

ZEROing
in on **MRSA**
VHA Prevention Initiative

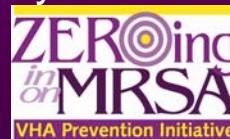
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Disclosures and Disclaimers

- ❖ No financial or commercial disclosures to report
- ❖ Views presented here represent those of the author
- ❖ All data are considered preliminary



Learning Objectives

- ❖ Describe the science and impact of MRSA
- ❖ Explain the VHA MRSA Prevention Initiative and the MRSA Bundle to reduce healthcare-associated infections and transmissions
- ❖ Develop strategies to implement a MRSA Prevention Program for facilities



Methicillin-resistant *Staphylococcus aureus* (MRSA)

- ❖ Bacterium resistant to multiple antibiotics, causes serious diseases, and is often difficult to treat
- ❖ Cause of healthcare-associated infections (HAIs) in a variety of settings
- ❖ Can be transmitted by contact with the hands of patients or healthcare workers or inanimate objects contaminated with MRSA

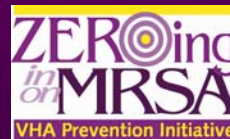
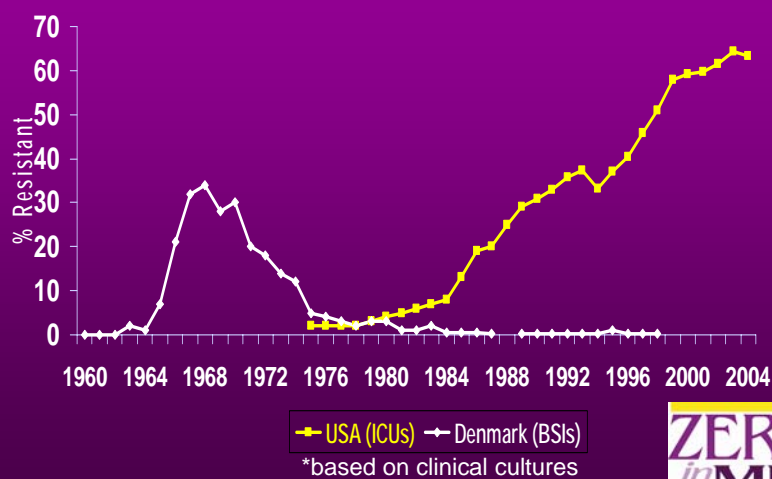


Background of MRSA

- ❖ Early 20th century: *Staph* leading cause of death
- ❖ 1940s: Dawn of antibiotic era
- ❖ 1950s: *Staph* mutated, penicillin resistant
- ❖ 1960s: Methicillin introduced; first MRSA cases reported in UK
- ❖ 1970s: MRSA emerges globally; Denmark, Finland, Netherlands take aggressive action

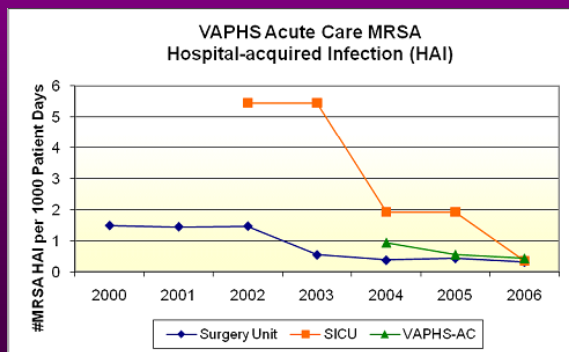


Prevalence of MRSA*

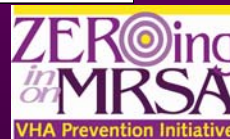
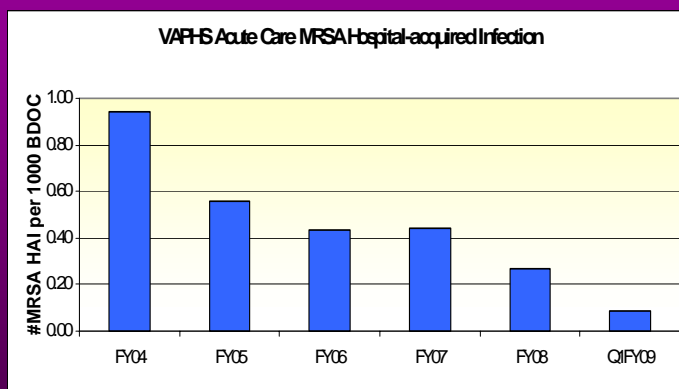


History of the VHA MRSA Prevention Initiative

- ❖ VA Pittsburgh HCS
 - 2001: Piloted on Surgical Ward
 - 2004: Expanded to Intensive Care Unit
 - 2005: Expanded facility-wide (acute care & CLC)



VA Pittsburgh HCS MRSA HAI



History of the VHA MRSA Prevention Initiative

❖ National Initiative

- Aug. 06: 17 VAs selected to beta test program
- Jan. 07: Directive promulgated
- Mar. 07 – Sept. 07: ICU implementation
- Dec. 07: Acute care implementation complete
- Feb. 08 – Dec.08: CLC implementation
- Aug. 09: Mental Health implementation



VHA MRSA Bundle

- ❖ Active Surveillance
- ❖ Contact Precautions
- ❖ Hand Hygiene
- ❖ Culture Change



VHA MRSA Bundle

❖ Active Surveillance (Universal Screening)

- Nares screens performed upon Admission, Transfer and Discharge
- Identify MRSA to break the chain of transmission



MRSA "Iceberg"

- Clinical Cultures +
- History of MRSA

**Unidentified
Colonized Patients**



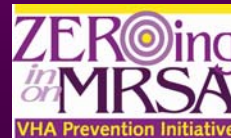
Active Surveillance Testing

❖ Pros

- Prevents transmission from patient to healthcare provider to patient
- Minimizes risk of environmental transmission

❖ Cons

- Private rooms; cohorting
- Social stigma
- Family considerations
- Transfer to community facilities



VHA MRSA Bundle

❖ Contact Precautions

- Used for all patients identified MRSA positive
- Appropriate use of gowns, gloves, and other Personal Protective Equipment (PPE)



VHA MRSA Bundle

❖ Hand Hygiene

- Before and after every patient contact
- Alcohol based hand sanitizer is the best

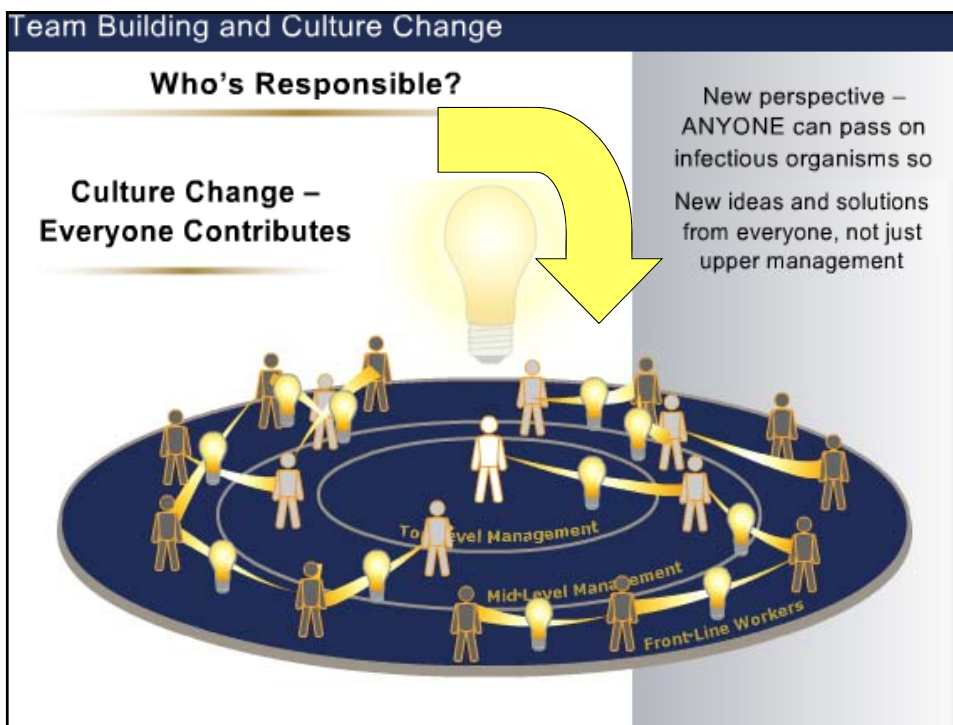
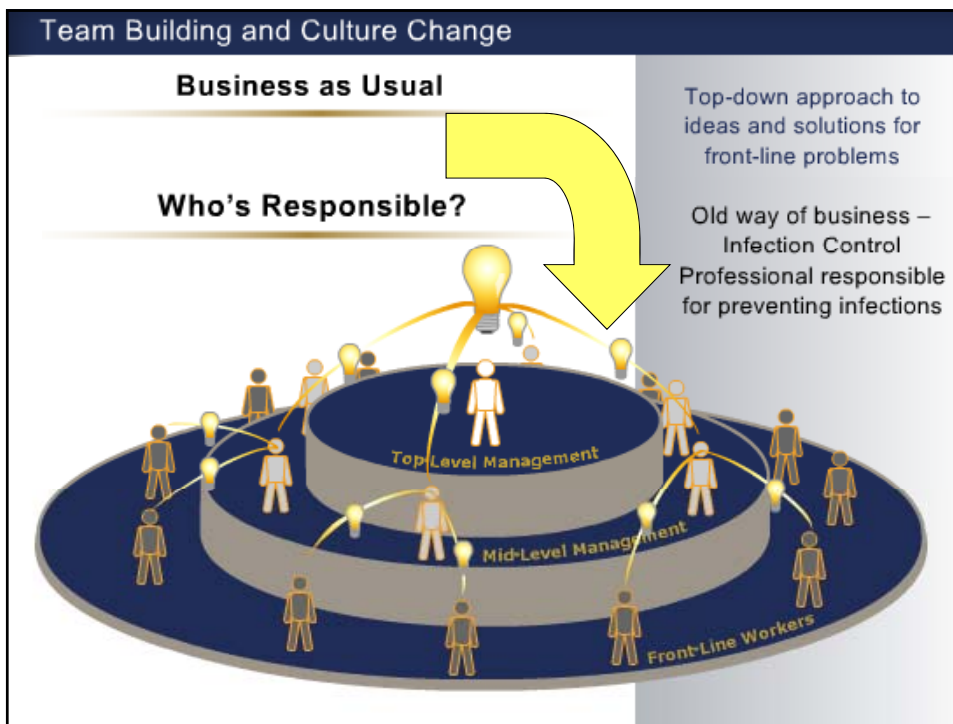


VHA MRSA Bundle

❖ Culture Change

- Infection Prevention and Control is the job of every employee, volunteer, patient and visitor
- Staff owns ideas and Leadership is actively engaged through listening, support and removal of barriers





Barriers

- ❖ Recruiting/Maintaining qualified staff
 - Hiring dedicated MRSA Prevention Coordinators
- ❖ Support from Clinical and Administrative staff
- ❖ Budget for supplies and lab tests
- ❖ Compliance with Hand Hygiene and contact precautions
- ❖ Data support



Strategies for Success

- ❖ Strong/Active MRSA Prevention Coordinator
- ❖ Community ownership
- ❖ Self discovery
- ❖ Staff engagement
- ❖ Leadership support
- ❖ Emphasis on practice
- ❖ Immediacy of action
- ❖ Continuous measures to reinforce change



Leadership Support

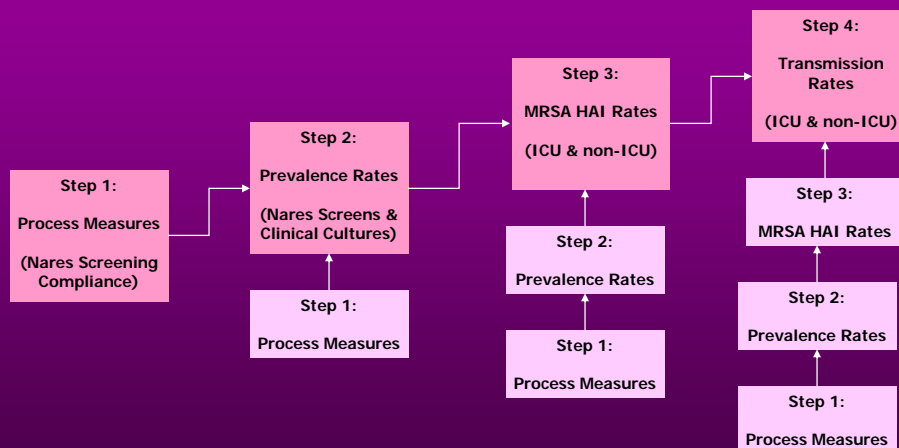
- ❖ Set the direction
- ❖ Create opportunities for staff to co-create and implement solutions
- ❖ Participate in staff initiatives
- ❖ Act efficiently
- ❖ Address concerns
- ❖ Remove barriers



Evaluating the VHA MRSA Prevention Program



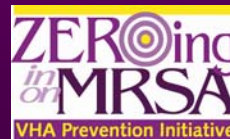
Program Evaluation



MRSA Data Reporting

❖ Data Elements:

- Nares screening compliance rates
- Prevalence rates
 - Nares screens
 - Clinical cultures
- Transmission rates
- Infection rates
 - Surgical Site Infections
 - Healthcare-Associated Infections



MRSA Data Reporting

- ❖ Data submitted monthly
- ❖ Aggregate data reported for both the Facility and for units
 - Patient-specific data not reported
- ❖ Data reported for acute care inpatient units (except inpatient mental health) and Community Living Centers

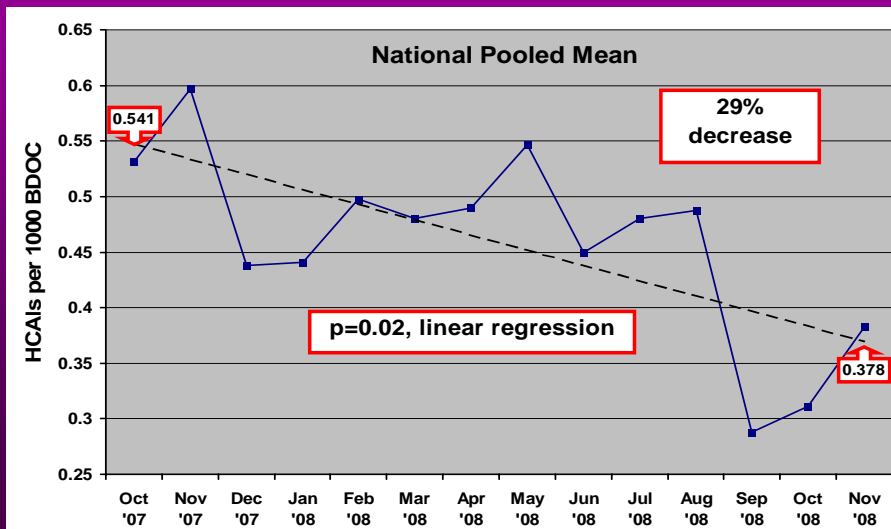


Definition of Infection

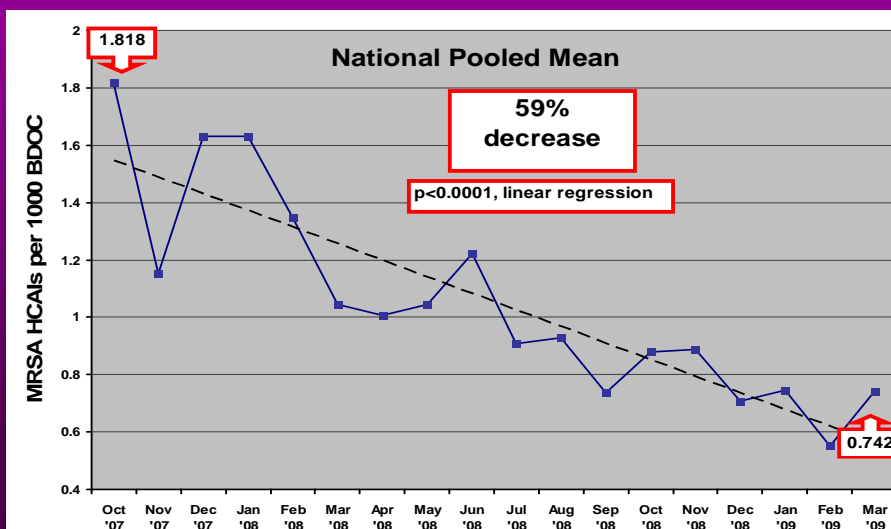
- ❖ Largely based on CDC definitions, with the following adaptations:
 - MRSA infections are determined by positive culture only
 - Positive clinical culture will be considered community-associated up to 48 hours after admission
 - A positive clinical culture obtained after 48 hours will be considered healthcare-associated where infection was not present or incubating
 - Physician/Infection Preventionist will determine incubation



MRSA HAIs in non-ICUs – National (Oct. 07 – Nov. 08)



MRSA HAIs in ICUs – National (Oct. 07 – Mar. 09)



Conclusion

❖ VHA MRSA Prevention Initiative is about:

- Saving lives and enhancing safety for patients
- Reducing MRSA infections and transmissions
- Transforming the culture of healthcare

Infection Prevention and Control is
EVERYONE's responsibility



Implementing a MRSA Prevention Program



Getting Started

- ❖ Design an “Action Plan” for implementation
- ❖ Develop a budget
- ❖ Initiate a “Core” group
- ❖ Conduct education



Action Plan (SOP)

- ❖ Clear goals
 - ZERO!
 - EVERYONE is engaged, contributes
- ❖ Clear process
 - Define expectations, roles, functions
 - Remove barriers to best practice
 - Measure performance
 - Quick feedback to staff
 - Mitigate system weaknesses



Budget

- ❖ Dedicated positions
 - MRSA Prevention Coordinator
 - Laboratory Technician/Technologist
- ❖ Equipment
 - Molecular (DNA) based testing
- ❖ Supplies
 - Laboratory
 - General



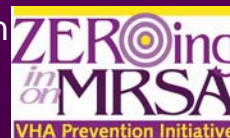
MRSA Prevention Coordinator

- ❖ Dedicated position
- ❖ Responsible for implementing and maintaining the MRSA Prevention Program
- ❖ Responsible for collecting and tracking data (nares screening compliance, prevalence, infections and transmissions)
- ❖ Collaborates and engages with staff to address barriers/concerns and works with Leadership to remove barriers



Laboratory Supplies

- ❖ Chromogenic media
 - Results obtained in 24 – 48 hours
 - Cost effective (~\$4.00/plate)
 - Discharge nares screens
- ❖ Molecular (DNA) based testing
 - Results obtained in 2 – 24 hours
 - Expensive (~\$25.00/test)
 - Admission nares screens
- ❖ Combination of the two for identification



General Supplies

- ❖ Gowns
- ❖ Gloves
- ❖ Isolation caddies
- ❖ Alcohol-based hand sanitizer
- ❖ Sanitizer wipes
- ❖ Educational material



MRSA “Core” Group

- ❖ Leadership
- ❖ MRSA Prevention Coordinator
- ❖ Infection Control
- ❖ Laboratory
- ❖ Facilities Management Services
- ❖ Ancillary Services
- ❖ Information Technology
- ❖ Finance
- ❖ Acquisitions/Logistics
- ❖ Education



Education

- ❖ Engage everyone who contacts facility
- ❖ Consistent message:
 - Infection Prevention is EVERYONE's job!
 - Focus on behavior change, not just knowledge
- ❖ Multiple strategies
 - Information pamphlets & posters
 - Kickoffs & Focus Groups
 - Measure compliance, feedback

