

Maricopa Integrated Health System (MIHS)

Universal methicillin-resistant *Staphylococcus aureus* (MRSA) Decolonization in Adult Intensive Care Units

Problem Identified

MIHS did not have an established benchmark for health care-associated methicillin-resistant *Staphylococcus aureus* (MRSA) infections, prior to reporting to the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network in July 2012. After MRSA infection reporting began, data analysis from the CDC database revealed MIHS was experiencing MRSA infection rates approximately four times higher than the expected number of MRSA infections. MIHS organized a multidisciplinary workgroup to improve performance.

Interventions

The multidisciplinary workgroup of physicians, nurses, infection preventionists, and pharmacists reviewed a study published in *The New England Journal of Medicine* (Huang, et al., 2013) and concluded universal decolonization (UD) in intensive care units (ICUs) would reduce MRSA infection rates. UD consisted of 2% Mupirocin to the nares, and skin antiseptic of 2% Chlorhexidine-gluconate in medical/surgical ICUs and 0.033% Hypochlorous-acid in the Burn ICU.

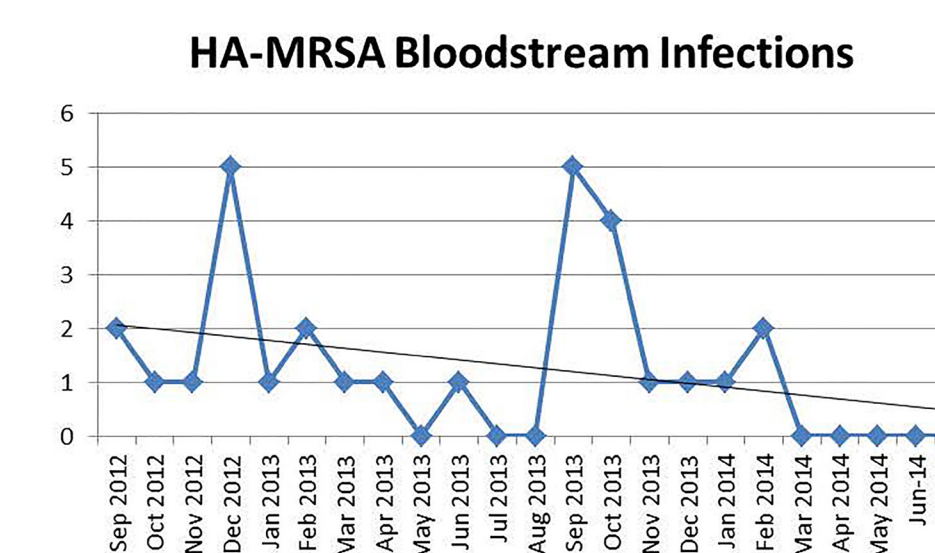
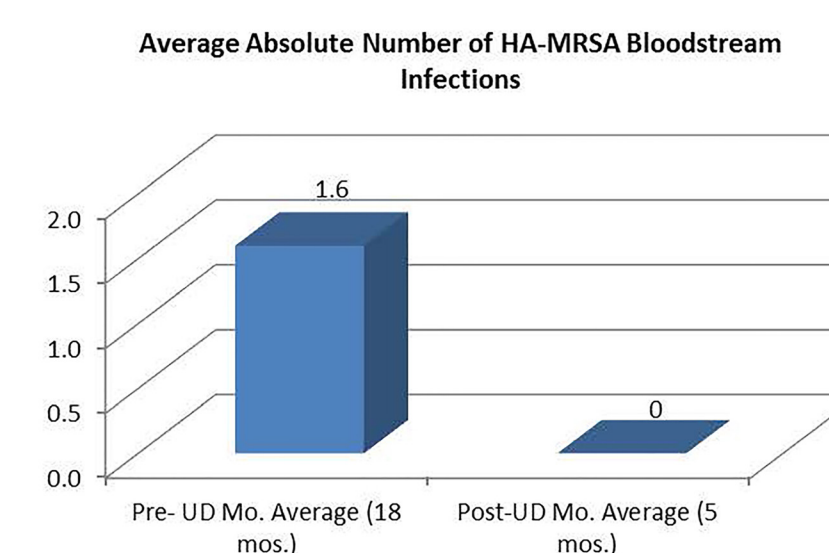
Leadership and Patient Engagement

Physician, nursing, and administrative leadership were fully engaged and supportive of the universal decolonization project. Successful implementation relied heavily on the strong support of physician champions. The evidence-based study was key to gaining physician support.

Patients and family are engaged upon admission to the adult ICU via direct discussion and education regarding the risks of health care-associated infections and decolonization benefits.

Outcomes

Universal decolonization was implemented March 1. Analysis of data five months after the improvement efforts revealed zero (0) MRSA infections. The average number of MRSA bloodstream infections was 1.6 per month before implementation. MIHS also reduced MRSA infections for all sites, dropping from an average of 4.5 MRSA infections for 18 months before implementing the program to 1.0 after its implementation.



Lessons Learned

Physician champions were key to successful implementation of universal decolonization. They were instrumental in aligning support and compliance of other physicians, mid-level providers, and residents. Gaining support of the physician champions was accomplished through evidence-based studies. Additionally, having all stakeholders, including IT systems analysts, involved was critical because they are responsible for updates to patients' electronic health records.

Strategies for Successful Replication

Strategies for successfully reducing health care-acquired infections should address the following:

- Target highest risk areas for universal decolonization.
- Involve all stakeholders in discussion and planning.
- Align the timeframe needed for any necessary changes to the electronic health record with the implementation date.

