

## Case study



# Infection control crisis due to methicillin-resistant *Staphylococcus aureus* (MRSA) in an intensive care unit at a Jordanian hospital, 2016: a teaching case-study

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## Abstract

Methicillin-resistant *Staphylococcus aureus* (MRSA) strains have been extremely important pathogens as hospital acquired infection in healthcare settings for more than three decades with particularly life-threatening manifestations. The most frequent hospital acquired infections are among those undergoing invasive medical procedures or weakened immune systems in intensive care unit. Additionally, infections resulting from community-associated MRSA strains have emerged in the last decade and become a public health problem of global proportions. The goal of this case study is to understand the transmission of methicillin resistance *staphylococcus aureus* and apply appropriate infection control measures in intensive care units at Jordanian Hospitals. It simulates an antibiotic resistance investigation including laboratory confirmation, active case finding, descriptive epidemiology and implementation of control measures. After completing this case study, the healthcare professional will be able to list the mechanisms conferring the antimicrobial resistance associated with MRSA, list the risk factors of MRSA, and to use protective preventive measures.

## How to use this case study

**General instructions:** this case study should be used as adjunct training

material for novice epidemiology trainees to reinforce the concepts taught in prior lectures. The case study is ideally taught by a facilitator in groups of about 20 participants. Participants are to take turns reading the case study, usually a paragraph per student. The facilitator guides the discussion on possible responses to questions. The facilitator may make use of flip charts to illustrate certain points. Additional instructor's notes for facilitation are coupled with each question in the instructor's guide to aid facilitation.

**Audience:** this case study was developed for novice field epidemiology students. These participants are commonly health care workers working in the county departments of health whose background may be as medical doctors, nurses, environmental health officers or laboratory scientists who work in public health-related fields. Most have a health science or biology background.

**Prerequisites:** before using this case study, participants should have received lectures on hospital surveillance prevention and control.

**Materials needed:** flash drive, flip charts, markers, computers with MS Excel

**Level of training and associated public health activity:** Novice – MRSA, infection control

**Time required:** 2-3 hours

**Language:** English

## Case study material

- Download the case study student guide
- Request the case study facilitator guide

## Competing interest

The authors declare no competing interests.

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