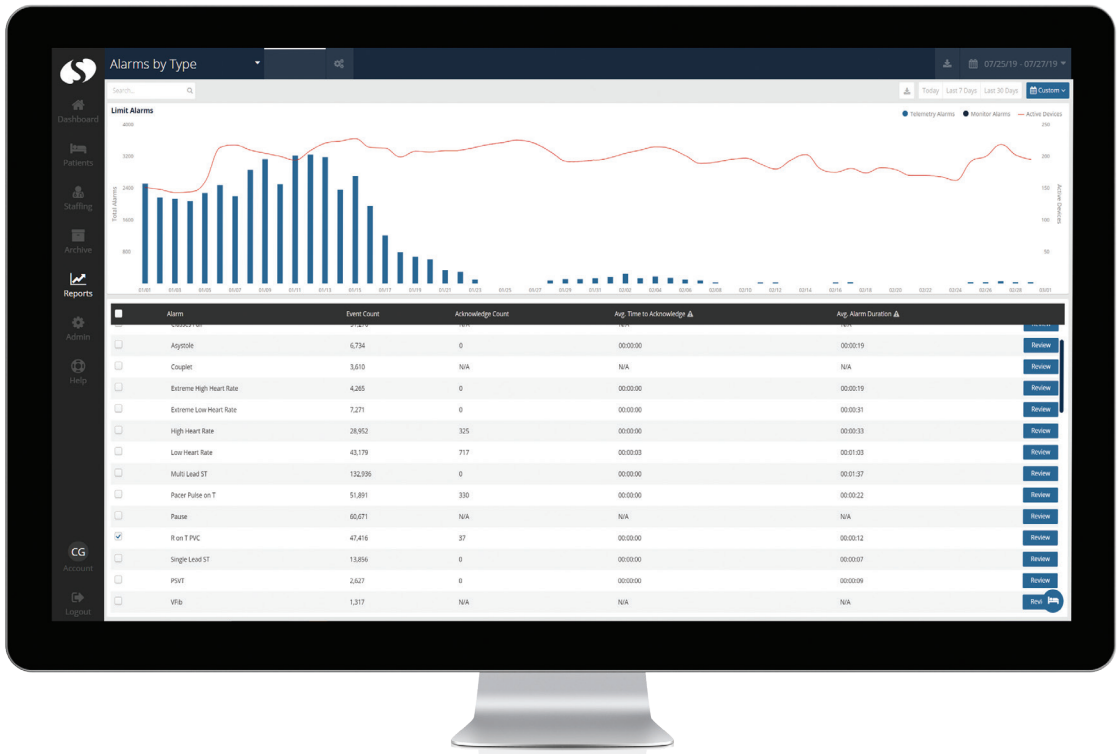
SPACELABS HEALTHCARE

CASE STUDY

PATIENT MONITORING
Spacelabs SafeNSound™

Alarm fatigue.
A critical patient safety issue.



US hospital decreases alarms by 30,000 in one month using alarm management system.

Nurses working in intensive care settings are all too familiar with the overwhelming distraction of constant alarming from patient monitors, ventilators, beds, medication pumps, vital sign monitors, and other medical devices in their care area. Research indicates that 72% to 99% of all alarms are not actionable,[1] which can lead caregivers to become desensitized to critical alarms—a condition commonly known as alarm fatigue.

The American Association of Critical Care Nurses defines alarm fatigue as a sensory overload that occurs when clinicians are exposed to an excessive number of alarms. This desensitization can create serious patient safety issues when clinicians do not respond to alarms because they assume the alarms require no intervention.[2]

Alarms are intended to command your attention, so they are loud, disruptive, and often annoying by design. In a hospital, however, alarms without supervision can impact patient safety. They also reduce both patient and employee satisfaction. While there is no common cure for alarm fatigue, hospitals are taking specific actions to combat it.

A need for change.

Even the most committed clinicians cannot address alarm fatigue on their own. If hospital leaders do not prioritize alarm system safety and the reduction of non-critical alarms, both clinicians and patients will suffer.

A few sobering facts[3];

- In a busy critical care unit, medical personnel can be exposed to up to 5,000 alarms in a single shift.
- A hospital reported an average of one million alarms going off in a single week in a medium-sized health care facility.
- A children's hospital reported 5,300 alarms in a day – 95% of them false.
- A hospital reported at least 350 alarms per patient per day in the intensive care unit in a medium-sized health care facility.

The Joint Commission stresses in its 2019 National Patient Safety Goals that alarm standards should be customizable for specific clinical units, groups of patients, or individual patients to combat alarm fatigue. To implement meaningful, department-wide improvements in alarm customization, hospitals need the right data and tools.

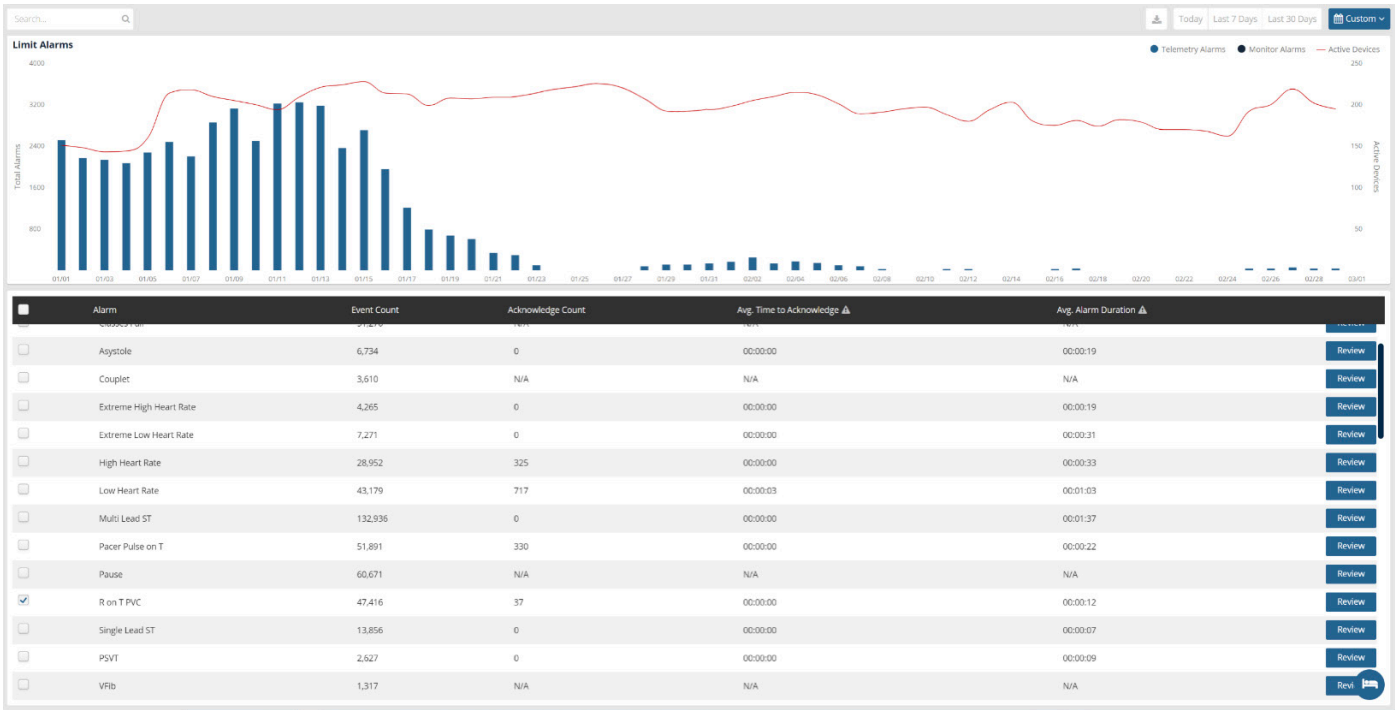
Success through Change using SafeNSound™

A hospital in Texas recently implemented Spacelabs SafeNSound™ technology and began utilizing the software's alarm management tools to review alarm data reports and make meaningful changes that would not negatively affect patient care. SafeNSound offers a variety of alarm reports to help clinicians make the best decisions possible when managing their patients.

Alarm Summary Report
Provides a retrospective overview of general alarms, limit alarms, alarm durations, and alarms by location.
Alarms by Device Report
Provides a detailed retrospective review of all alarms per device.
Limit Alarms Report
Provides a detailed report of all limit alarms and a retrospective review of the quantity of such alarms. Reports how many, when they occur, and alarm categories.
General Alarm Report
Provides a detailed retrospective summary of all general alarms.
Noise Alarms
Provides a detailed report showing noise alarms specific for each department and device.
Device Notifications
Provides an SMS message when devices are offline for a set amount of time. Biomed, admin, IT, and others can subscribe for notifications.

One Year After SafeNSound Implementation

After reviewing alarm detail, a decision was made to adjust the R on T PVC alarm parameters. By changing the settings, this facility was able to reduce this one alarm by 30,000 alarms in one month. You can see the reduction in R on T PVC alarms that resulted where the alarm settings were adjusted on 1/16 in the alarm limits report and graph below. This was a significant reduction in nuisance alarms per device - 40%. The hospital is now continuing its review of whether other alarms can be safely adjusted to positively impact staff and patients.



Alarm	Event Count	Acknowledge Count	Avg. Time to Acknowledge	Avg. Alarm Duration	
Asystole	6,734	0	00:00:00	00:00:19	Review
Couplet	3,610	N/A	N/A	N/A	Review
Extreme High Heart Rate	4,265	0	00:00:00	00:00:19	Review
Extreme Low Heart Rate	7,271	0	00:00:00	00:00:31	Review
High Heart Rate	28,952	325	00:00:00	00:00:33	Review
Low Heart Rate	43,179	717	00:00:03	00:01:03	Review
Multi Lead ST	132,936	0	00:00:00	00:01:37	Review
Pacer Pulse on T	51,891	330	00:00:00	00:00:22	Review
Pause	60,671	N/A	N/A	N/A	Review
R on T PVC	47,416	37	00:00:00	00:00:12	Review
Single Lead ST	13,856	0	00:00:00	00:00:07	Review
PSVT	2,627	0	00:00:00	00:00:09	Review
VFib	1,317	N/A	N/A	N/A	Revi

Conclusion

Effective alarm management strategies enable prioritization of critical alarms and elimination of nuisance alarms. The goal is to send only actionable notifications and appropriate patient, caregiver, and event context, so that caregivers can respond faster and collaborate better where patients need that critical support.

Caregivers are turning to SafeNSound.

As healthcare organizations increasingly seek technology that facilitates evidence-based, data-driven decisions, caregivers are turning to SafeNSound. The software offers much more than alarm management and reporting, with real-time reports on communications and throughput management and detailed retrospective information on patient events, providing valuable insights to clinical directors and managers. Bedside caregivers and monitor technicians can take advantage of automated communications and Admit-Discharge-Transfer (ADT) capabilities for associating and dissociating a device to a patient. Automated ADT provides accountability, reduces errors, and creates detailed logs for additional tracking.

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.

References
(1) https://www.nursingcenter.com/journalarticle?Article_ID=1617134&Journal_ID=230572&Issue_ID=1616941#:~:text=Research%20has%20demonstrated%20that%20 72,of%20clinical%20alarms%20are%20false.&text=Patient%20deaths%20have%20been%20attributed,Commission%20National%20Patient%20Safety%20Goal. From Alarm Fatigue: A Patient Safety Concern
(2) https://www.dotmed.com/news/story/49813%20Date:%20February%2019,%202020 From alarm management to AI, patient monitoring gets a facelift
(3) https://nurse.org/articles/alarm-fatigue-statistics-patient-safety/ Alarm Fatigue is Way Too Real (and Scary) For Nurses

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