

## TEAM

Carilion Roanoke Memorial Hospital is a 703-bed, Magnet®-designated, teaching organization based in Roanoke, Virginia. In 2015, the Coronary Care Unit (CCU) Team implemented a set of interventions to improve care for its patients, including reducing the number of catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs), ventilator-acquired pneumonia (VAP), and falls that occur on the unit.

## SITUATION

Carilion Roanoke Memorial Hospital's 12-bed CCU cares for a variety of critically ill patients, including high acuity care of cardiology patients who are post myocardial infarction, post valve replacement, post cardiac arrest, and patients who require cardiac assistive devices. The CCU Team knew that falls and hospital-acquired illnesses (HAIs) such as CAUTIs, CLABSIs, and VAP increased CCU patients' length of stay and decreased their functioning even after leaving the hospital. In 2015, the goal of reducing HAIs and falls became an essential component of the CCU Team's mission to promote the peace and comfort of patients and reduce suffering while in the team's care.

## ACTIONS

The CCU Team identified specific goals to reduce HAIs and falls, and worked together to design and implement a visual tool called the "performance tracker." This transparent data tool, with nurse-sensitive indicators, was displayed on a large screen television in the break room. The tracker fostered a sense of intrinsic accountability, prompting nurses to take ownership of their patient outcomes. The following process changes were also implemented:

- To reduce CAUTIs, the team instituted a specific Foley catheter care and maintenance program. It ensured that there were no dependent loops in the catheter tubing, cleaned the catheters every shift, always had them hanging lower than the bladder, and removed them as soon as they were not needed.
- To prevent CLABSIs, the team dated and changed dressings every seven days, or earlier if soiled. Each patient with a central line received a chlorhexidine bath every day. Each time that the line was accessed, it was scrubbed with an alcohol-based solution to prevent the spread of bacteria.
- To decrease VAP, the team conducted an audit each shift to make sure that the head of the bed was inclined at least 30 degrees if the patient's condition allowed. The team also monitored how frequently the patient had oral care performed and what was done during that oral care (e.g., suction, subglottal suction, tooth brushing, oral swabbing).
- To reduce falls, the team followed key safety measures such as consistent hourly rounding, bedside handoff, utilization of bed alarms, and utilization of 1:1 sitters.

## IMPACT

The CCU Team learned from external research that reducing CAUTIs by just two occurrences could save the organization \$1,516, reducing CLABSIs by one could save \$16,155, reducing VAP by two could save \$50,144, and reducing falls by four could potentially save the organization \$56,224. The team took pride in knowing that their efforts to improve the quality of patient care by reducing HAIs and falls had the added benefit of reducing costs. With its current progress, the unit is well positioned to exceed the estimated cost savings.

Even though the unit missed its goal of decreasing CAUTIs by 40%, it did outperform all other goals. The unit had one CLABSI occurrence in 2017, decreasing CLABSIs by 66%. The CCU Team met its goal of decreasing the incidence of VAP by 30% (less than three) in 2017. Falls also decreased from 22 falls in 2014 to two falls in 2017. In fact, the unit went almost one year without a fall from May 2016 – May 2017.

Employee engagement for the unit is strong, as demonstrated by a decrease in staff turnover from 18.92% in 2016 to 8.36% in 2017. The CCU has one of the highest transfer rates into the unit throughout the organization. Its high level of teamwork clearly benefits the patient experience. The unit has achieved exceptionally high patient experience performance with an Overall Rating score, Likelihood to Recommend score, and "Staff worked together to care for you" score all in the 99<sup>th</sup> percentile.