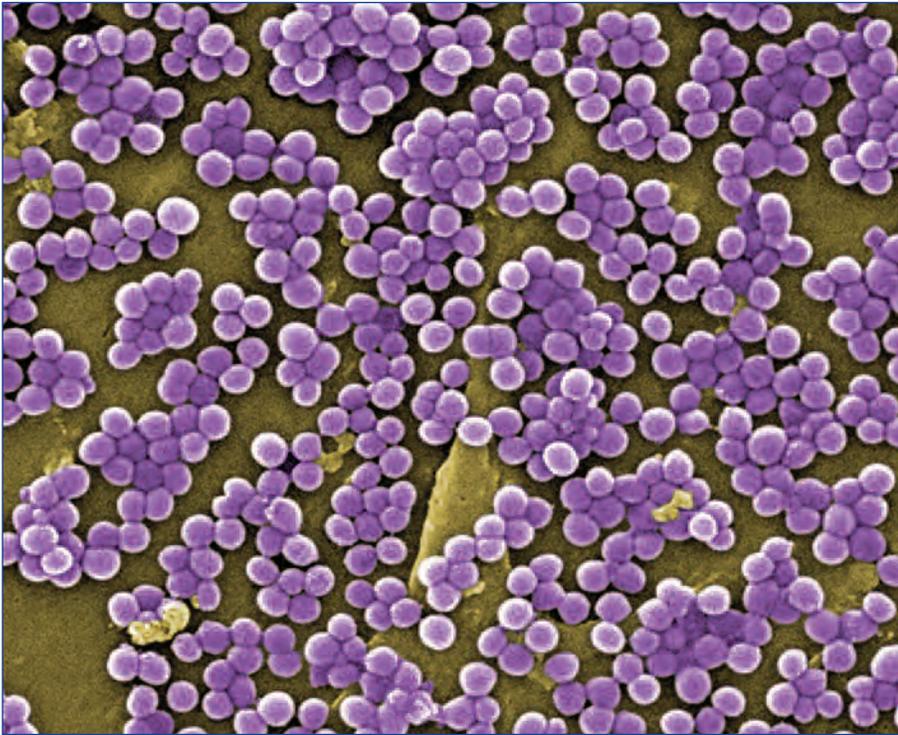


# Educating Staff About MDROs



*Methicillin-resistant Staphylococcus aureus is one of the most common multidrug-resistant organisms in U.S. health care organizations.*

**T**wo 56-year-old female patients with a history of diabetes mellitus undergo elective total knee replacements on the same day. Both procedures are uneventful, with no intraoperative complications. Four days after surgery, blood cultures show that both patients have staph infections; one patient has methicillin-susceptible *Staphylococcus aureus* (MSSA), a strain that is treatable with antibiotics. The other has methicillin-resistant *Staphylococcus aureus* (MRSA), a multidrug-resistant organism (MDRO). Both women are given a course of intravenous antibiotics. The patient with the MSSA makes a complete recovery. The patient with the MRSA develops renal failure, goes into cardiac arrest, and dies.<sup>1</sup>

What are MDROs? Why do they resist antibiotics? Why do some patients

become infected with such organisms? Educating staff about MDROs is one step along the road to answering those questions and others, including how to treat patients they infect and how to prevent MDRO infections.

The Centers for Disease Control and Prevention (CDC) defines MDROs as “microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents.”<sup>2</sup> MDROs include, but are not limited to, MRSA, *Clostridium difficile*, vancomycin-resistant enterococci, and multidrug-resistant gram-negative bacteria. Due to their resistance to treatment, MDROs are associated with increases in morbidity, length of stay, costs, and mortality.<sup>3</sup>

According to Susan Slavish, B.S.N., M.P.H., C.I.C., consultant, Joint

Commission Resources, when an organism becomes resistant, it becomes more difficult to treat because there are fewer antibiotics available to treat it. “Treatment outcomes may also not be as successful,” she says. Slavish points out that hospitalized patients may already be receiving antibiotics. “The antibiotics change the patient’s natural flora, which makes it more likely that a resistant form of an organism will emerge,” she explains. “A patient who already has an MDRO (for example, MRSA) may actually develop another MDRO, such as vancomycin-resistant enterococcus, because of the changes in flora due to their treatment.”

National Patient Safety Goal **NPSG.07.03.01**, Element of Performance (EP) 2, requires hospitals and critical access hospitals to educate staff and licensed independent practitioners about health care– associated infections (HAIs), MDROs, and prevention strategies upon hire and annually thereafter. (See Sidebar 1 on page 7 for the NPSG.07.03.01.) Organizations should base this education on the results of periodic risk assessments for MDRO acquisition and transmission, as required by EP 1.

## Developing Staff Education Programs

Staff education about MDROs should recognize the diverse roles of staff and licensed independent practitioners and be consistent with those roles within the hospital. “Staff who are involved in direct patient care will need a different type of training than the housekeeping or dietary staff,” says Louise Kuhny, R.N., M.B.A., M.P.H., C.I.C., clinical educator, The Joint Commission. “For

## Sidebar 1. NPSG.07.03.01

### NPSG.07.03.01

#### Implement evidence-based practices to prevent health care–associated infections due to multidrug-resistant organisms in acute care hospitals.

##### Elements of Performance for NPSG.07.03.01

1. Conduct periodic risk assessments (in time frames defined by the hospital) for multidrug-resistant organism acquisition and transmission.
2. Based on the results of the risk assessment, educate staff and licensed independent practitioners about health care–associated infections, multidrug-resistant organisms, and prevention strategies at hire and annually thereafter.
3. Educate patients, and their families as needed, who are infected or colonized with a multidrug-resistant organism about health care–associated infection prevention strategies.
4. Implement a surveillance program for multidrug-resistant organisms based on the risk assessment.

**Note:** *Surveillance may be targeted rather than hospital-wide.*

5. Measure and monitor multidrug-resistant organism prevention processes and outcomes, including the following:
  - Multidrug-resistant organism infection rates using evidence-based metrics
  - Compliance with evidence-based guidelines or best practices
  - Evaluation of the education program provided to staff and licensed independent practitioners.

**Note:** *Surveillance may be targeted rather than hospital-wide.*

6. Provide multidrug-resistant organism process and outcome data to key stakeholders, including leaders, licensed independent practitioners, nursing staff, and other clinicians.
7. Implement policies and practices aimed at reducing the risk of transmitting multidrug-resistant organisms. These policies and practices meet regulatory requirements and are aligned with evidence-based standards (for example, the CDC and/or professional organization guidelines).
8. When indicated by the risk assessment, implement a laboratory-based alert system that identifies new patients with multidrug-resistant organisms.

**Note:** *The alert system may use telephones, faxes, pagers, automated and secure electronic alerts, or a combination of these methods.*

9. When indicated by the risk assessment, implement an alert system that identifies readmitted or transferred patients who are known to be positive for multidrug-resistant organisms.

**Note 1:** *The alert system information may exist in a separate database or may be integrated into the admission system. The alert system may be either manual or electronic or a combination of both.*

**Note 2:** *Each hospital may define its own parameters in terms of time and clinical manifestation to determine which readmitted patients require isolation.*

example, housekeeping staff don't need to know how antibiotics work, but they do need to know what to do before they enter a room if the patient is on isolation precautions, including what PPE [personal protective equipment] they need to put on before going in."

**Transmission routes.** Slavish says that all staff need to be aware of transmission routes so they will know if they could play a role in potentially spreading an MDRO. "Hospitalized patients are exposed to other patients who may be carrying these organisms," she says. "Unidentified organisms may be on

bed rails, tray tables, or other objects that staff are transporting via their hands or by medical equipment." Kuhny concurs: "Many hospitals and other health care organizations receive patients who already have MDROs," she says. "The MDROs become colonized in the environment."

**Preventive measures.** In addition to educating staff members and licensed independent practitioners about the routes of transmission, Slavish says that they also need to be taught preventive measures. Measures for prevention of MDROs may include the following:<sup>4</sup>

- Environment of care measures, including decontamination of medical equipment
- Hand hygiene
- Contact precautions
- Use of antimicrobials

**Patients with MDROs.** Staff should be educated on the following, regarding how to handle patients who may have MDROs:

- Communication protocols for handoffs, transfers, or readmission of a patient with a history of MDROs
- Patient and family communication and education about MDROs
- Policy for handling a patient who has a history of MDROs
- Protocols for what to do if a staff member suspects that a patient has an MDRO
- Protocols for communicating information about the suspected MDRO to other staff within the unit and in other departments
- Procedures for ordering tests for MDROs and for communicating the results
- Isolation protocols for patients who have MDROs

*(continued on page 8)*

## Educating Staff About MDROs

(continued from page 7)

### Staff Education Methods

According to Slavish, most hospitals provide education about MDROs during new employee orientation. “Many also use videos, Webinars, posters, one-on-one education, or newsletters for continuing education,” she says. “Hospital leadership can play a role in staff education by observing and talking to the staff about what may be happening on a unit, hospital, or community level. If staff members and licensed independent practitioners are given hospital-specific and/or community-specific data about MDROs, they will be aware of what they should be looking for and have more of an incentive to develop processes to decrease MDRO rates. Some resources for leaders are available in the Joint Commission Resources Learning Community, accessible at <http://www.jcrinc.com/For-Leaders-Executives/>.

Per NPSG.07.03.01 and the recommendations outlined here, Kuhny says that education about MDROs should be provided not only to the staff and licensed independent practitioners but also to patients and their families. “The Joint Commission doesn’t specify how the education should be delivered, as long as the content is there,” she says. “Some organizations may do live presentations, others may use recorded presentations, and some may provide print materials. Many use a combination of teaching methods.”

### Evaluating Staff Education

According to Kuhny, a number of assessment methods can help organizations determine if their education efforts have been successful. “First there are process measures, such as having staff members demonstrate what they would do before they enter the room of a patient who is on contact precautions,” she says. “Then there are outcomes measures, which in this case would be



*Staff education about MDROs is critical to the prevention of health care–associated infections.*

whether or not the hospital’s MDRO infection rates have decreased. Staff education teaches the processes to help prevent the spread of MDROs. The outcomes measure will tell if these processes have been effective.”

If an organization’s MDRO infection rates continue to increase despite staff education efforts, the CDC recommends increasing the frequency of educational programs, particularly on units where MDRO infection rates continue to rise.<sup>3</sup> **PS**

#### References

1. Joint Commission Resources: *Multidrug Resistant Organisms & Antibiotic Resistance: Case Study 2*. Joint Commission Resources Learning Community. <http://www.jcrinc.com/Case-Studies/> (accessed Aug. 11, 2011).
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3. Joint Commission Resources: MDRO risk assessment: Strategies for complying with NPSG.07.03.01. *Joint Commission Perspectives on Patient Safety* 10:1,3–5,11, Dec. 2010.

4. Joint Commission Resources: *Staff Education Tools for the 2010 National Patient Safety Goals*. Oakbrook Terrace, IL: Joint Commission Resources, 2010.



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