

HOSPITAL CHARACTERISTICS

CHARLESTON AREA MEDICAL CENTER

- ▶ Charleston, WV
- ▶ 776 beds
- ▶ www.camc.org

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



SAFE

By avoiding the use of ventilators and using nasal CPAP when possible the neonates at CAMC had less a chance of acquiring VAP and being harmed by the air pressure of the ventilators.



EFFECTIVE

Over all of the ICUs at CAMC the use of evidence-based practices to fight infections, and VAP in particular, led to success.

TEAM MEMBERS

Dale Wood

Vice President of Quality and Systems
Improvement

VAP AND MORE EVAPORATES FOR NEONATES

The Problem

The infection rate in the NICU at Charleston Area Medical Center was 18 percent in 2005. This was considerably higher than the baseline set for NICUs through the Vermont-Oxford Network, a non-profit collaboration of more than 800 NICUs around the world.

The Solution

Leadership at CAMC realized that the only way to solve this problem was to involve the entire NICU staff in fixing the problem. All 90 individuals, from the housekeeping staff to the medical director, were involved.

The NICU embraced a series of improvement initiatives to combat the infections. These included handwashing, gloving, gowning, masking, and visitor control and education. These initiatives are familiar to many and are used for both adult ICU patients and neonates.

In the delivery room, neonates that would normally be put on a ventilator were instead treated using nasal CPAP, which can allow for earlier extubation. By preventing the use of the ventilator in the first place, the risk of VAP evaporates. When the ventilator use is unavoidable, the neonates are moved as quickly as possible to nasal CPAP. While still on the ventilator, pressure is reduced. Ventilator pressure on the lungs of a neonate can affect the lung capacity for the rest of the individual's life.

The success in the NICU was replicated in the ICU. The team at CAMC created a ventilator bundle that mirrored the evidence-based initiatives they knew already worked like elevation, sedation holidays, and the reduction of ventilator use in general.

Throughout all ICU programs, it was important to have a physician champion, a nurse, an interdisciplinary team of staff (residents, care coordinators, respiratory therapists), and an administrator who owns the process of the program. The ICU programs were present in the NICU, PICU, cardiac ICU, surgical ICU, neurological ICU, vascular ICU, and medical ICU. The clinical care champions from each unit came together to look at how the VAP plan could be continued, controlled, and monitored. The monitoring program has led to a quick response time when a case of VAP is found in one of the units.

Results

- » Compliance to VAP bundles in the ICU is at 99 percent
- » By 2006, VAP infection rates fell to 10 percent from a high of 18 percent
- » By 2007, VAP infection rates fell to 2 percent