



Singapore Healthcare Management 2018

Reducing Hospital Acquired Methicillin-Resistant Staphylococcus Aureus (MRSA) Infection: – A Patient Safety Initiative



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Introduction

MRSA is the most commonly identified multidrug-resistant strain of Staphylococcus in the acute care setting. MRSA can cause severe problems including bloodstream infections, pneumonia and surgical site infections. Studies have shown that current measures commonly used in most hospitals to prevent the spread of hospital acquired infections are largely inadequate. It is about two-and-a-half times more lethal than infections that are treatable with methicillin, and its incidence has increased dramatically in the past decade (Griffin & Resar, 2007). MRSA infections can cause sepsis and death if not treated promptly. Unfortunately, MRSA only respond to the most potent drug, named Vancomycin as a treatment.

Aim

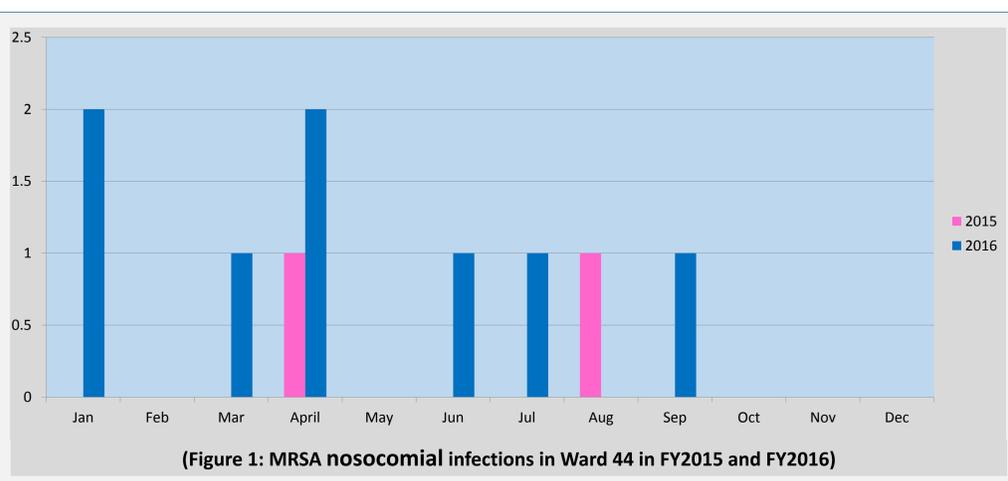
The aim of this project is to reduce incidence of MRSA nosocomial infections in a piloted ward by 30% as compared to before project implementation.

Methodology

A multi-departmental (Nursing, Environmental Services and Infection Control) workgroup was formed in May 2016; with the purpose of reviewing and reinforcing current preventive interventions, developing new interventions and having active surveillance of MRSA nosocomial infection rates.

Ward 44 (Gynaecology) was chosen as the pilot ward as it was one of the designated wards for Ministry of Health's MRSA Surveillance Program.

The workgroup retrieved and monitored statistical data of MRSA nosocomial infections in Ward 44 for the Year 2015 and 2016. There was an increase in the number of MRSA cases from 2 cases in 2015 to 8 cases in 2016 (refer figure 1).



The increase in MRSA nosocomial infections led the workgroup to identify the gaps through root cause analysis. A cause and analysis was drawn out as shown in figure 2

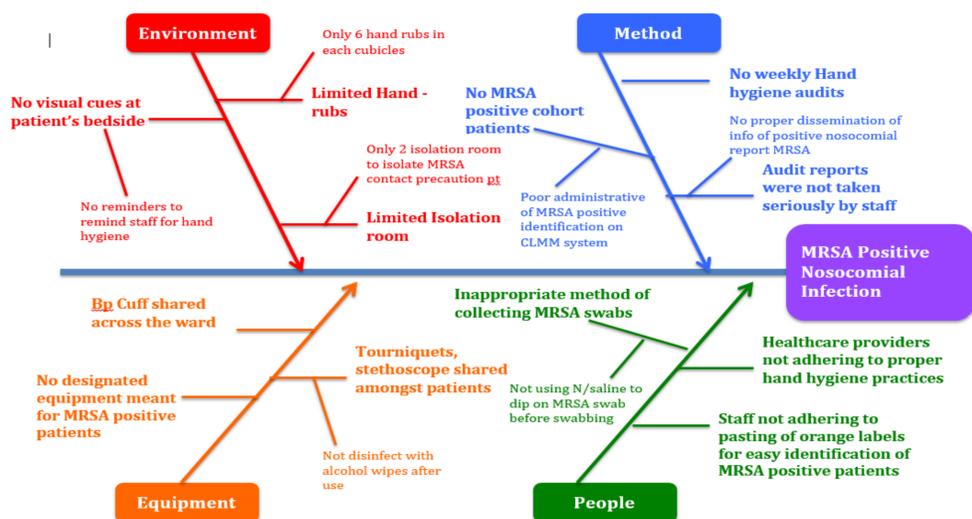


Figure 2: Cause and analysis diagram on MRSA in Ward 44

Discussion was done and the following preventive measures were chosen and implemented in phases from January 2017 to April 2017.

Hand hygiene auditors were assigned daily by the workgroup and audit findings were shared during daily roll calls by the Nurse Manager to increase awareness and reinforcement among ward staff.

Results

All MRSA nosocomial infection preventive measures were fully implemented and reinforced by 30th April 2017.

- Environmental Services supervisor re-trained Ward 44's housekeeper for terminal cleaning and performed ad hoc audits to ensure compliance of cleaning standards for all MRSA positive discharged bed.



Figure 3

- Identification of MRSA positive patients by pasting an Orange disc sticker on the slotted name signage outside the cubicle and above the bed's headboard. These will alert healthcare professionals of the need for contact precaution measures before touching patients or patients' surroundings (refer Figure 4)
- Provide Chlorhexidine-bath used for showering in all patient's toilets (refer Figure 5)
- One blood pressure cuff per patient per stay (refer Figure 6)



Figure 4

Figure 5

Figure 6

Number of MRSA nosocomial infections (post-implementation) were monitored from 1st May 2017 to 28th February 2018 (10 months). 1 case of MRSA nosocomial infection in Ward 44 was observed in September 2017. From October 2017 to 28th February 2018, no new case was observed (refer figure 7)

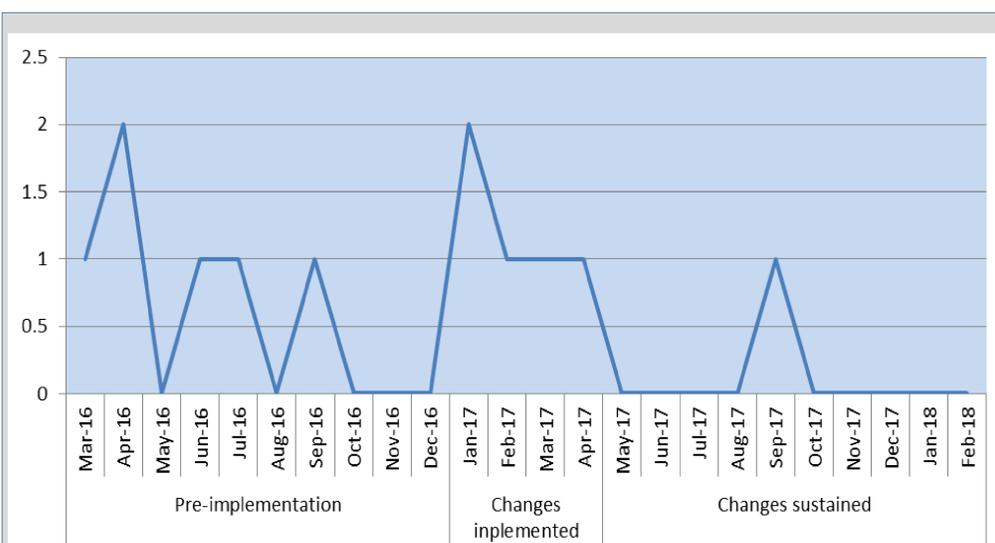


Figure 7: Number of MRSA nosocomial infections post implementations from 1st May 2017 to 28th Feb 2018.

A detailed root cause analysis (RCA) was conducted to investigate on the possible causes of the isolated case that surfaced on September 2017 post implementation. Since then, nurses stepped up on a higher level of vigilance in monitoring and maintaining the implemented interventions to uphold and sustained the MRSA nosocomial infection free days.

Conclusion

The need to recognize and reduced MRSA nosocomial infections has never been greater since KKH has ramped up patient safety movement and target zero harm by 2022. This project has effectively reduced the incidence of MRSA nosocomial infections in Ward 44. There was also an increase in staff satisfaction after ward staff were informed of the project results. **This project was also presented to our senior management; and with their support, "one patient one BP cuff" was implemented in all 27 inpatient wards.**

Moving forward, regular surveillance will be conducted to determine compliance and sustainability of the implemented preventive measures so as to achieve KKH's Target Zero Harm to all our patient and staff.