

METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (MRSA) INITIATIVE

1. PURPOSE: This Veterans Health Administration (VHA) Directive establishes policy for the implementation of a standardized initiative to reduce Methicillin-Resistant *Staphylococcus aureus* (MRSA) infections in the population served by VHA. **NOTE:** *It is the intent of this initiative to interrupt the chain of transmission of MRSA and thereby decrease the number of patients at risk for MRSA infection. Preliminary evidence for efficacy of bundle intervention for MRSA has been established at the Department of Veterans Affairs (VA) Pittsburgh Healthcare System from where the overall MRSA project is led.*

2. BACKGROUND

a. MRSA is a gram-positive coccus that is resistant to multiple antibiotics, causes serious disease, and is often difficult to treat. It is the cause of healthcare-associated infections (HCAIs) in a variety of settings and can be cultured from nares and other sites in patients who are colonized or infected with this organism. It is transmitted, in general, by contact, such as hands of patients or health care workers or inanimate objects contaminated with MRSA. Such transmission amplifies the number of patients who may become colonized and who are then at risk for clinical infection.

b. Increased lengths of stay, morbidity, mortality, and costs have been associated with multidrug-resistant organisms (MDROs). MRSA may behave differently from other MDROs. When patients with MRSA have been compared to patients with methicillin-susceptible *Staphylococcus aureus* (MSSA), MRSA-colonized patients more frequently develop systemic infections, including bacteremia, poststernotomy mediastinitis, and surgical site infections. Mortality may be increased further by MRSA with reduced vancomycin susceptibility. There have also been reports of an association between MRSA infections and major hospital care disruptions when cohort isolation and/or unit closure must be undertaken to control infection outbreaks. Some hospitals have observed an increase in the overall occurrence of staphylococcal infections following the introduction of MRSA into a hospital or special-care unit perhaps related to differences in virulence.

c. MRSA mitigation efforts of all sorts have been attempted with varying degrees of compliance and efficacy. Considering that recent data appears to support the use of “bundles” of interventions to achieve successful reduction in HCAI, this same concept is being applied in MRSA mitigation efforts in an attempt to reduce MRSA infections despite some difficulties in proving which of the components of the bundle are most efficacious.

3. POLICY: It is the policy of VHA to support infection control strategies that are designed to prevent the spread of MRSA. **NOTE:** *The MRSA initiative does not supersede other VHA Central Office generated critical Infection Prevention and Control*

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initiatives, such as the Inpatient Evaluation Center (IPEC) bundles for the prevention of device-related bloodstream infections and ventilator associated pneumonia. The MRSA initiative should complement these other initiatives and amplify their effectiveness.

4. ACTION

a. **Network Director.** The Network Director has overall responsibility for implementation and maintenance of the MRSA initiative.

b. **Facility Director:** The facility Director is responsible for ensuring:

(1) The identification of an MRSA Initiative Coordinator and the signature approval of a written plan for the initiative including the components noted below and in Attachment A. In addition, the facility Director is responsible for providing adequate resources for the initiative.

(2) The MRSA initiative begins in the intensive care units (if no intensive care unit is present, another at risk unit will be chosen) as these are usually settings where the presence of MRSA can be problematic resulting in increased patient morbidity and/or mortality. This action will be taken by March 1, 2007.

(3) Expansion of the initiative to other sites, including transplant units, spinal cord injury units, general surgical and medical patient wards, and other areas where there is significant risk of MRSA infections progresses until all inpatient areas (with the exception of inpatient psychiatry) are incorporated into the MRSA initiative. This expansion will be completed as quickly as feasible based on local facility considerations.

c. **Clinical Executive Team:** The Clinical Executive Team, the Chief of Staff and Chief Nurse Executive are responsible for implementation of the clinical components of the MRSA initiative.

d. **Service Chiefs or Equivalent:** The Service Chiefs, or equivalent, are responsible for ensuring compliance with the components of the initiative under their purview. This includes the service level medical service chiefs and nurse managers in partnership as shared responsibility, but is not limited to: clinical services, nursing, environmental management, and the supply needs of the initiative program.

e. **Infectious Diseases and/or Infection Control Staff.** Infectious Diseases and/or Infection Control staff are responsible for expert input in all phases of the program and for providing input regarding analysis of the clinical outcome (in collaboration with Quality Management) of the initiative.

f. **Chief of Pathology and Laboratory Medicine.** The Chief of Pathology and Laboratory Medicine is responsible for ensuring that methodologies utilized to identify MRSA are in place and that the results are provided to clinicians in a timely manner.

g. **Information Resources Management.** Information Resources Management (IRM), or local equivalent, in conjunction with Pathology and Laboratory Medicine, is responsible for:

(1) Ensuring that parameters for the Emerging Pathogens Initiative (EPI) automated data extraction system are set correctly to capture the data associated with MRSA and (MSSA).

(2) Supporting the MRSA initiative in such matters as automated order sets, data extraction for daily tracking of MRSA cultures, etc. related to the MRSA initiative

h. **MRSA Initiative Coordinator:** The MRSA Initiative Coordinator is responsible for:

(1) Coordinating all aspects of the MRSA initiative,

(2) Serving as the focal point of the initiative, and

(3) Being the liaison for the day to day operations of the initiative.

5. REFERENCES

a. CDC. Management of Multidrug-Resistant Organisms in Healthcare Settings. 2006. <http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>

b. CDC. Contact Precautions (Excerpted from Guideline for Isolation Precautions in Hospitals (January 1996). http://www.cdc.gov/ncidod/dhqp/gl_isolation_contact.html

c. Garner JS, Hospital Infection Control Practices Advisory Committee. Guideline for isolation precautions in hospitals. Infect Control Hosp. Epidemiol 1996;17:53-80, and Am J Infect Control 1996; 24:24-52. http://www.cdc.gov/ncidod/dhqp/gl_isolation.html

d. Infection; Don't Pass It On Campaign. <http://vaww.vhaco.va.gov/phshcg/InfectionDontPassItOn/>

e. Veterans Administration Pittsburgh Healthcare System Website. http://vaww.va.gov/pittsburgh/mrsa/mrsa_home.htm

f. VHA Directive 2005-002 Required Hand Hygiene Practices, January 13, 2005, http://vaww1.va.gov/vhapublications/ViewPublication.asp?pub_ID=1214

g. VHA Directive 2006-016 Mandatory Reporting of Healthcare-Associated Infections (HAI), April 3, 2006, http://vaww1.va.gov/vhapublications/ViewPublication.asp?pub_ID=1401

6. FOLLOW-UP RESPONSIBILITY: The Chief Officer, Patient Care Services (11) is responsible for the contents of this Directive. Questions relating to the Directive may be referred to the Infectious Diseases Program Office at (513) 475-6398. Questions related to the MRSA initiative may be referred to VA Pittsburgh Healthcare System at (412) 688-6793 or (412) 688-6231.

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7. RECISSIONS: None. This VHA Directive expires January 31, 2012.

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ATTACHMENT A

METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (MRSA) BUNDLE

For details on the Methicillin-Resistant *Staphylococcus aureus* (MRSA) Bundle view the Veterans Administration Pittsburgh Healthcare System Intranet Website for Veterans Administration Pittsburgh MRSA Bundle http://vaww.va.gov/pittsburgh/mrsa/mrsa_bundle.htm

1. DEFINITIONS AND PROCESS

a. **Active Surveillance/Screening.** On admission to units where this Directive has been implemented (with the exception of inpatient psychiatry) patients will have nares swabs performed. If feasible Federal Drug Administration (FDA) approved Polymerase Chain Reaction (PCR) testing will be performed for MRSA, or, if not feasible, standard cultures for MRSA will be conducted. These are screening cultures and are not linked to infection or disease, but rather are done to identify MRSA in patients to attempt to break the chain of transmission. Upon discharge from the units where this Directive has been implemented patient cultures for MRSA will be done.

b. **Contact Precautions.** If patients are found to be MRSA positive, they will be placed in contact precautions (CP) as defined by the Centers for Disease Control and Prevention (CDC). Management will assure that adequate supplies for CP are conveniently available for health care workers to avoid any situations where care could be compromised by lack of CP supplies. Patients will stay in CP while in the hospital unless they become MRSA negative. Patients who remain positive on discharge will be flagged for CP if they are readmitted to the hospital. They will remain flagged until testing indicates they are MRSA negative. In general, attempts at MRSA decolonization are not part of this MRSA initiative.

c. **Hand Hygiene.** Since hand hygiene is critical to preventing transmission of MRSA, the current “Infection, Don’t pass It On” campaign should be an integral part of the MRSA initiative (for details see <http://vaww.vhaco.va.gov/phshcg/InfectionDontPassItOn/>) For this MRSA initiative, particular attention is to be paid to hand hygiene for health care workers including compliance with the need for hand hygiene before and after each patient contact.

d. **Culture Change.** While culture change may be beyond the scope of this rapid deployment Directive, as this project gains momentum, it should be the goal to nurture culture change to assure that Infection Prevention and Control is everyone’s job and is thus a natural component of care at each patient encounter each day.

2. RESOURCES

a. **Laboratory:** The laboratory must have sufficient resources, based on facility size, complexity, and intensive care unit patient throughput, to accomplish this mission. This includes staff, reagents and equipment as needed. While standard cultures on chromagar may need to be used at the start of this project, PCR technology will likely be the future goal and

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planning should begin immediately. For this MRSA initiative to be sustainable, careful consideration must be given to incremental staffing.

b. **MRSA Initiative Coordinator**. For this project to be successful, active leadership and ongoing maintenance is required. The MRSA Initiative Coordinator is an integral component to the success of the MRSA initiative. The duties of the MRSA Initiative Coordinator are broad in nature. Like the laboratory, it is unlikely that these duties can be accomplished with current staff that should be otherwise occupied. The number of persons needed to assist the MRSA Initiative Coordinators will be based on the same parameters noted above. At the very least, careful consideration must be given for incremental staffing if this project is to be successful and sustainable.

c. **Facility Leadership**. Top management of the facility and the critical Service Chiefs or equivalent must be a visible and integral part of this project. Management enthusiasm will likely translate to energy for all of the staff to accomplish this important mission.

d. **Program Components and Guidance**. Further program guidance will be provided as the MRSA initiative progresses. The primary source for additional information is http://vaww.va.gov/pittsburgh/mrsa/mrsa_bundle.htm .