

HOSPITAL CHARACTERISTICS

## SAN ANTONIO COMMUNITY HOSPITAL

- ▶ Upland, CA
- ▶ 279 beds
- ▶ www.sach.org

San Antonio Community Hospital staffs more than 2,000 professional, technical, and support personnel and is joined by many of the region's leading physicians who comprise the 500-member medical staff.

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



#### SAFE

VAP reduction creates a safer hospital for patients to stay.



#### EFFECTIVE

Implementation of evidence-based VAP prevention measures results in a significant reduction in VAP infections.



#### PATIENT-CENTERED

VAP prevention is directly linked to improved patient outcomes.

## TEAM WORK PREVENTS VAP

### The Problem

Ventilator Associated Pneumonia (VAP) are infections that occur in ventilator tubes and account for 15 percent of health care-acquired infections, according to the Centers for Disease Control and Prevention. Many of these infections can be prevented with certain

quality improvements in patient care including oral hygiene, ventilator tubing changes and bundle development. In 1995, the San Antonio Community Hospital (SACH) identified VAP as an area of improvement and created an infection prevention committee to spearhead a reduction plan.

### The Solution

The infection prevention committee identified VAP as its most pressing need in the area of infection control after monitoring its VAP rates and discovering it was higher than the CDC benchmark of 1.6 infections per 1000 ventilator days. The committee laid out a detailed plan beginning with reviewing and analyzing current VAP prevention strategies and implementing three key strategies: 1) oral hygiene, 2) ventilator tubing changes and 3) bundle development that focused on increased evaluation of head of bed and peptic ulcer/DVT prophylaxis.

Both the frontline critical care nursing and respiratory therapy staff were involved in the VAP reduction implementation from the beginning. The solution also includes continuous training of the staff, as well as training for new employees.

### Results

The initial VAP prevention plan was initiated in 1995 after surveillance data revealed a VAP rate of 24.5 infections per 1000 ventila-

tor days. Continued efforts have resulted in a VAP infection reduction to 1.65 infections per 1000 ventilator days in 2008.

### Background

SACH is looking for ways to improve the patient experience and safety of the hospital. In 1995, members of the board of trustees, along with the critical care nursing team and respiratory therapy staff identified VAP infections as an area of improvement in their efforts to achieve performance excellence. "We are constantly looking for ways to improve care and safety," says Jan Yerkey, RN, director of critical care. "When we evaluated our VAP infection rate, it wasn't worse than the national average, but it was higher than the benchmarks that CDC recommends, so we knew that would be an area we wanted to pursue."

SACH created the infection prevention committee that consisted of members of the Infection Control Committee, as well as key members of the critical care nursing team, epidemiology team and respiratory therapy staff. The team surveyed current ventilator processes and evaluated evidence-based protocol to improve the VAP rate.

"Obviously planning is a crucial step in achieving excellence," says Yerkey. "It was vital that it was not just our department involved, but a number of departments. The respiratory therapy involvement was cru-

**TEAM MEMBERS**

**Liz Aragon, RN**

Executive Sponsor, Chief Nursing Officer

**Sohan Bassi, MD**

Physician Leader, Infectious Diseases, Chairman of the Infection Prevention Committee

**Mike Castanon**

Team Leader, Director of Respiratory Care/Neurodiagnostics

**Joey Dang, RN**

Manager of Critical Care

**Karen Drinkwine, RN**

Team Leader, Director, Epidemiology/Employee Health

**Irene Gertz, RN**

CCRN, Nurse Educator, Critical Care

**Donna Lira, RN**

Epidemiology Nurse

**Ivan Loo**

CLS, Lead Technologist Microbiology

**Steve Moreau**

Executive Sponsor, President and CEO

**Ken Saltgaver, RPh**

MAOM, Director of Pharmacy

**Fouad Tawadrous, MD**

Pulmonary Medicine

**Trisha Van Leeuwen, RN**

Epidemiology Nurse

**Emmy Wilson, RN**

MSN, Clinical Nurse Specialist, Critical Care

**Jan Yerkey, RN**

Team Leader, Director of Critical Care

cial.”

The respiratory care department managed ventilators and the implementation process. Both the respiratory therapy staff and critical care nursing department worked closely together to ensure that data collection and improvements are being completed effectively, safely and timely. “Working together to ensure all patients were being monitored regularly was a big part of why this project has been successful,” says Mike Castanon, director of respiratory care and neurodiagnostics. “The lack of communication is often where errors are made with ventilators.”

Meanwhile, the infection prevention committee continues to look for new practices and keep up to date with benchmarks and data collection from both the CDC and the Society for Healthcare Epidemiology of America. “The committee is always making sure that we continue to coordinate and update the process,” says Karen Drinkwine RN, director of epidemiology and employee health. “Things constantly change in the health care field and it is important to keep up to date with best practices and bring them to fore front and see how it fits with our plan.”

Over the years, the VAP reduction plan has seen a number of stages and improvements. After several years of training and education, SACH increased its monitoring of ventilator tubing from 96 hours to all seven days of the week. After a reduction to 13 infections per 1000 days by 1998, SACH focused on improving oral hygiene and saw an even bigger decrease to 8.2 in just a year. SACH continued to improve its oral hygiene process from 1999 to 2003, including implementing a standard process that includes the use of a germicidal mouth-

wash.

In 2004, the infection prevention committee began 30-day ventilator tubing changes that saw the VAP rate drop from 11.1 to 5.8. Most recently, new “VAP prevention” tubes replaced the endotracheal tubes that had previously been used and SACH saw its biggest decrease in VAP infections from 7.06 per 1000 ventilator days in 2007 to 1.65 in 2008.

**Principles of  
Performance  
Excellence**

**Creation of High-Reliability Culture**

In order for a project like VAP reduction to be successful it takes a number of different staff members from different departments and levels of management to communicate and work together efficiently. SACH recognized the need for collaboration early on and put an emphasis on extensive communication. “We wanted to make sure that everyone was working very closely together,” Yerkey says. “We wanted to ensure that these practices are being used correctly and consistently at the bed side.”

The epidemiology department, nursing staff and respiratory team worked together to ensure that efficiency and patient safety were primary goals. “The reason for our success was that we worked as a committee,” says Castanon. “We put together a plan and outlined everything we wanted to do. We made sure we were detailed and always followed protocol. It started on the top and worked all the way down.”

The support and involvement of SACH leaders proved vital in the implementation

and continued success of the VAP reduction plan. Directors like Castanon, Drinkwire and Yerkey were heavily involved in the VAP process, as well as the hospital leaders themselves, Liz Aragon, chief nursing officer and Steve Moreau, president and CEO of SACH.

“Our CEO has had a large focus on achieving excellence by improving quality performance,” Drinkwine says. “He has brought so much of our project to forefront and has been heavily involved. All infor-

mation is shared at the executive level and everyone wants to be part of the improvement.”

### **Continual Improvement**

The infection prevention committee is constantly looking to improve its ventilator tubing process. Yerkey has emphasized keeping practices and benchmark goals up-to-date. In November, 2008 the committee implemented its most recent addition, new “VAP Prevention” tubes, replacing ET tubes. With the new tubes, VAP

infections have been at their lowest (1.65 per 1000 ventilator days) since the creation of the project 14 years ago. “In the field of health care there is always something new and new projects and practices occurring daily,” Yerkey says. “Part of our responsibility as a hospital is to look for, examine and study those practices and use those that will improve our patient’s experience. Everything we do is focused around the safety of our patients.”