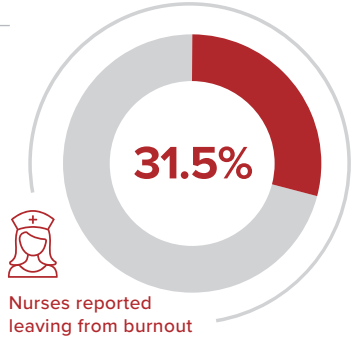
The Complicated Issue of Nurse Burnout – What Impact Can Technology Have?

Data from more than 50,000 US registered nurses (representing more than 3.9 million nurses nationally) found that among nurses who reported leaving their current employment (9.5% of sample), 31.5% reported leaving because of burnout.[2]

Definition of burnout.



Nurse burnout is the state of mental, physical, and emotional exhaustion caused by continuous work-related stressors such as extended hours, the pressure of quick decision-making, and the strain of caring for patients who may have poor outcomes. As nurses and other care team members face these combining factors, they may start feeling disconnected and detached, the first warning signs of burnout. If symptoms are not addressed, burnout can lead to feelings of cynicism, despair, and even depression.[3]

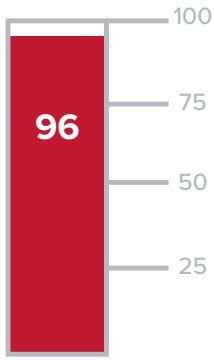
Overview

Hospitals and health care leaders face a multitude of challenges these days, including staffing and retention of nurses and other care team members. Extended work hours, sleep deprivation, high-stress work environments, lack of support, and emotional strain from patient care can lead to nurse burnout.[1] And with stretched resources, there may be no time to help each other which can lead to feeling siloed and generally overwhelmed. These challenges are often exaggerated by antiquated patient management systems, some of which have been in place for years, as innovation in health care often falls behind technology created for other businesses.

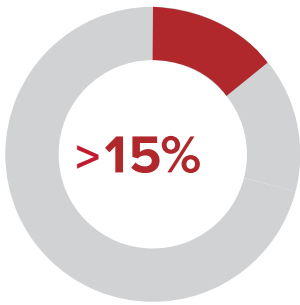
This paper discusses:

1. The definition of staff burnout
2. Causes of burnout
3. Can implementing new technology positively impact burnout?

The American Nursing Association reports that **1 in 3 nurses feel inadequately staffed.**



96 out of 100 nurses report fatigue at the beginning of their shift.[4]



Greater than **15% of nurses report emotional exhaustion.**[5]

Causes of nurse burnout.

One of the largest contributors to nurse burnout is workforce shortages.[6] It is estimated that the US will have a 10 to 20 percent nursing gap by 2025 as the number of patients needing care exceeds the number of nurses, thus increasing the patient to nurse ratio.[7] But there are more contributors to nurse burnout than staff shortages and burnout may be exacerbated by:

- Increasing patient age and acuity; there are no easy patients today
- Longer shifts, more shifts
- Increasing frequency of patient comorbidities
- Temporary care team members not familiar with department workflow
- Competing priorities
- Workplace distractions
- Data not readily available in the patient's electronic medical record; having to search for data on multiple devices
- Communication gaps
- Overwhelming number of alarms
- Manual processes
- Not having enough equipment; having to locate equipment for needed patient care

In addition, there is significant nurse burnout due to frustration with tedious administrative tasks. Frustration may be further amplified by the aging technology used in the daily management of patients.[8]

Newer digital health technology can't and shouldn't replace nurses or other care team members, but it can reduce care team burden, increase care team satisfaction, and improve workflow. Many hospitals offer nursing informatics workforces to collaborate on how to improve workflows through technology. When hospitals invest in meaningful technology, it allows all care team members to get back to doing what they came to do — provide quality care for patients, thus improving patient outcomes in today's understaffed environments.[9]

Nurses who care for more than four patients per shift are at higher risk of experiencing burnout. Each additional patient increases their burnout risk by 23%.[10]

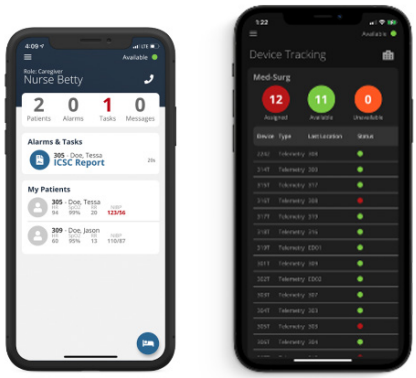
How can Spacelabs technology support staff shortages and burnout?

Spacelab's core belief is that technology should be easy. Spacelabs' solution includes improving communication and making actionable data available to care team members wherever they are in the hospital. Our Enterprise Software provides mobile apps and eliminates manual processes to ensure the right patient is on the right device.

Mobile Apps travel with your care teams.

Mobile features are designed to manage patient monitoring information, coordinate care, and track metrics aimed at improving quality, throughput, and efficiency, all in an easy-to-use format no matter where your care team member is. Patient vigilance everywhere it needs to be.

Enterprise Software features that also apply to Mobile App:



Dashboard
Provides an overview of current patients and historical alarms plus the ability to manage tasks and access secure messaging.

LiveView
Provides a near-real-time view of the patient's heart rate, blood pressure, respiratory, and SpO_2 vitals along with up to four waveforms.

Bedside
Provides the ability to admit and discharge the patient to and from a Spacelabs device along with managing the patient's temporary location if they go to CT, surgery, or other departments.

Waveforms
Provides an overview of up to 14 days of retrospective waveforms. This includes strip/compressed views and the ability to create one seamless record of waveforms as the patient transitions through the hospital on different monitoring devices.

Caregivers
Displays a list of all caregivers associated to the patient with links to send a direct message or call the caregiver.

EMR integration.

Patient records become more complete with the addition of patient waveforms. Our Enterprise Software can be launched from any PC where the caregiver can approve strips within the system, which then sends a copy directly to the patient's electronic medical record. Saved waveforms are stored for two years. This feature eliminates the need to locate, tape and paste strips and there is no delay in having waveforms scanned into the patient record/EMR. It offers improved quality care and team efficiencies.

Device to patient pairing

Preventing duplicate records and ensuring the right patient data is going to the right patient's chart is not as easy as it seems. Patient identification errors can disrupt care and harm patients in virtually every facet of clinical medicine, including diagnostic testing, medication administration, billing, even transplants. The Joint Commission has named improving the accuracy of patient identification as the most crucial National Patient Safety Goal since 2014.[12]

Our Enterprise Software protects against the possibility of the wrong patient being associated to the wrong device. By automatically discharging a patient from a previous device when admitting to a new one, the duplication or confusion of data that can occur when a patient is admitted to two devices at the same time can be avoided. This ensures that data doesn't go to the wrong patient record, which could lead to improper/unsuitable medical care, as well as saves precious care team member's time.

Patient information is also transferred across the enterprise digitally without the need to move modules or equipment between departments or make any adjustments at the central station. All of which greatly reduces the time spent resolving data errors such as wrong information in the wrong chart.

Driving new efficiencies by eliminating manual processes.

Enterprise Software can drive new efficiencies and enhance the speed and precision of care by eliminating many former manual processes. Take for example the following manual processes.

Strip interpretation and recording can be a tremendous workflow obstacle when data must be scanned by hand into the electronic medical record. With Enterprise Software, strips can be automatically printed in PDF format and directly integrated into the patient's electronic medical record.

Here are examples of other efficiencies that can be recognized using Enterprise Software:

TASK	CURRENT PRACTICE	AFTER ENTERPRISE SOFTWARE IS IMPLEMENTED
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, and more Electronic Patient Admission / Discharge
Documenting Calls / Report Sheets	Paper report sheets that are manually updated and retrieved	Generated staffing information from multiple units, brought together in one area, for ease of use up to date, sole source documentation stored for 2 years
Equipment Accountability	Monitor tech logs for "check out" Monitor tech cleaning Unit using equipment responsible for return of equipment	Units accountable for their own equipment Logging as appropriate: unit to determine process for cleaning

Streamlining and expediting communication.

Hospitals across the county have an increased interest in integrating what used to be multiple forms of communication into one streamlined system. Spacelabs Enterprise Software offers features that support a closed-loop communication model which can save valuable care team time while improving staff satisfaction. Both support delivering the best care possible for patients.

Features include:

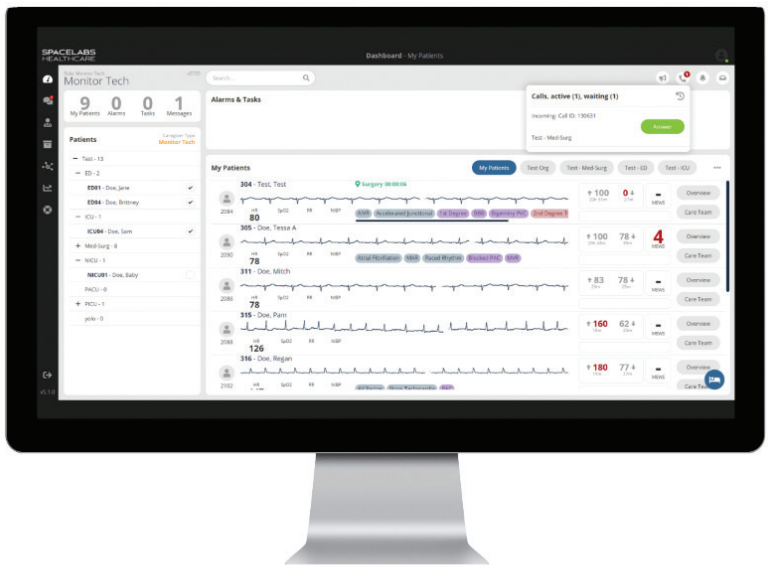
- Text-to-voice
- Communications dashboard
- Patient dashboards that compile patient data from numerous devices into one view
- Click-to-call feature
- Desktop notifications
- Patient monitoring notifications
- Mobile app

A couple of examples to consider.

The text-to-voice allows a monitor tech to contact any caregiver with a quick two-click process and send out standard notifications for ‘low battery’ or ‘leads off’ events resulting in a 20-second plus reduction in time the caregiver would spend talking to the monitor tech and eliminating a 30-second plus delay the monitor tech would spend trying to call the caregiver.

The click-to-call feature makes contacting the right caregiver much easier by letting the user select the patient, then click “Call” for the caregiver name the user wants to communicate with. All records of the call are tracked and recorded for further review if needed.

Enterprise Software also includes a communication dashboard that brings together data for easy analysis and a suite of comprehensive reports that facilitate and document care team communications. All to assist with closing the communication loop.



Alarm management – success through change

Why is understanding alarm data important? 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.[11]

Clinical alarm management and reducing alarm fatigue is a safety initiative for clinical providers and The Joint Commission.[12] HCAHPS scores include patient feedback about whether the environment was quiet during their hospital stay. These scores are directly tied to hospital reimbursement.

Enterprise Software can provide modeling opportunities as well as reporting to make informed decisions regarding alarm management in your departments. Data-driven alarm management can improve clinical workflow and help your care teams focus on what is most important, as well as enhance patient and care team satisfaction by eliminating non-actionable alarms.

Enterprise Software includes the following reports:

Alarm Modeling Report Provides a comparison of the frequency of current alarms and the effect that changing alarm settings could have on the overall frequency of alarms.
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.
General Alarm Report Provides a detailed retrospective review 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 set amount of time. Biomed, admin, IT and others can subscribe for notifications.

Following the implementation of Spacelabs Enterprise Software, one hospital began utilizing the alarm management tools to review alarm data reports. After reviewing alarm detail, a decision was made to adjust the R-on-T PVC alarm. By changing one setting, the hospital was able to reduce this one alarm by 30,000 alarms in one month which resulted in a 40% reduction in nuisance alarms per device. The hospital is now continuing its review of what alarms can be safely adjusted to positively impact staff and patients.

Greater efficiencies using Enterprise Software.

As healthcare organizations increasingly seek technology that facilitates evidence-based, data-driven decisions, caregivers are turning to Spacelabs Enterprise Software. Enterprise Software offers much more than alarm management and reporting, with real-time reports on communications and throughput management as well as detailed retrospective information on patient events, providing valuable insights to care team members.

If you are interested in learning more about our Enterprise Software, please contact us at 1-800-522-7025. We can arrange an on-site discussion or video conference at your convenience.

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www.spacelabshealthcare.com

35301 SE Center Street, Snoqualmie, WA 98065 | T: +1 425 396 3300 | F: +1 425 396 3301
Unit B, Foxholes Centre, John Tate Road, Hertford, SG13 7DT, UK | T: +44 (0) 1992 507700 | F: +44 (0) 1992 501213

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