

Preventing methicillin-resistant *Staphylococcus aureus* transmission in hospitals: An Executive Summary of the Association for Professionals in Infection Control and Epidemiology, Inc, Elimination Guide

Terri Rebmann, PhD, RN, CIC,^a and Kathy Aureden, MS, MT (ASCP) SI, CIC^b
St. Louis, MO; and Elgin, IL

This article is an executive summary of the Association for Professionals in Infection Control and Epidemiology, Inc, Elimination Guide for methicillin-resistant *Staphylococcus aureus*, including the 2009 California Supplement. Infection preventionists are encouraged to obtain the original, full-length Association for Professionals in Infection Control and Epidemiology, Inc, Elimination Guides for more thorough coverage of *Staphylococcus aureus* prevention.

Key Words: Methicillin-resistant *staphylococcus aureus*; multidrug-resistant organism; hospital; infection prevention; infection control.

Copyright © 2011 by the Association for Professionals in Infection Control and Epidemiology, Inc. Published by Elsevier Inc. All rights reserved. (*Am J Infect Control* 2011;39:595-8.)

Multidrug-resistant organisms (MDRO) contribute significantly to the burden of health care-associated infections (HAI) in the United States; research indicates that 70% of HAIs are caused by MDROs.¹ Of all MDROs, methicillin-resistant *Staphylococcus aureus* (MRSA) is the most common, accounting for approximately 50% to 70% of isolates from intensive care unit patients.² MRSA infections are more expensive to treat and prolong hospital stays and are associated with a

higher mortality rate compared with patients with methicillin-susceptible *Staphylococcus aureus* infections.³ Researchers indicate that it costs between \$3.2 and \$4.2 billion per year to treat MRSA infections in the United States.⁴

Recommendations for preventing MRSA transmission in hospitals has evolved as new evidence is gathered. In 2003, the Society for Healthcare Epidemiology of America (SHEA) published an initial set of guidelines for preventing the transmission of MRSA in hospitals.⁵ In 2006, the Centers for Disease Control and Prevention (CDC) Hospital Infection Control Practices Advisory Committee (HICPAC) published an updated set of guidelines on the prevention of MRSA transmission.⁵ This same year, the Institute for Healthcare Improvement released a document outlining a 5-component program for reducing MRSA transmission.⁶ The 2007 HICPAC Isolation Guidelines⁷ delineated evidence-based control measures for MRSA. Also in 2007, the Association for Professionals in Infection Control and Epidemiology (APIC) published the Guide to the Elimination of Methicillin-Resistant *Staphylococcus aureus* (MRSA) Transmission in Hospital Settings.¹ This article is an executive summary of the 2010 update to the aforementioned APIC Guide to the Elimination of MRSA Transmission in Hospitals (including

From the Institute for Biosecurity, Saint Louis University, School of Public Health, St. Louis, MO^a; and Sherman Hospital, Elgin, IL.^b

Address correspondence to Terri Rebmann, PhD, RN, CIC, Assistant Professor, Institute of Biosecurity, Division of Environmental and Occupational Health, Saint Louis University, School of Public Health, 3545 Lafayette Ave, Room 361, Saint Louis, MO 63104. E-mail: rebmannt@slu.edu.

Address for the Association for Professionals in Infection Control and Epidemiology, Inc, is 1275 K Street, NW, Suite 1000, Washington, DC 20005-4006.

Conflicts of interest: None to report.

0196-6553/\$36.00

Copyright © 2011 by the Association for Professionals in Infection Control and Epidemiology, Inc. Published by Elsevier Inc. All rights reserved.

doi:10.1016/j.ajic.2010.10.019

the California Supplement⁸); the full-length documents are available through the APIC Web site and provide a comprehensive approach to developing an MRSA prevention program for hospitals.

MRSA RISK ASSESSMENT

The APIC MRSA Elimination Guide outlines how to conduct and interpret a hospital risk assessment related to MRSA. Each hospital should conduct an MRSA risk assessment to determine facility-specific patient risk factors as well as incidence, prevalence, and transmission rates. The MRSA risk assessment uses past and current facility surveillance data in conjunction with published data that can be used as a benchmark to determine high-risk areas/units, departments, or patients. MRSA risk assessments are based primarily on cultures obtained via clinical care of known or suspected infected patients, although facilities that are engaged in an active surveillance program will also have culture data identifying colonized patients. The hospital MRSA risk assessment should use clear definitions, including how a health care-associated case of MRSA versus community acquired will be defined. The results from the risk assessment should be used to develop a hospital surveillance, prevention, and control plan for MRSA, including the identification of measurable outcome measures.

Risk factors for MRSA are outlined in the APIC MRSA Elimination Guide¹ and include but are not limited to (1) patients with comorbidities who have been hospitalized in the last year, (2) nursing home stay in the last year, (3) receipt of antibiotics during a recent hospitalization, (4) presence of skin or soft-tissue infection upon admission, (5) HIV infection, (6) history of intravenous drug use, (7) previous MRSA infection or colonization, and (8) hemodialysis. Other facility-specific risk factors may also exist and should be identified during the risk assessment process.

MRSA SURVEILLANCE

Data from the facility's MRSA surveillance program are used as the foundation for the MRSA risk assessment and to evaluate the effectiveness of the hospital's infection prevention and control program in relation to preventing the spread of MRSA. The APIC MRSA Elimination Guide outlines the elements of a surveillance program as described by the APIC text, including choosing the surveillance methodology, defining the population to be studied, selecting surveillance indicators, determining the study time period, defining surveillance criteria, identifying data elements to be collected, defining data analysis processes, determining how data will be collected and managed, identifying

key stakeholders who will receive surveillance reports, and how to develop a written surveillance plan.¹⁻⁹

MRSA surveillance consists of passive (clinical) cultures and active surveillance cultures (ASC). Passive surveillance for MRSA stems from clinical specimens (ie, those obtained because the patient had signs/symptoms that indicated a possible infection) to aid in patient care decision making, whereas ASCs are collected as part of the facility MRSA risk assessment or surveillance program to evaluate infection prevention and control measures. Participation in an ASC program should be determined based on information from the facility risk assessment and re-evaluated and/or readjusted if the facility experiences ongoing MRSA transmission despite intervention. The APIC MRSA Elimination Guide outlines strategies for implementing an ASC program as well as interventions for monitoring the facility compliance with the program. The APIC MRSA Elimination Guide also delineates procedures for obtaining a nasal specimen for surveillance, available laboratory tests for MRSA screening, and surveillance data management strategies. Environmental cultures are only indicated if an epidemiologic investigation suggests an environmental source is associated with ongoing MRSA transmission.¹

MRSA INFECTION PREVENTION

MRSA prevention programs require support from hospital leadership to generate a culture change within the organization. To gain administrative support, infection preventionists need to provide hospital leadership with information regarding existing MRSA incidence and prevalence rates, increasing trends, financial impact of health care-associated MRSA infections, published evidence regarding benchmark infection rates and effective interventions, and facility-specific barriers or dysfunctional processes that are contributing to the risk of MRSA transmission.

Successful MRSA prevention programs require participation at all levels of health care personnel, from environmental services to physicians. It is essential to develop a multidisciplinary MRSA prevention plan that is based on input and feedback from health care personnel and to communicate the plan to all hospital employees. The APIC MRSA Elimination Guide describes the use of behavioral transforming strategies, such as positive deviance (PD), to transform and grow hospital culture by engaging health care staff in practice change to decrease MRSA transmission.¹ PD involves soliciting ideas/solutions from within the organization and relying on practice rather than knowledge. The APIC MRSA Elimination Guide describes case studies of successful MRSA infection prevention programs, including screening strategies used by the

Download English Version:

<https://daneshyari.com/en/article/2638790>

Download Persian Version:

<https://daneshyari.com/article/2638790>

[Daneshyari.com](https://daneshyari.com)