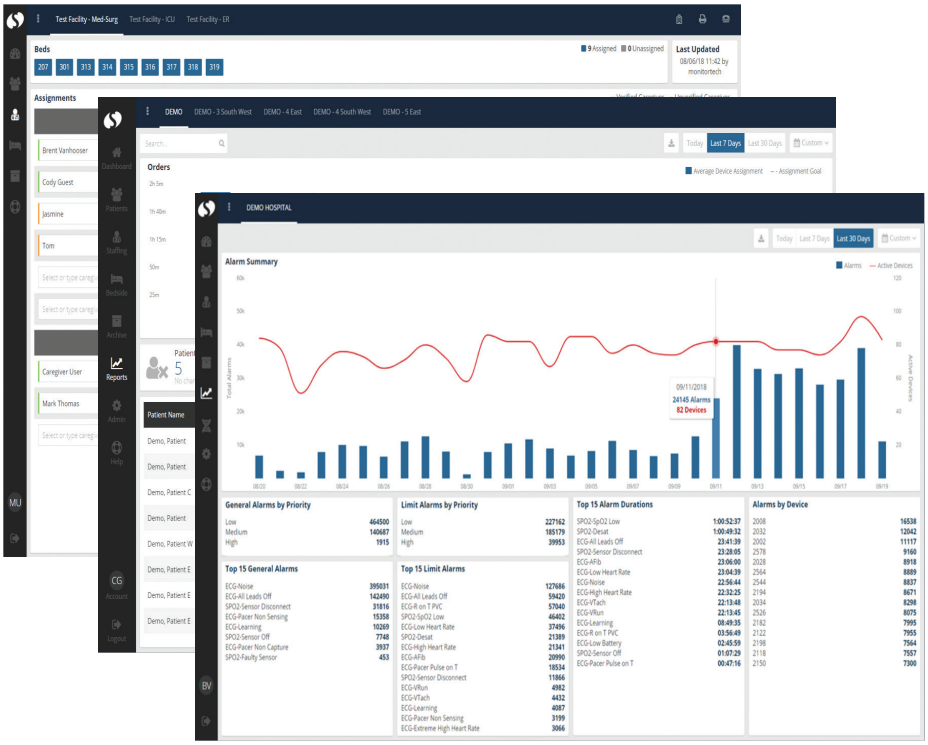
SPACELABS HEALTHCARE

CASE STUDY

PATIENT MONITORING
Spacelabs SafeNSound™

Spacelabs SafeNSound™ assists regional hospital in saving over $900,000 in first year of use.



Improves clinical efficiencies, workflow, and patient care with a system utilizing the latest technology trends.

A Challenging Environment

Even in today's digital age, innovation seems to have bypassed many hospital critical care units. Telemetry over-utilization, alarm burden and general workflow challenges combined with typical communication systems are realities of life in an ever-changing hospital environment. Problems with locating and quickly assigning telemetry devices, timely access to patient data and efficient information exchange among clinicians and monitoring technicians can lead to frustration for everyone involved, compromised care, and elevated costs.

Overview

Like most hospitals, INTEGRIS Southwest Medical Center's telemetry department was using legacy manual processes that impacted costs, efficiency, and patient care. Determined to upgrade its overall functioning and bring the department up to date with the latest technology trends, the central monitoring unit implemented Spacelabs SafeNSound™, comprehensive software product that addresses monitoring and data management challenges by providing access to alarm and patient data in addition to reporting, and realized patient care benefits with a system that more than paid for itself in cost savings.

Need for a change.

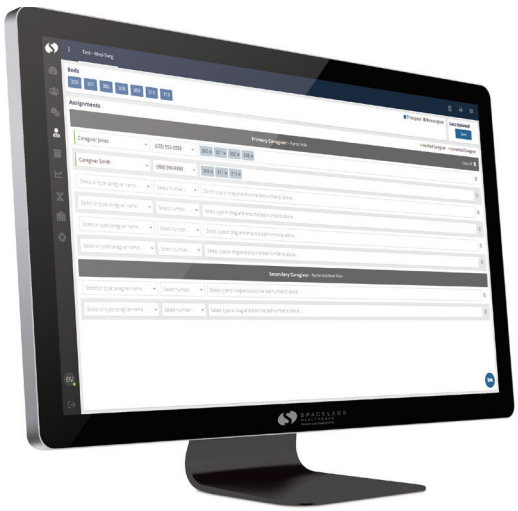
"We knew there had to be a better way," says April Crim, BSN, RN, CCRN. As Clinical Director of INTEGRIS Southwest Medical Center in Oklahoma City, OK, Crim has significant responsibility for hospital telemetry. "By leveraging state-of-the-art technology, we felt we could enhance management of the entire telemetry process to improve efficiency and improve outcomes, while cutting costs. The challenge was how to begin," she said.

With that in mind, Crim and her team engaged with Spacelabs to take advantage of the power

of its SafeNSound™ monitoring software system to address these issues, with building in new efficiencies, enhancing outcomes, and cutting costs as the major goals. SafeNSound™ software that leverages digital technology by providing tools that assist with alarm management, ensuring that devices

are properly associated to the correct patients, and adding dashboards that facilitate collaboration between caregivers while streamlining communications. In the telemetry environment, SafeNSound™ automates many traditionally manual tasks, closes the loop among all telemetry stakeholders and processes, provides accountability in telemetry services, and communicates information directly to the patient record. For the entire monitoring environment, it provides data to clinicians to assist in their alarm management initiatives and improves workflow when associating patients to specific devices to ensure that the correct patient information gets to the right patient chart.

INTEGRIS had already been using Spacelabs' monitors throughout the hospital system. Given the success of that relationship, expanding its involvement with this groundbreaking cloud-based system was a natural step to better manage clinical workflow and increase patient safety.



Assessment of current and desired practices.

A Deep Dive into Departmental Workflows

Integris launched the project with a comprehensive assessment of current department practices. Defining the end-to-end process was crucial to pinpointing roadblocks to efficient and effective workflows and formulating a plan to improve operations.

Know What You Don't Know

A comprehensive department walk through performed by a cross-functional team including clinical, biomed, and IT examined all the varying telemetry processes and procedures which are spread across multiple clinicians and hospital staff, departments, technologies, locations, and file rooms. What came into focus was a fragmented web of telephone calls, faxes, and hard-copy and scanned forms. There were excessive paper-based communications and duplicate processes.

Within the confines of this unconnected, manual environment, staff were challenged to provide high quality patient care. Standardized procedures were few and far between. Monitoring technicians, in particular, were overburdened by alarms, manual tasks, and an enormous volume of communications to keep patient care moving forward.

Identify Key Workflow Weaknesses, Analyze Findings and Set Project Goals

As a result of their review, key challenge areas were identified. These included the telemetry admission process, staff notifications, task duplication, alarm fatigue, equipment accountability, appropriate telemetry usage, bedside staff education, and strip interpretation. Additionally, the hospital placed special emphasis on streamlining the tasks performed by its over-burdened monitoring techs, who play a key role in or are significantly affected by many of the problem areas above. Initially the hospital had one monitoring tech stationed in the intensive care area and three in the central monitoring unit ("CMU").

Crucial to the success of the project was analyzing all telemetry workflows involved to understand the issues in each problem area so that they could be appropriately addressed. Also important was identifying current telemetry performance and setting benchmarks for comparison at project completion.

Managing the process of change.

Improvement Doesn't Happen by Chance

To help the project progress smoothly, INTEGRIS carefully engineered and monitored the process. To facilitate this, the hospital:

- Defined and engaged an interdisciplinary committee
- Analyzed data and compared current and desired performance
- Held a forum on intradepartmental cooperative processes necessary for success
- Developed a detailed plan for SafeNSound™ implementation and process change to reach the desired goals
- Defined an implementation timeline
- Identified staff training needs
- Measured results

The interdisciplinary committee met monthly during the transition to SafeNSound™ and now meets quarterly to streamline ongoing maintenance. A continuing focus for the group are metrics that include:

- Order compliance
- Equipment maintenance
- SOP compliance
- Admission compliance
- Near miss events
- Telemetry usage

Powerful technology advances monitoring.

Better Processes Manage Patients Appropriately, Enhance Care and Cut Costs

SafeNSound™ drove new efficiencies and enhanced the speed and precision of care through an enterprise transition of many formerly manual processes and communications to digital automation. For example, strip interpretation and recording had been a tremendous workflow impediment when the data had to be scanned by hand into the electronic medical record ("EMR"). Today, SafeNSound™ enables automatic PDF printing into the patient record, saving significant monitor technician time and disruption.

Now, patient-to-device association automates the information flow between the bedside caregiver and monitoring technicians when admitting a patient to a device. This keeps the techs informed of patient status, location, and on ongoing telemetry processes. Automated documentation of communication has eliminated paper reporting, enhancing efficiency and information accuracy as well as creating a culture of accountability. Telephone calls from caregivers on the floor to the central monitoring room were decreased by 37,000, yielding an estimated savings of more than 1,800+ FTE hours in 2018 alone. The central monitoring room environment also is significantly quieter and more controlled. With calls now tracked, the quality of communications has improved and is more professional and succinct. In addition, through automated patient to device pairing, the SafeNSound™ bedside application decreased device association time by six minutes per patient, saving valuable time. As a result of all this, INTEGRIS was able to realize a major improvement in telemetry throughput, while also decreasing costs and increasing patient satisfaction.

Most important, with more precise targeting of patients truly in need of telemetry service and better communication about when a patient is ready for discharge, telemetry usage decreased by 30%. Based on their census, that meant they were caring for 50 fewer telemetry patients a day. This enabled the hospital to significantly cut costs and ultimately care for more patients who were truly in need of telemetry services.

These changes, in turn, drove improvements in other problem areas including elimination of task duplication and enhanced equipment accountability.

More comprehensive information flow in near real time among clinicians, administrative personnel, and telemetry techs enabled better device management, compliance, quality reviews and, most important, patient care.

Significant Central Monitoring Unit Task Improvements – What Changed?

Below are key improvements enabled by SafeNSound™, which boosted Integris workflow and patient care.

Task	Prior to Use of SafeNSound™	Year One of SafeNSound™ Implementation
Strip Interpretation	Paper Report Scanning Report into EMR	Electronic Report Automatic Printing into EMR
Calls To/From Bedside Staff	Frequent Calls to Verify Patient Assignments, Rhythm Interpretation, Leads Off, Battery Changes, Admission/Discharge from Monitoring	Patient Dashboard accessible by monitor techs and caregivers allowing them to collaborate and automate communications related to patient Updates, Rhythm Interpretations, Automatic TTV Calls, Electronic Patient Admission/Discharge
Documenting Calls / Report Sheets	Paper Report Sheets Update Manually Manual Data Retrieval	Electronic Patient Reports that are easily updated and retrievable
Equipment Accountability	Monitor Tech Logs for "Check Out" Monitor Tech Cleaning CMU Responsible for Return of Equipment	Units now accountable for their own equipment, including cleaning and log keeping

Closed Loop Communications

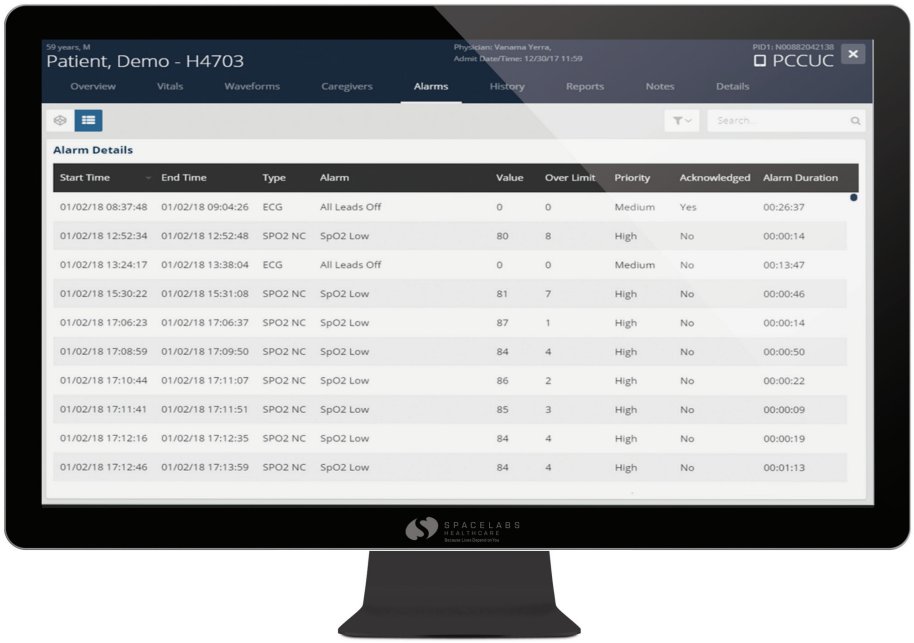
Keeping the Entire Team Accountable and Informed

Accountability and timely communication are key to running a successful hospital. A lack of these can erode quality of care, frustrate staff, and decrease patient safety, impacting the organization's reputation.

SafeNSound™ supported significant process improvements, greater accountability, and more precise information exchange through well-planned closed loop communications.

These improvements included:

- Immediate review of events
- Manager access to instant and specific event reporting
- Manager access to device tracking
- Manager access to compliance
- Event reporting to other appropriate parties
- Conversations recording and tracking



SafeNSound™ — A Sound Investment in Enhanced Clinical Workflow?

Measurement and reporting were key to implementing workflow improvements. SafeNSound™ measured, reported, and analyzed key data to enable INTEGRIS workflow and patient throughput enhancements.

2017 CASE STUDY

INTEGRIS	Real Results from facility using SafeNSound™
37,000	Reduced calls to the Central Monitoring Room
18,000	Tracked and recorded calls
60,000,000+	Processed this many vital signs
167,617	Tracked and recorded calls
1,800	Nursing hours saved
30%	Decreased telemetry utilization

Quantifiable Financial Results

INTEGRIS realized significant telemetry cost savings by using SafeNSound™. Its analysis and reporting feature helped to reduce unnecessary telemetry usage 30% in year one. Specific details of the cost-savings appear below. In addition, the hospital was better able to manage resources, eliminating one position and consolidating three current techs in the central monitoring unit.

Year	Total Telemetry Patients a Day	Cost of Telemetry Patients a Day	Cost Savings Metric	Cost Savings Total for One Year
Prior to SafeNSound™ Implementation	140	$53.00		
One Year After SafeNSound™ Implementation	90	$53.00	140 telemetry patients - 90 telemetry patients = 50 telemetry patients fewer per day 50 x 53.00 x 365 days = $967,250	$967,250

Spacelabs SafeNSound™ reports are simple yet powerful, providing data to support effective clinical decisions for both the patients and healthcare organizations.

Conclusion

In general, due to outdated manual processes and inconsistent communication, telemetry management for many hospitals today has long been rife with challenges that potentially compromise patient care and add significantly to costs. Convinced that there must be a better solution, the Nursing Management team at INTEGRIS Southwest Medical Center implemented Spacelabs' innovative SafeNSound™ software solution with a particular focus on improving communication and streamlining the tasks of its monitoring technicians.

After implementing SafeNSound™, the hospital saw immediate improvements well beyond monitoring tech responsibilities due to enhanced alarm management, patient-to-device pairing, and dashboard communication across all staff engaged in the telemetry process.

INTEGRIS continues to benefit as SafeNSound™ evolves, adding features based on customer needs and requirements. As hospitals have moved into a data-driven world where decisions are information-driven and evidence-based, SafeNSound™ continues to support this, bringing an ever-increasing amount of meaningful data to the users' fingertips.

INTEGRIS Southwest Medical Center
Southwest Medical Center, one of eight INTEGRIS facilities, is Oklahoma's center for health care excellence. With a commitment to leveraging state-of-the-art technology, Southwest Medical Center has a decades-long proven track record of providing an unsurpassed level of care, reaching beyond the walls of their Oklahoma City facility into the neighborhoods and communities that need care the most.

Spacelabs SafeNSound™

Spacelabs SafeNSound™ is a software solution designed to optimize patient monitoring through:

- Alarm management reporting and caregiver notification
- Comprehensive use of a communication dashboard
- Easy patient-to-device pairing, with the goal of never leaving a patient unmonitored
- New sophisticated reporting tools not available previously

Addresses crucial and costly telemetry problems:

- Inappropriate telemetry usage (patient throughput)
- Communication issues related to Central Monitoring Rooms (patient safety)
- Complex patient monitoring workflows (caregiver efficiency)
- TJC NPS alarm-related goals (regulatory requirements)

Spacelabs SafeNSound™ enables dramatic and measurable gains in telemetry workflow efficiencies, accountability and resource utilization within the first few weeks of implementation.

Dramatically improves workflow:

- Reduces time to admit patients by utilizing ADT automation and electronic communication.
- Increases patient safety by using automated patient-to-device pairing.
- Streamlines communications to reduce calls to the patient monitoring department.
- Enhances timely monitoring order follow through with reporting tools that increase order visibility—maximizing patient throughput and monitoring resources.

SafeNSound. Simple yet powerful.

If you are interested in learning more about SafeNSound or any of the points made in this case study, please call us at 1-800-522-7025, or register for a demo at **www.spacelabshealthcare.com/datapower**. We can arrange a video conference or an on-site discussion at your convenience.

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