

UNIVERSAL MRSA SURVEILLANCE. THE LOUISVILLE VA HOSPITAL EXPERIENCE

Raul Nakamatsu, MD
Assistant Professor
Internal Medicine, Division of Infectious Diseases
University of Louisville
Hospital Epidemiologist
Robley Rex VA Medical Center
Louisville, KY

DISCLOSURES

- I have no actual or potential conflict of interest in relation to this presentation.
- I will not be discussing “off label” uses of medications in this presentation.

OBJECTIVES

- The attendee will be able to describe the bundle for MRSA prevention which has been implemented at the Louisville VA hospital.
- The attendee will understand the importance of surveillance in preventing MRSA infections.

MRSA

- MRSA (Methicillin Resistant Staphylococcus Aureus) is a bacteria that is resistant to multiple antibiotics, causes serious diseases and is often difficult to treat.
- It can be transmitted by the hands of patients, health care workers or by contact with inanimate objects contaminated with MRSA.

MRSA

- Increased lengths of stay, morbidity and mortality, and costs have been associated with multidrug-resistant organisms, including MRSA.

MRSA

- MRSA colonization: Presence of MRSA on tissue without the presence of symptoms of clinical manifestations of illness or infection. A carrier is colonized with MRSA.
- MRSA infection: Invasion and multiplication of MRSA in tissue with the manifestation of clinical symptoms of infections such as increased white blood cell counts, fever, lesions, furuncles, drainage from a break in skin continuity and erythema.

MRSA Bundle

- In 2001, the Veterans Affairs (VA) Pittsburgh Healthcare System began working with the Pittsburgh Regional Healthcare Initiative and the Centers for Disease Control and Prevention (CDC) to eliminate health care–associated MRSA infections with the use of a “MRSA bundle.”
- “MRSA bundle” was implemented in acute care VA hospitals nationwide in 2007.

MRSA Bundle

The MRSA bundle comprised:

- Active surveillance/screening.
- Contact precautions.
- Hand hygiene.
- Culture change

MRSA Bundle

Universal nasal surveillance for MRSA colonization detection.

- Active surveillance perform to identify carriers in an attempt to prevent person-to-person transmission.
- Performed on admissions, discharges and transfers from different units.
- After education and non-signature consent, patients will have nares swab performed.



MRSA Bundle

Contact precautions

- If there is evidence that the patient is colonized or infected with MRSA, they will be placed in contact precautions

MRSA Bundle

Hand hygiene.

- Single most important measure to prevent transmission of infection.
- Healthcare workers expected to comply with Hand hygiene policies.
- Patients and visitors should be engaged in hand hygiene education and encouraged to practice.

MRSA Bundle

Culture change

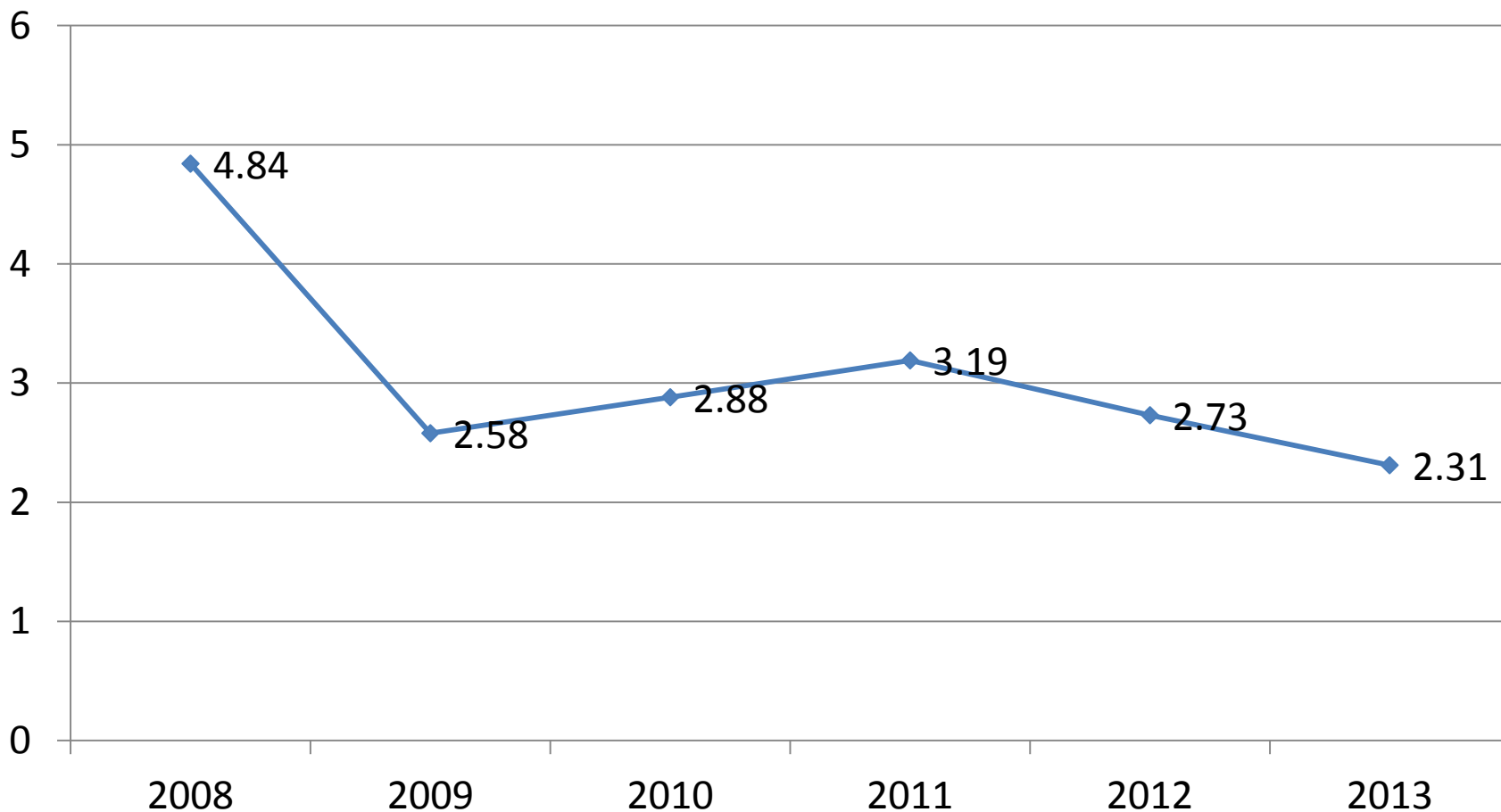
- An institutional culture change whereby infection control became the responsibility of everyone who had contact with patients.
- Staff actively engaged in and work with facility leadership, **MRSA prevention coordinator** and other staff to implement changes that prevent MRSA transmission.

MRSA Bundle

MRSA Prevention Coordinator duties:

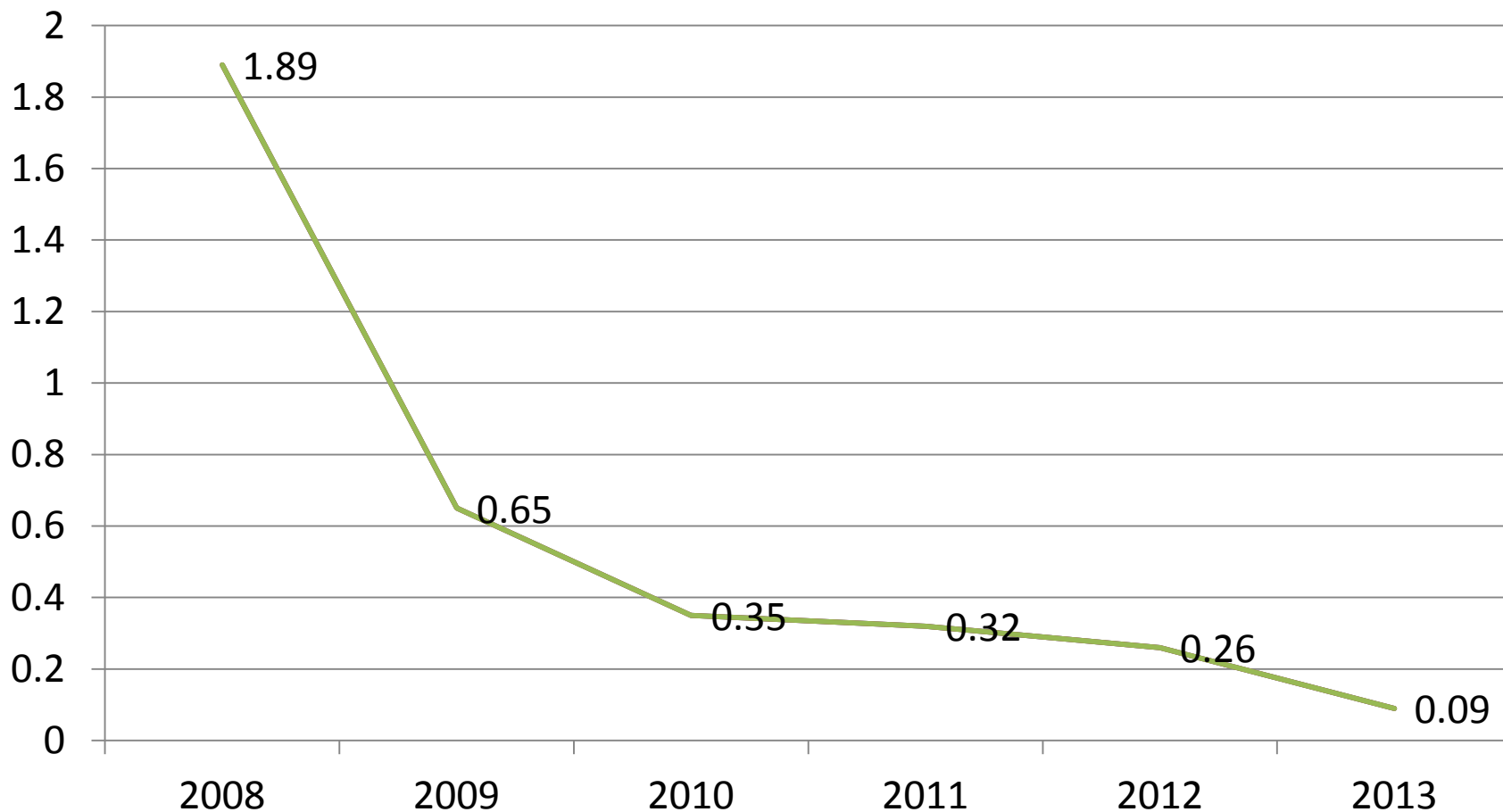
- Overseeing implementation and compliance with the components of the MRSA Prevention Initiative.
- Collaborating with Leadership on local implementation issues.
- Collecting and reporting data related to the MRSA Prevention Initiative.
- Developing and evaluating policies and procedures related to the MRSA Prevention Initiative.
- Engaging and educating front-line health care workers about MRSA and the MRSA Prevention Initiative.
- Supporting front-line workers in the education of patients, families or visitors.

MRSA Colonization Rates at the Louisville, KY VA Medical Center



Rate per 1,000 bed /days of care

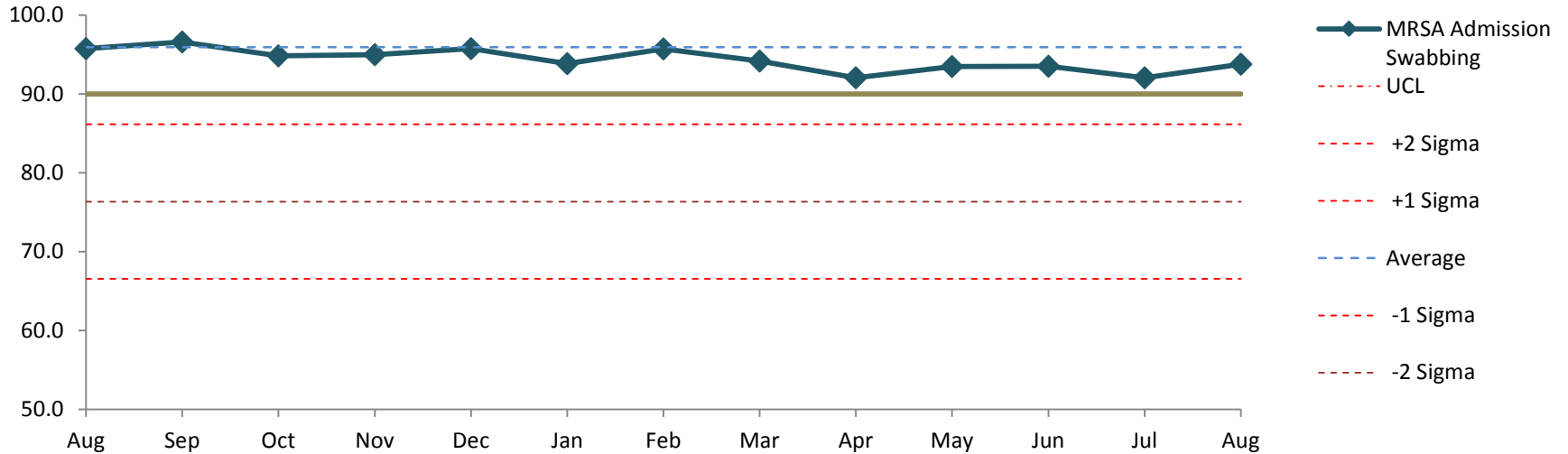
MRSA Infection Rates at the Louisville, KY VA Medical Center



Rate per 1,000 bed /days of care

MRSA Monthly Reports

Adherence to Process Measures – MRSA Admission Swabbing Compliance Louisville, KY VA Medical Center



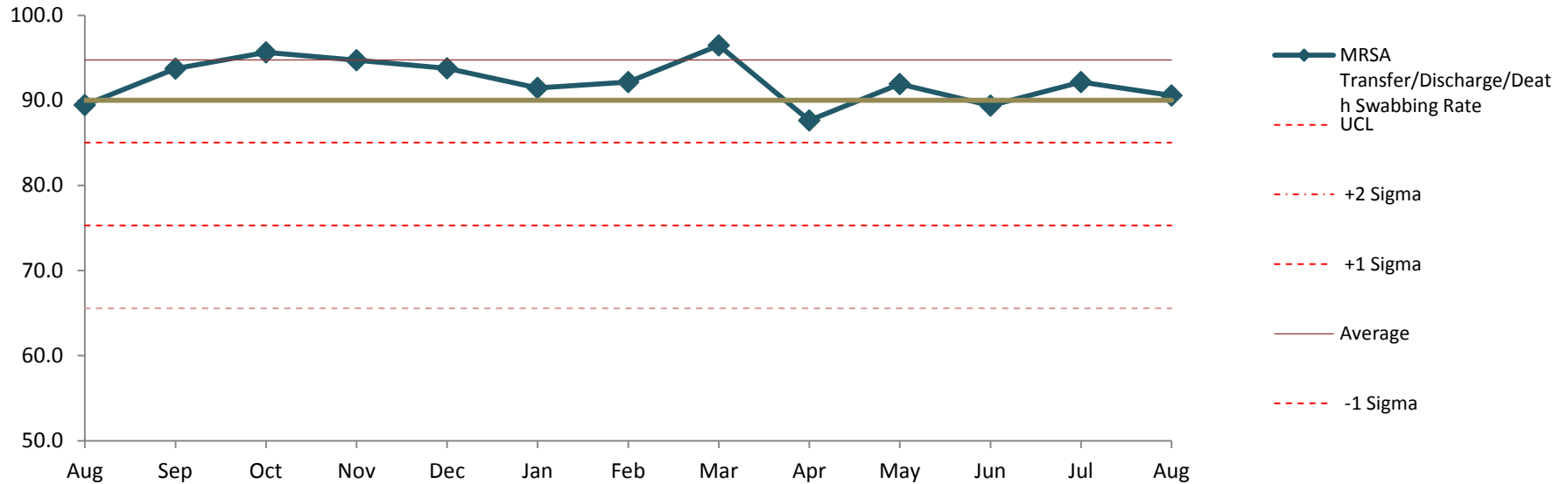
Admission Swabs ÷ Total Admissions x 100

	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14	June '14	Jul '14	Aug '14
# of Eligible Adm's Swabbed	n	n	n	n	n	n	n	n	n	n	n	n
# of Eligible Admissions	n	n	n	n	n	n	n	n	n	n	n	n

Assessment: Admission swabbing rate for the month was n%, above the VHA and the VISN 9 benchmark of n%.

Plan: Re-education regarding swabbing guidelines, hand washing/PPE compliance, and prevention of transmission/infection is on-going.

Adherence to Process Measures – MRSA Discharge Swabbing Compliance Louisville, KY VA Medical Center



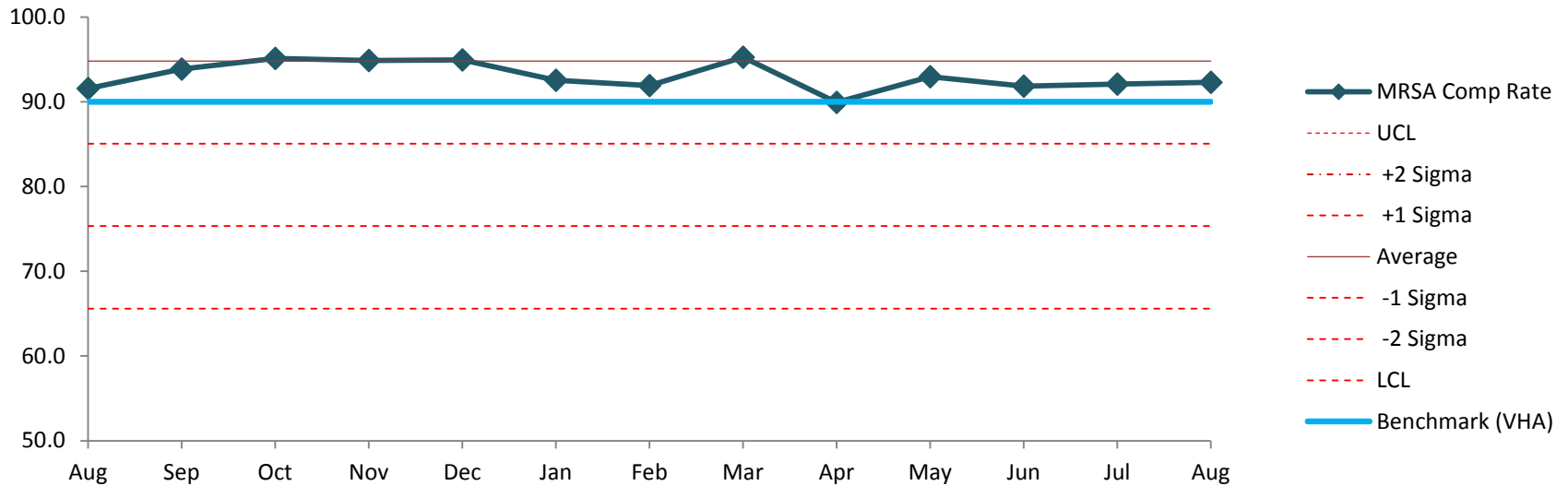
$$\text{Swabs} \div \text{Eligible Transfers/Discharges} \times 100$$

	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14	June '14	Jul '14	Aug '14
# of Eligible Discharges Swabbed	n	n	n	n	n	n	n	n	n	n	n	n
# of Eligible Discharges	n	n	n	n	n	n	n	n	n	n	n	n
# Missed Discharge Swabs	n	n	n	n	n	n	n	n	n	n	n	n

Assessment: The monthly discharge/transfer swabbing rate is n%, meeting the VHA and VISN 9 benchmarks of n%.

Plan: Re-education regarding all MRSA swabbing guidelines, especially 12 month past positive rule and >24 hour rule.

Adherence to Process Measures – MRSA Composite Swabbing Compliance Rate Louisville, KY VA Medical Center



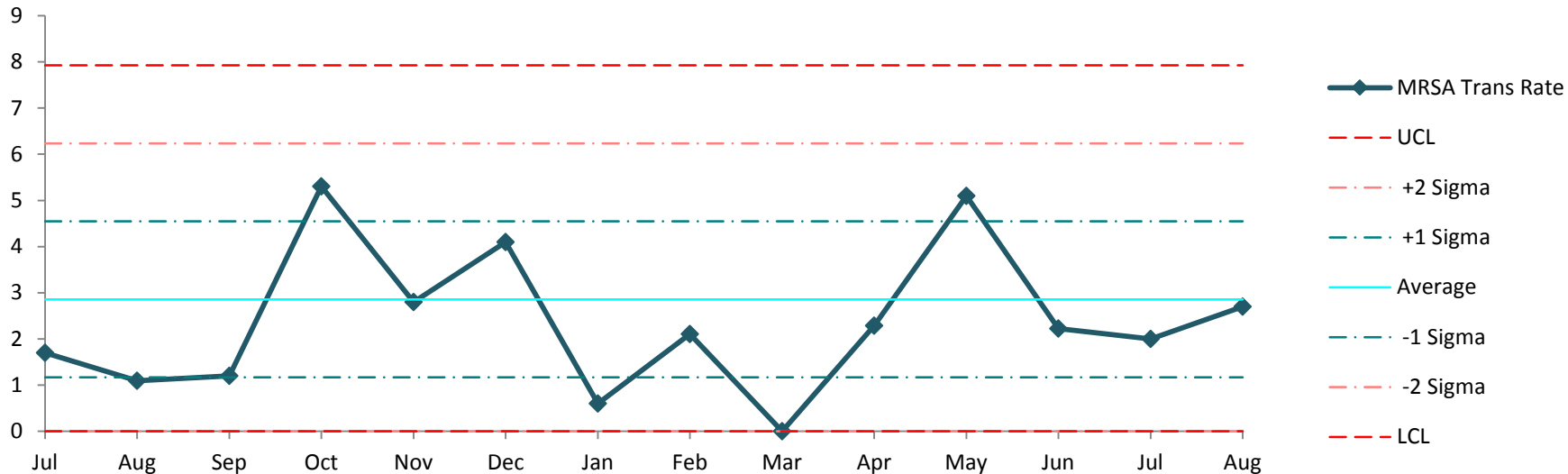
$$\# \text{ Admission/Transfer/Discharge Swabs Obtained} \div \text{Eligible Admissions/Transfers/Discharges} \times 100$$

	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14	June '14	Jul '14	Aug '14
# of Eligible Adm/Transfer/Discharges Swabbed	n	n	n	n	n	n	n	n	n	n	n	n
# of Eligible Adm/Transfers/Discharges	n	n	n	n	n	n	n	n	n	n	n	n

Assessment: The overall composite swabbing rate for the month was n%, meeting the National benchmark (n%) and the VISN 9 benchmark of n%.

Plan: Education was conducted with units, emphasis on swabbing guidelines on one unit with higher number of missed swabs. Will continue with education regarding unnecessary swabbing, swabbing guidelines, hand washing/PPE compliance, and prevention of transmission/infection on all admissions, transfers and discharges.

Nosocomial -Acquired Methicillin Resistant *Staphylococcus aureus* (MRSA) New Colonizations Louisville, KY VA Medical Center



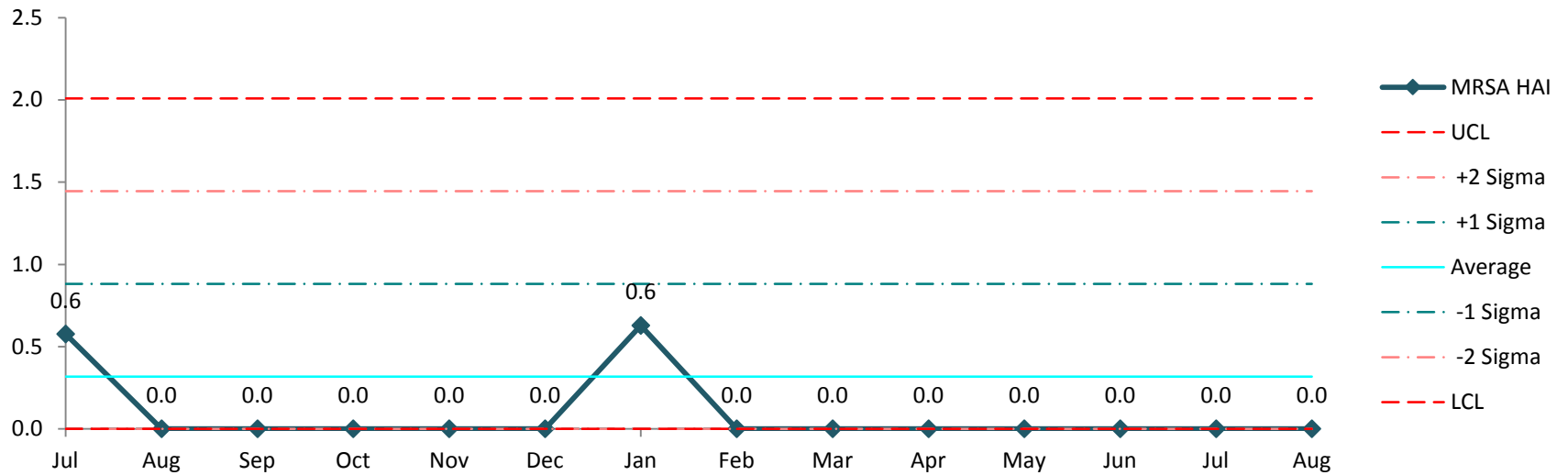
$$\text{nosocomial MRSA colonization} \div \text{patient days of care} \times 1000$$

	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14	June '14	Jul '14	Aug '14
# MRSA Nosocomial Colonization	n	n	n	n	n	n	n	n	n	n	n	n
Patient Days of Care	n	n	n	n	n	n	n	n	n	n	n	n

Assessment: There are four MRSA transmissions for August:
 4 North – Room x - No commonalities
 6 North – Room x and y – No commonalities
 6 South – Room x- No commonalities

Plan: Provide information on prevention of transmission through in-services. Education on prevention of transmission of MRSA and swabbing guidelines is conducted on-the-spot and through scheduled in-services.

Nosocomial-Acquired Methicillin Resistant *Staphylococcus Aureus* (MRSA) Infection Louisville, KY VA Medical Center



Nosocomial MRSA infections ÷ patient days of care x 1000

	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14	June '14	July '14	Aug '14
# MRSA Nosocomial Infections	n	n	n	n	n	n	n	n	n	n	n	n
Patient Days of Care	n	n	n	n	n	n	n	n	n	n	n	n

Assessment: No hospital acquired MRSA infections for August.

Plan: Infection Control continues to monitor all MRSA positive cultures and new colonization's.

CONCLUSIONS

The MRSA bundle decreased MRSA colonization and MRSA infection rates at the Louisville, KY VA Medical Center between 2008 and 2013.

The MRSA bundle is a continuing process.