

APIC ELIMINATION GUIDE

Guide to the Elimination of Methicillin-Resistant *Staphylococcus aureus* (MRSA) Transmission in Hospital Settings

California Supplement - 2009

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*This is a web-based document and is updated regularly.
Infection prevention teams are encouraged to check the APIC web site to obtain the most
recent information.*



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Glossary of Abbreviations

AFL	All Facilities Letter – a formal directive from CDPH
APIC	Association for Professionals in Infection Control and Epidemiology, Inc.
ARM	Antibiotic-resistant microorganisms
CDC	Centers for Disease Control and Prevention
CDPH	California Department of Public Health
DHS	California Department of Health Services
EPA	Environmental Protection Agency
GACH	General acute care hospital
HAI	Healthcare-associated infection
HAI AC	Healthcare Associated Infections Advisory Committee – to CDPH
LIP	Licensed independent practitioner
MDRO	Multidrug-resistant organisms
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin-sensitive <i>Staphylococcus aureus</i>

Guide Overview

Purpose

This document was created to provide hospitals and other healthcare providers with the most recent scientific and regulatory information on the prevention and control of MRSA in California General Acute Care Hospitals (GACH). Topics already addressed in the APIC MRSA Elimination Guide will not be repeated in this document.

This is a web-based document and may be printed by the user. It will be updated frequently during 2009 as changes occur. Users are encouraged to report any changes that affect the content of the document to products@apic.org.

Key Concepts

Efforts to eliminate MRSA transmission have been the focus of recent legislative activities in California. There are new requirements that will affect California hospitals within the next two years, many of them requiring interpretation and guided implementation. New legislation may be introduced in 2009; this document will be updated to reflect any changes that may occur.

Background

In 2007, APIC published the *Guide to the Elimination of Methicillin-Resistant Staphylococcus aureus (MRSA) Transmission in Hospital Settings*. This comprehensive guide provided the most recent scientific information on performing a MRSA Risk Assessment, MRSA Surveillance Methodology, Hand Hygiene, Contact Precautions for MRSA, Environmental and Equipment Decontamination, Surveillance Cultures¹ (Screening), Making the Business Case, Cultural Transformation, Decolonization, and Antimicrobial Stewardship.

State-specific guides have now become necessary to help infection preventionists consider how state reporting and legislative requirements affect the practice of infection prevention.

Current California Guidelines

There is currently no state guideline published specifically for general acute care hospitals. In 1996, the California Department of Health Services, Licensing and Certification Program and Division of Communicable Disease Control published the *Guideline for Prevention and Control of Antibiotic Resistant Microorganisms (ARM) in California Long-Term Care Facilities*. This guideline includes MRSA. This is the most current version of the guideline and is still available on the state web site².

The guideline applies to skilled nursing facilities only, and can be summarized with these key points:

- Monitor residents and new admissions for all multidrug-resistant microorganisms
- Report information to the facility's infection control committee³
- Evaluate and implement recommendations of the Infection Control Committee
- No transfer should be refused based on a positive ARM culture from any site
- New or returning residents should be admitted based on the ability of the facility's personnel to provide supportive and restorative care to the resident
- Follow Standard Precautions for all residents' care
- Be prepared to implement the appropriate infection control measures for all residents infected or colonized with ARM⁴
- Use an EPA-registered disinfectant on all surfaces
- Disinfect all common use areas and equipment daily (including oral electronic thermometers)
- No special handling of trash
- No special handling of linen
- No special handling of dishes or utensils
- Provide education about ARM to staff at regular intervals
- Maintain communication with discharge planners and case managers
- Do not treat ARM colonization
- Monitor infection and colonization for potential outbreaks
- In outbreak situations only:
 - Consider private rooms or cohorting for infected and colonized residents
 - Use antibacterial soap and water for hand hygiene⁵
 - Use dedicated bedside equipment
 - Provide antiseptic soap for resident bathing

Infection preventionists within general acute care hospitals should become familiar with the contents of the guideline and assist local long-term care facilities in patient transfers and other matters.

Also see the California Department of Education "A Parent's Guide to MRSA" translated into 23 different languages.⁶

Local or County Guidelines

- Los Angeles County Department of Public Health, Acute Communicable Disease Control Program, *Summary of recommended infection control guidelines for prevention and control of multidrug-resistant organisms in long-term medical care facilities*⁷
- San Francisco Health Department⁸
- Orange County⁹
- San Mateo County – Health Department¹⁰

California MRSA Reporting Requirements

Reportable conditions are listed under *Title 17, California Code of Regulations (CCR) §2500, §2593, §2641.5-2643.20, and §2800-2812 Reportable Diseases and Conditions.*¹¹ Infection preventionists (called Infection Control Practitioners in the regulation), among other licensed care providers, are required to report.

§ 2500. REPORTING TO THE LOCAL HEALTH AUTHORITY.

- § 2500(b) It shall be the duty of every healthcare provider, knowing of or in attendance on a case or suspected case of any of the diseases or conditions listed below, to report to the local health officer for the jurisdiction where the patient resides. Where no healthcare provider is in attendance, any individual having knowledge of a person who is suspected to be suffering from one of the diseases or conditions listed below may make such a report to the local health officer for the jurisdiction where the patient resides.
- § 2500(c) The administrator of each health facility, clinic, or other setting where more than one healthcare provider may know of a case, a suspected case, or an outbreak of disease within the facility, shall establish and be responsible for administrative procedures to ensure that reports are made to the local officer.
- § 2500(a)(14) "Healthcare provider" means a physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner, or a dentist.

MRSA-related Reportable Conditions:

1. *Staphylococcus aureus*¹² infection (only a case resulting in death, or admission to an intensive care unit of a person who has not been hospitalized or had surgery, dialysis, or residency in a long-term care facility in the past year, and did not have an indwelling catheter or percutaneous medical device at the time of culture. Report by fax, telephone, or mail within one working day of identification (See case report form CDPH¹³).
2. OUTBREAKS OF ANY DISEASE (Including diseases not listed in §2500). Specify if institutional and/or open community. Report immediately by telephone.

Laboratories are also required to report. See Reportable Infectious Diseases and Conditions: Reporting by Laboratories *Title 17, California Code of Regulations, Sections 2505 & 2641.5 – 2643.20*

- There are no specific requirements for laboratories to report MRSA to the state.

There is also no requirement to report individual cases of MRSA colonization or infection to the state health department except for severe staphylococcal infection and outbreaks as noted above. As of this publication, the following local health jurisdictions do require local reporting:

1. San Mateo County¹⁴
2. Santa Clara County¹⁵
 - a. Includes all laboratory confirmed isolates
 - b. Beginning January 1, 2009, reporting individual MRSA cases is no longer required; only the state-required reporting of severe *Staphylococcus* will continue. This includes both MRSA and Methicillin-sensitive *Staphylococcus aureus* (MSSA).
3. Counties where reporting is voluntary but actively encouraged are Kings, Del Norte, and Glenn.

In California, reportable diseases and conditions are communicated to the local health officer or jurisdiction where the patient resides. In some cases, the jurisdiction where the hospital is located may take the report and communicate it to another jurisdiction. Check with your local health department about reporting cases both within and outside the state of California¹⁶.

California MRSA Legislative Mandates

Recent passage of three California laws has affected the practice of infection prevention and control. The three Senate Bills are 739 (2006), 158 (2008), and 1058 (2008). This guide will only address the bills as they relate to MRSA.

Senate Bill 739

- The bill contains no MRSA-specific requirements.
- It created the Healthcare Associated Infection (HAI) Advisory Committee (HAI AC)¹⁷, a multidisciplinary committee that includes healthcare experts and consumers. Meetings are open to the public.
 - The HAI AC makes recommendations to the California Department of Public Health (CDPH) related to methods of reporting cases of hospital-acquired infections occurring in general acute care hospitals, and makes recommendations on the use of national guidelines and the public reporting of process measures for preventing the spread of HAI.
 - The HAI AC reviews and evaluates federal and state legislation, regulations, and accreditation standards and communicates to the department how hospital infection prevention and control programs will be impacted.
 - NOTE: The Advisory Committee is currently on hiatus until a budget is put in place for fiscal year 2009-2010. Persons who wish to contact the committee may e-mail infectioncontrol@cdph.ca.gov or call (510) 620-3434.
- In 2005, an earlier body, the Department of Health Services HAI Advisory Working Group, published a paper that made several recommendations related to MRSA.¹⁸

- **Recommendation 1.9** Explore the possibility of developing a statewide electronic reporting database to monitor increases in specific invasive antibiotic resistant organisms such as MRSA, as well as central line-related bloodstream infections and surgical site infections related to coronary artery bypass surgery and other high risk surgical procedures.
- **Recommendation 2.2** Healthcare facilities should assess the risk of acquisition and transmission of HAI at least annually when any of the following conditions known to affect HAI rates arise: the demographics of the geographical area changes; new diagnostic and therapeutic services are introduced; construction and renovation projects impact normal internal or external operations.
- The following are essential action steps for the implementation of this recommendation: Antimicrobial resistant organisms, such as MRSA, should be tracked and trended, especially care-associated transmission.
- **Recommendation 6.1** Recommendations for the judicious use of antibiotics should be developed, implemented and monitored jointly by the Infection Prevention and Pharmacy and Therapeutics committees in consultation with chiefs of surgical and medical specialties, hospitalists, and intensivists.
- **Recommendation 6.2** Microbiologists, in consultation with Infection Prevention and Pharmacy and Therapeutics committees, should develop and distribute annual antimicrobial susceptibility results (i.e., antibiograms) of common pathogens identified. The antibiogram should be based on single isolates from the same patient and be compiled according to the Clinical and Laboratory Standards Institute (CLSI) and made available to all staff and consulting physicians.

- **Recommendation 6.3** Empiric antibiotic therapy should be evaluated within 48 hours after being initiated. Therapeutic antibiotic therapy should be based on the antimicrobial susceptibilities of the organism identified. The duration of therapeutic antibiotic therapy should be based on recommendations from professional organizations and published studies.
- **Recommendation 6.4** Healthcare facilities should provide feedback to providers (surgeons and anesthesiologists) regarding compliance with recommendations on surgical antimicrobial prophylaxis.
- **Recommendation 6.5** Healthcare facilities should be encouraged to share their annual antibiograms with community partners, including other healthcare facilities and the local health department, to assess the spread of MDROs and share strategies to control these organisms. Isolates may be shared with public health laboratories with the capability of applying molecular techniques to determine the extent of transmission of MDROs among facilities.

Senate Bill 1058 (Alquist)

Medical Facility Infection Control and Prevention Act or Nile’s Law

Provisions of the law:	HAI AC recommendations for implementation:
<ul style="list-style-type: none"> • Affects general acute care hospitals. • Violation of the provisions is a crime. • Effective January 1, 2009: <ul style="list-style-type: none"> ○ Establish an active surveillance program to test for MRSA within 24 hours of admission for the following patient groups: <ul style="list-style-type: none"> ▪ Patients who are scheduled for inpatient surgery and have a documented medical condition making them susceptible to infection, based either upon federal Centers for Disease Control and Prevention findings or the recommendations of the committee or its successor.¹⁹ ▪ Patients who are admitted and were previously discharged from an acute care hospital within the past 30 days. ▪ All admissions to an intensive care or burn unit. ▪ Patients who receive inpatient dialysis 	<p><i>The effects of the law depend on how your facility is licensed, and not the type of unit. For example, acute psychiatric facilities are exempt. However, if a licensed general acute care hospital has a psychiatric ICU, screening is required (HAI AC, October 9, 2008 minutes).</i></p> <p><i>Develop a standardized procedure that allows nurses to obtain the screening test without an individual physician order. See the California Board of Registered Nursing position papers on standardized procedures guidelines^{21,22}. Also see the Sample Standardized Procedure for California Registered Nurses. This document is available online at www.apic.org/eliminationguides.</i></p> <p><i>Work with information technology to develop automated and semi-automated systems to identify patients who meet screening criteria requirements.</i></p> <p><i>The CDC does not have a formal definition for “documented medical condition making [a patient] susceptible to infection.” Therefore this section is not enforceable by Licensing and Certification until corrective language is adopted. However, facilities should consider screening the following surgeries:</i></p> <ul style="list-style-type: none"> • Surgeries that include implants • Surgeries that have severe morbidity and mortality if an infection occurs, such as mediastinitis. <p><i>Includes neonatal intensive care units, both transferred into facility and from same hospital- birthed neonates (still under HAI AC consideration, October 9, 2008 minutes).</i></p>

<p>treatment.</p> <ul style="list-style-type: none"> ▪ Patients transferred from a skilled nursing facility. • If a patient tests positive for MRSA, the attending physician shall inform the patient or the patient’s representative immediately, or as soon as is practically possible. • A patient who tests positive for MRSA infection shall, prior to discharge, receive oral and written instruction regarding aftercare and precautions to prevent the spread of the infection to others. • Commencing <u>January 1, 2011</u>, a patient tested who shows evidence of increased risk of invasive MRSA shall again be tested for MRSA immediately prior to discharge from the facility. This does not apply to a patient who has tested positive for MRSA infection or colonization upon entering the facility. • No later than <u>January 1, 2011</u>, post on the department’s web site information regarding the incidence rate of healthcare-associated MRSA bloodstream infection. • Beginning January 1, 2009, submit quarterly data to the State Department of Public Health on the following: <ul style="list-style-type: none"> ○ Healthcare-Associated (HA)-MRSA bloodstream infections²⁰ ○ Surgical site infections from MRSA and all other organisms (whether MDRO or not). 	<p><i>All patients who are screened should receive their test results, not just those who test positive. Ensure that your facility informs MRSA test-negative patients about their results.</i></p> <p><i>This area will be addressed in mid-2010.</i></p> <p><i>An incidence rate is required; reporting must include HA-MRSA bloodstream infections, patient days and device days from all hospital units (not limited to ICU). The risk stratification methodology has not yet been defined. After consideration, HAI-AC may recommend a public reporting model.</i></p> <p><i>NOTE: HAI AC has made a recommendation for technical clarification language for this section. The HAI AC is developing a list of which surgeries will be reported; an All Facilities Letter is expected in the future.</i></p> <p><i>Consider using the Sample Reporting Form for SB 1058 Mandates.</i></p>
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Senate Bill 158 (Flores)

Provisions of the law:	HAI AC recommendations for implementation:
<ul style="list-style-type: none"> • Affects general acute care hospitals, acute psychiatric hospitals, and special hospitals. • Violation of the provisions is a crime. • Beginning January 2010, all staff and contract physicians and all other licensed independent contractors, including, but not limited to, nurse 	<p><i>Implementation has not been addressed by the HAI AC. In the interim, consider the following: For physicians and other licensed independent practitioners (LIP), make this part of the medical staff credentialing process; Infection Prevention and Control can create and deliver content, but it should be the responsibility of the Medical Staff</i></p>

<p>practitioners and physician assistants, shall be trained in methods to prevent transmission of HAI, including, but not limited to, MRSA and <i>Clostridium difficile</i> infection.</p>	<p><i>Office to schedule, coordinate, maintain records and apply sanctions for non-compliant LIP. SHEA and other professional organizations are indicating an interest in developing course content.</i></p> <p><i>For all staff/employees, make training a requirement during new hire and annual training.</i></p>
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California MRSA Licensing and Certification Requirements

- There are no specific requirements related to MRSA.
- Any/all Facility Letters (AFL) related to MRSA are listed here:
 - October 24, 2007 AFL 07-29 Subject: Urging All Healthcare Facilities To Develop New Or Review Existing Policies And Procedures On The Prevention And Control Of Antibiotic Resistant Organisms In Your Facility²³ AND Appendix²⁴
 - January 21, 2009, AFL 09-7, Senate Bill 1058, Senate Bill 158 – Medical Facility Infection Control and Prevention Act

Additional Resources

- Consider participation in the NHSN MRDO module²⁵ found in *The National Healthcare Safety Network (NHSN) Manual: Patient Safety Component: Protocol Multidrug-resistant Organism (MDRO) and Clostridium difficile-Associated Disease (CDAD) Module (03/19/2008)*.

References and Notes

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- ¹ The method of screening or testing for MRSA is not specified; it can be identified via culture or molecular methods.
- ² <http://www.cdph.ca.gov/pubsforms/Guidelines/Pages/HAlandIC.aspx>
- ³ An infection control committee is required under California Code of Regulations, Title 22. Social Security, Division 5. Licensing and Certification of Health Facilities, Home Health Agencies, Clinics, and Referral Agencies, Chapter 3. Skilled Nursing Facilities, Article 5. Administration, § 72525. Required Committees.
- ⁴ Note that the guideline does not call for routine use of Contact Precautions with colonized or infected residents. This practice is consistent with the 2006 CDC MRDO guideline.
- ⁵ This guideline was written before the 2002 CDC Guideline for Hand Hygiene in Health-care Settings, which includes alcohol hand sanitizer for routine use and during outbreaks.
- ⁶ <http://inet2.cde.ca.gov/cmd/translatedparentaldoc.aspx?docid=883-914,923-934>
- ⁷ <http://www.lapublichealth.org/ACD/docs/MDROguidelines.pdf>
- ⁸ <http://www.sfcddcp.org/mrsa.html>
- ⁹ <http://ochealthinfo.com/epi/mrsa/providers.htm>
- ¹⁰ http://www.co.sanmateo.ca.us/smc/departments/home/0,,1954_1560623_1117182274,00.html
- ¹¹ <http://www.cdph.ca.gov/HealthInfo/Pages/ReportableDiseases.aspx>
- ¹² Note: this is all occurrences of *Staphylococcus aureus*, which will include all MRSA. Of 92 cases of severe staph reported from February 13 to August 15, 2008, 73% were MRSA.
- ¹³ <http://www.cdph.ca.gov/pubsforms/forms/CtrlForms/cdph9061.pdf>
- ¹⁴ http://www.co.sanmateo.ca.us/vgn/images/portal/cit_609/44/21/949320209CMR%20reportable_diseases_2007-3-30_ccversion.pdf
- ¹⁵ [http://www.sccgov.org/SCC/docs/Public%20Health%20Department%20\(DEP\)/attachments/Disease%20Control%20Reporting%20Guidelines%202008.pdf](http://www.sccgov.org/SCC/docs/Public%20Health%20Department%20(DEP)/attachments/Disease%20Control%20Reporting%20Guidelines%202008.pdf)
- ¹⁶ http://www.cdph.ca.gov/HealthInfo/Documents/LHD_CD_Contact_Info.pdf or
<http://www.cdph.ca.gov/programs/cclho/Documents/CCLHOHealthOfficerDirectoryNovember202008.pdf>
- ¹⁷ http://ww2.cdph.ca.gov/services/boards/Pages/HAI_AC.aspx
- ¹⁸ <http://www.cdph.ca.gov/pubsforms/Guidelines/Documents/HAlAWGReporttoDHS.pdf>
- ¹⁹ Based either upon federal Centers for Disease Control and Prevention findings or the recommendations of the committee or its successor.
- ²⁰ Unless the department adopts a public reporting model that is consistent with recommendations of the HAI AC.
- ²¹ <http://www.rn.ca.gov/pdfs/regulations/npr-i-19.pdf>
- ²² <http://www.rn.ca.gov/pdfs/regulations/npr-b-03.pdf>
- ²³ <http://ww2.cdph.ca.gov/certlic/facilities/Documents/LNC-AFL-07-29.pdf>
- ²⁴ <http://ww2.cdph.ca.gov/certlic/facilities/Documents/LNC-AFL-07-29-Attachment.pdf>
- ²⁵ http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html