



WRITING SAMPLE

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Managing Oxygen Supplies

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Perhaps not the most common or well-known of hospital operations challenges, oxygen tank management nonetheless can be a significant undertaking. Maintaining adequate inventory, ensuring proper storage, tracking canister location and monitoring pressure levels all can be frustrating, expensive and labor intensive.

And while patient safety and sound clinical practices are a priority, hospital administrators also must keep resource management and regulation compliance top of mind as well. The tangle of regulations from the Centers for Medicaid & Medicare Services, the Joint Commission, the International Code Council and the National Fire Protection Association add more complexity to the puzzle.

Patient Safety

The risks of poor oxygen supply management to patient safety are multiple and severe. A patient whose oxygen supply runs low risks including shortness of breath, confusion, the inability to communicate, coma, and ultimately, death.

In addition to the obvious unsatisfactory outcomes for the patient, the impact on the hospital is not insignificant, either, when unhappy patients and families make their dissatisfaction known.

It is absolutely critical that patients' tanks be regularly monitored to avoid premature depletion. This can be tricky. Many hospitals have personnel who do "milk runs" — a manual check of in-use tanks. These physical checks throughout the day can be inefficient and can be prone to errors.

Tracking

Keeping tabs on where full canisters are can be a chore. Having cans conveniently located, at the ready, in various places throughout a facility can be important in emergency situations. But some health care professionals find themselves encountering empty tanks in places where there should be full canisters. Or finding no canisters at all because someone took the last one and they haven't been restocked.

This can lead to an issue many hospitals encounter: hoarding. A nurse previously frustrated by missing or empty tanks in a crisis situation may resort to “hoarding” tanks — storing canisters away in a secret location so she can access them quickly if needed. This is handy for her, but isn't smart from an overall inventory-management perspective.

Compensating for missing or lost tanks can lead to hospitals leasing or owning too many tanks.

Early Replacement

Though, according to the Joint Commission, as soon as tanks or cylinders leave the tank room they are considered “partially full,” cylinders are often pulled from service when they're still more than half full, because hospital personnel are busy with numerous tasks and fear they won't get back to a particular tank before it runs out.

Again, while this may be best practice in terms of patient safety, discarding numerous half-full tanks in a given day is not particularly smart from a business perspective.

Is There a Better Way?

Hospitals looking for a better way to manage their oxygen supplies are increasingly turning to systems that continually track the location of tanks as well as automatically alert personnel to low pressure levels in individual tanks.

One such solution is offered by En-Gauge, a family-owned safety technology firm based in Maryland.

When visiting his grandmother at her assisted living center not five miles from Plymouth Rock, company president John McSheffrey was stunned and horrified to find her looking rather “gray” on more than one occasion because her oxygen tank had gone empty.

The son of parents who'd built a company around the development of sophisticated pressure gauges, McSheffrey knew there had to be a better way to monitor the level of oxygen in his grandma's — and millions of others' — tanks.

En-Gauge, already in the business of tracking another critical piece of equipment — fire extinguishers — began working on a solution for electronic monitoring and tracking of medical oxygen canisters.

The result of their efforts is “an intelligent pressure gauge that looks like regular pressure gauge but can communicate with a hospital’s RTLS system to help identify not only if a medical cylinder is low but where it is in the facility,” said McSheffrey.

“We just plug in to a system that hospitals nationwide use, and we can triangulate where equipment is and monitor inventory,” McSheffrey said. “And we can instantly assess the pressure levels of each tank.”

Real-time location systems have been used by hospitals for years for asset management, said Allan Griebenow, COO and CFO of McRoberts Security Technologies, a 140-year-old company based in New Jersey. “People in hospitals need to know where their stuff is ... the doublewide wheelchair, the infusion pump. Our systems help them keep track of stuff, and oxygen tanks with ‘smart’ gauges are a logical extension of that.”

“Hospitals don’t want their employees wandering around the facility trying to find oxygen tanks,” Griebenow added.

Having smart pressure gauges plugged into an RTLS system “makes sense from both clinical and efficiency standpoints,” said Griebenow. “It’s low-hanging fruit.”

Highly customizable, the En-Gauge system allows hospitals to set thresholds at comfort levels that make sense for each location — an alert when a tank is at 30% or 20%, for example. Employees can be notified by text, email, phone call or pager alert, as desired by the facility.

The system also detects and reports where each tank is physically located within the hospital. This tracking can help managers understand where their supplies are, and whether more or fewer are needed.

“You can take all the stress and management headaches and minimize them by knowing 24/7 where the tanks are and when they reach a critical low point,” said McSheffrey.

Instead of a nurse or respiratory technician having to physically check on tanks and make a judgment call as to whether to replace, “they get a notice that now it’s time to go check and do a replacement,” McSheffrey said.

For smaller hospitals without RTLS, En-Gauge offers a gauge that, when it detects a low reading, triggers a red, flashing light and a chirping sound to alert staff.

Time for a Fresh Look?

Hospitals may be so accustomed to “the way we’ve always done it” in terms of oxygen tank management that they don’t realize there might be opportunities not only for patient-safety improvement, but also for operational savings.

As demands on personnel become greater, hospital administrations might want to look at alternative methods of keeping track of cylinder location and pressure levels, such as that offered by En-Gauge.

“We’re incredibly proud of the fact that our technology is saving lives,” said McSheffrey. “It’s playing a key role in addressing a problem that had a negative impact on my grandmother’s life.”