



Infectious Disease Epidemiology Report

Invasive Methicillin-Resistant *Staphylococcus aureus* (MRSA) Maine, 2013



Background

Staphylococcus aureus, often referred to as "staph," are bacteria commonly found on the skin or in the nose of 25 - 30% of the U.S. population. This organism is called methicillin-sensitive *Staphylococcus aureus* (MSSA). Most of the time, staph do not cause any harm. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph that is resistant to certain antibiotics called beta-lactams. These antibiotics include methicillin and other more common antibiotics such as penicillin, amoxicillin, and oxacillin. Less than 2% of people in the U.S. are colonized with MRSA.

Severe or potentially life-threatening MRSA infections occur most frequently among patients in healthcare settings with an invasive MRSA infection. Patients in healthcare facilities may have weakened immune systems, undergo procedures (such as surgery) or have catheters inserted into the skin. These conditions make it easier for MRSA to get into the body and infect sterile sites, such as blood.

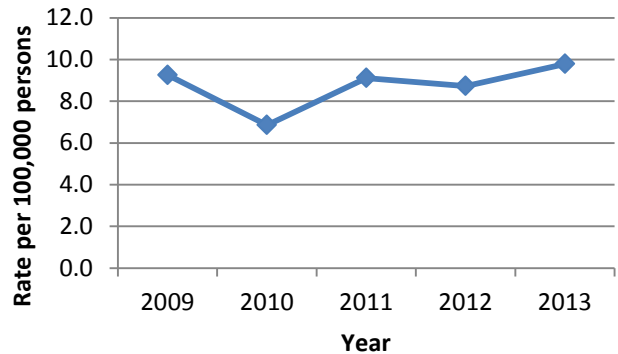
Methods

An invasive MRSA infection is defined as MRSA isolated from a normally sterile site (blood, cerebrospinal fluid, pleural fluid, etc.). Common invasive MRSA infections include bloodstream infections and joint infections. Symptoms vary by infection location. Invasive MRSA infections are a reportable condition in Maine.

Results

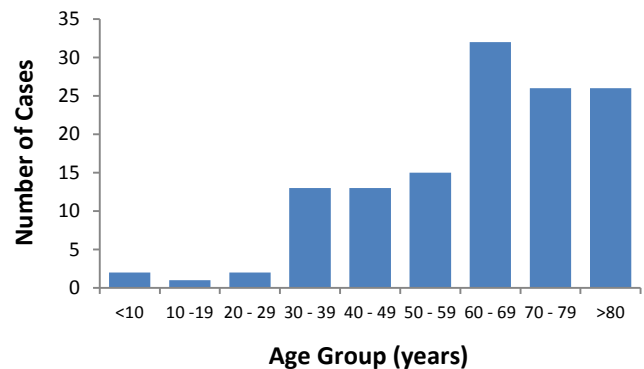
During 2013, a total of 130 confirmed cases of invasive MRSA infections were reported to Maine CDC. This is a slight increase from the 116 cases reported in 2012. The rate of invasive MRSA infections in Maine was 9.8 cases per 100,000 persons (Figure 1).

Figure 1: Invasive MRSA Infection Rates in Maine, 2009-2013



Sixty-one percent of invasive MRSA infections reported in Maine were among males. The median age among reported invasive MRSA infections was 66 years (range 6 days to 96 years) (Figure 2).

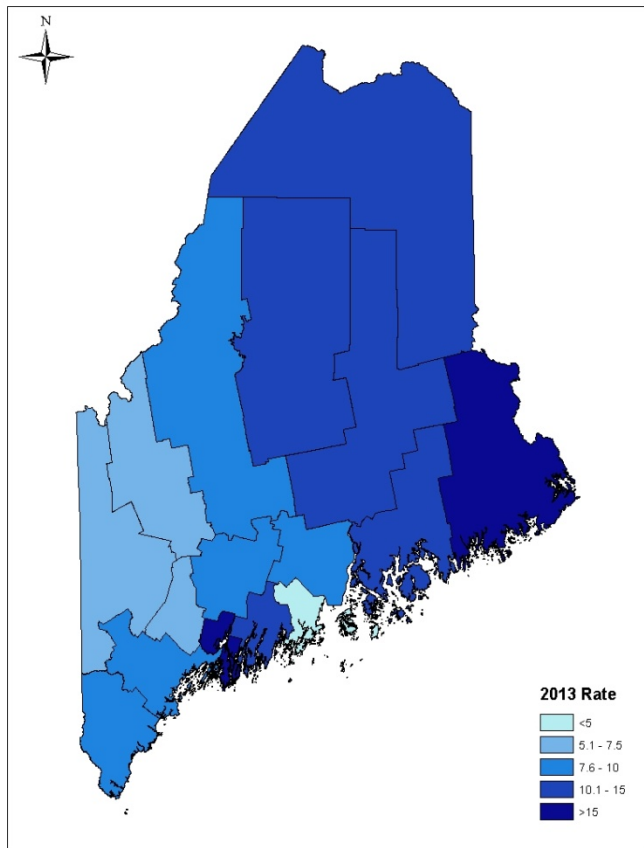
Figure 2: Invasive MRSA Infections by Age in Maine, 2013



During 2013, invasive MRSA infections were reported in residents from all 16 counties in Maine (Figure 3). The rate of invasive MRSA infections was highest in Washington County (18.6 cases per 100,000 residents). Eight counties had rates of invasive MRSA higher than the state rate (Aroostook, Hancock, Kennebec, Lincoln, Penobscot, Piscataquis, Sagadahoc, and Washington).

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Figure 3: Rate of Invasive MRSA Infections by County of Residence in Maine, 2013



Discussion

Maine CDC began routine surveillance for invasive MRSA infections in 2008 when it was added to the Maine CDC Notifiable Conditions List. Maine surveillance data for 2013 shows that rates are remaining relatively stable over the last five years.

Although non-invasive MRSA is not reportable, the best way to prevent invasive MRSA is to prevent non-invasive MRSA, including skin and soft tissue infections.

The most significant risk factor for MRSA infection is open wounds or broken skin, such as a surgical site. However, MRSA infections can occur on areas of the skin where there is no obvious wound or break in the skin.

Preventive measures to reduce MRSA transmission:

- Cover wounds with clean, dry bandages until healed

- Do not attempt to treat a MRSA skin infection by yourself; doing so could worsen or spread it to others
- Wash hands with soap and water or use an alcohol-based hand rub to prevent the spread of MRSA
- Use disinfectants effective against *Staphylococcus aureus*
- Avoid sharing personal items including towels, washcloths, razors, and clothing
- Avoid contact sports and other skin-to-skin contact until your infection has healed

Invasive MRSA infections and all outbreaks of MRSA are reportable to Maine CDC by calling 1-800-821-5821 or faxing to 1-800-293-7534. MRSA infections that are acquired from a healthcare facility are reportable to the National Healthcare Safety Network, a federal CDC surveillance system. For more information contact your healthcare provider.

Additional information about MRSA infections is available at:

- Maine CDC
website: <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/mrsa.shtml>
- Federal CDC
website: <http://www.cdc.gov/mrsa/>