Institute for Healthcare Improvement

مستشفى القلب
Heart Hospital
عضو في مؤسسة حمد الطبية
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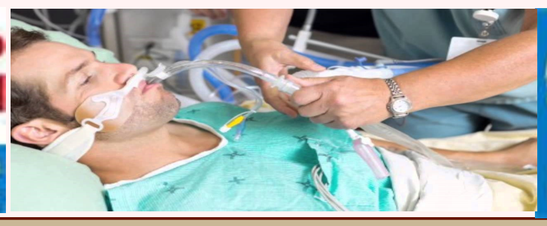

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How We Zapped VAP (Ventilator Associated Pneumonia) in CTICU-Heart Hospital

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INTRODUCTION

VAP contributes to approximately half of all cases of hospital-acquired pneumonia. VAP is estimated to occur in 9-27 % of all mechanically ventilated patients, with the highest risk being early in the course of hospitalization. It is the second most common nosocomial infection in the intensive care unit (ICU) and the most common in mechanically ventilated patients.

PROBLEM

From January 2012- July 2012 the VAP infection rate is consistently above benchmark of 50 percentile in Cardio thoracic Intensive care unit of heart hospital. We were not able to maintain Zero VAP in CTICU due to one VAP in each year of 2014 and 2015.

AIM

To decrease the infection rate of VAP below 50th percentile Benchmark by February 2016 and maintain zero infection till January 2017.

INTERVENTIONS

1. Developed a task force for Ventilator associated pneumonia Reduction project.
2. Developed early mobility task force in CTICU which helped to mobilize the patient at the earliest.
3. Weaning team following all ventilated cases to promote early extubation.
4. Installed chlorhexidine 2% in alcohol hand rubs in all rooms.
5. Respiratory therapist had developed monitoring tool to ensure the Ventilator accessories are changed every 48 hours.
6. Implemented mouth care with Chlorhexidine mouth wash every fourth hourly for all mechanically ventilated patients.
7. Started to mobilize the tracheostomized patients with mechanical ventilation.
8. All health care providers were educated on Hand Hygiene. Hand Hygiene campaign was conducted in Heart Hospital as an Awareness program.
9. Ventilator associated Pneumonia Bundles are reviewed to implement the best practices.
10. Enclosing the VAP rate every month with all staff.
11. Indicator developed to monitor the compliance of VAP Bundle monthly.
12. Nursing staff education conducted on Ventilator associated pneumonia and bundles.
13. All patient beds alarms are activated on head end elevation if it is below 30 degrees.
14. Started use of Subglottic Endotracheal tubes for all ICU patients.
15. Installed portable hand rubs on all nurses stations for easy access.
16. After Implementation of the action plan the infection rate decreased below 50th percentile and maintained zero rate from December 2015.

Measurement for Improvement

* Monthly monitoring of VAP bundle.
* VAP bundle compliance observation by silent observers.
* Monthly presentation on compliance of ventilator associated pneumonia bundles and VAP rate with all staff.
* Monthly update of VAP rate in CTICU.
* Forty-eight hourly changing of ventilator accessories monitoring by respiratory therapist.
* Observed hand hygiene time every shift.

TEAM MEMBERS

Dr. Abdul Rasheed– Consultant
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Ms. Shiny Shiju– Head Nurse
Mr. Retheesh Rajan– Charge Nurse
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Mr. Ian Stewart McDonald, EDON -HH
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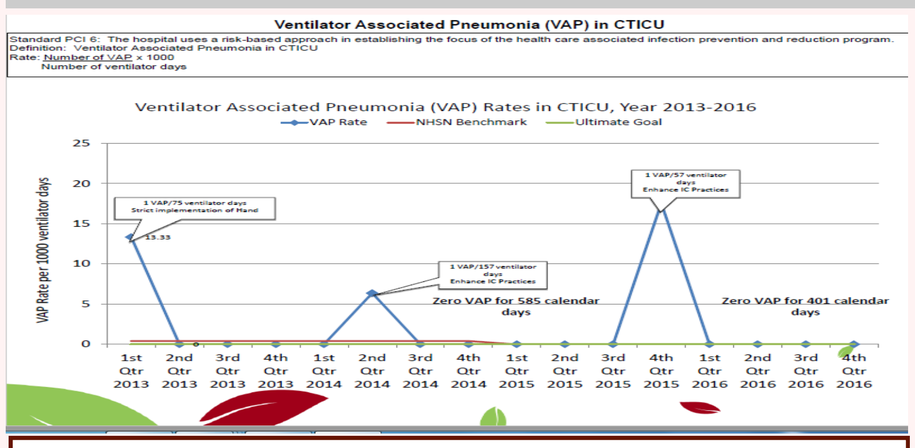
RESULTS



Source of information for the chart is from the surveillance report from HH infection control team.

In 2016, zero tolerance rate achieved.
Free of VAP for **460 days** until February 2017.

CONCLUSION

* After Implementation of the action plan the infection rate decreased below 50th percentile and maintained zero rate from November 2015.
* Maintained 100% compliance to VAP bundle.
* Head elevation and hand hygiene practices were the most significant factors in maintain zero infection rate in VAP.
* Identifying the need of long term ventilation and early tracheostomy and weaning protocol helped to achieve the zero VAP for 460 days.

NEXT STEPS

1. To maintain zero rate in VAP till January 2018.
2. Continue education and monitoring compliance with indicators.
3. Achieve 90% overall compliance in 5 moments of Hand hygiene by July 2017.

Reference : www.ihi.org