

HOSPITAL CHARACTERISTICS

## OSF ST. MARY MEDICAL CENTER

- ▶ Galesburg, IL
- ▶ 99 beds
- ▶ [www.osfstmary.org](http://www.osfstmary.org)

S . T . E . E . E . P .



### SAFE

Patient safety is increased by reducing VAP infections.



### EFFICIENT

The average number of days patients are on the ventilator has decreased by 1.8 days.

# USE OF ICU VENTILATOR BUNDLES

## The Problem

OSF St. Mary Medical Center (SMMC), in collaboration with the OSF system-wide Patient Safety Collaborative and the Institute for Healthcare Improvement (IHI), implemented ventilator bundles in its ICU to improve care and outcomes for patients on mechanical ventilation. After reviewing current literature, the hospital developed a protocol unique to its facility to successfully reduce the number ventilator-associated pneumonia episodes, average number of days patients are on the ventilator, and ICU length of stay. In the past 20 months, SMMC has not experienced one VAP, average number days patients are on the ventilator has decreased by 1.8 days, and ICU length of stay has decreased by 1.12 days.

## The Solution

After learning of others' success in improving the care of ICU patients on mechanical ventilation through the use of ventilator bundles, OSF St. Mary Medical Center (SMMC) decided to implement a similar activity aimed at improving the care of its own patients. The hospital began the initiative by conducting a literature review for evidence-based practice regarding the care of ventilator patients. After reviewing quality improvement articles and presentations about successful implementation, the Patient Safety Officer, ICU charge nurse, and Respiratory Therapy staff determined the components for SMMC's bundle, developed a ventilator bundle protocol for ICU and Respiratory use, and conducted trainings for staff in both departments, educating them about the protocol and interventions that were to be followed. The team also developed an audit tool to collect the data on an ongoing basis.

Successful implementation of ICU ventilator bundles required acceptance and ownership of the project by both the ICU and Respiratory Therapy departments. Working as a single team, the two departments have improved the care and outcomes of ICU patients on mechanical ventilation. Additionally, the activity required heavy physician involvement to change the routine ventilator orders to include the identified bundle components. For example, physicians have begun to routinely order PUD prophylaxis and have changed their sedation medications to achieve a lower Ramsey score of 3 or 4.

## Results

The primary goal of this activity was to improve the quality of care to the ICU patients requiring mechanical ventilation, subsequently reducing ventilator-associated pneumonia, average number of days patients are on the ventilator, and ICU length of stay. At the onset, SMMC's objective was to achieve at least 90% compliance (unless contraindicated) with the critical components identified for ventilator management: elevation of the head of the bed to 30 degrees, deep venous thrombosis (DVT) prophylaxis, peptic ulcer disease (PUD) prophylaxis, oral care and suctioning every 2 hours or as needed along with hand hygiene, and respiratory assessment of airway status every 2 hours with daily assessment of readiness to extubate.

Through the Ventilator Bundle activity, SMMC achieved 100% compliance on each of

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the interventions and has not experienced a VAP in 20 months. In addition, from 2004 to 2007 the number of ventilator days per patient decreased from 4.76 to 2.98 and the average ICU length of stay decreased from 6.66 to 5.54 days.