

Facility-wide Inpatient Methicillin-resistant Staphylococcus aureus (MRSA) Blood Laboratory-identified Events
NQF#: 1716
Developer: Centers for Disease Control and Prevention (CDC)
Data Source: Leapfrog Hospital Survey; CMS
Description: Standardized infection ratio (SIR) of hospital-onset unique blood source MRSA Laboratory-identified events (LabID events) among all inpatients in the facility.
Rationale: Multidrug-Resistant Organisms (MDROs), including MRSA, have been shown to be associated with increased mortality, length of stay, and cost. The proportion of <i>S. aureus</i> isolates for all healthcare-associated infections entered into the National Nosocomial Infection Surveillance System that were MRSA increased from 35.9% to 64.4% from 1992-2003. Over 50% of all central line-associated bloodstream infections reported to NHSN in 2006-07 caused by <i>S. aureus</i> were MRSA.
Evidence for Rationale: <ul style="list-style-type: none"> • Siegel, JD, et al., Guideline for Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006. Available at http://www.cdc.gov/hicpac/pdf/guidelines/MDROGuideline2006.pdf. • Klevens, RM, et al., Changes in the Epidemiology of Methicillin-Resistant Staphylococcus aureus in Intensive Care Units in US Hospitals, 1992–2003. Clin Inf Dis, 2006. 42(3):389-391. • Hidron, AI et al., Antimicrobial-Resistant Pathogens Associated With Healthcare-Associated Infections: Annual Summary of Data Reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2006-07. Infect Control Hosp Epidemiol, 2008. 29(11):996-1101.
Numerator: Total number of observed hospital-onset unique blood source MRSA LabID events among all inpatients in the facility.
Denominator: Total number of expected hospital-onset unique blood source MRSA LabID events, calculated using the number of inpatient days and a negative binomial regression model generated from nationally aggregated 2015 data, which is risk adjusted for community-onset MRSA admission prevalence rate, average length of patient stay, medical school affiliation, facility type, ICU bed size, and outpatient community-onset MRSA prevalence rate from emergency departments and observation units.
Impact: <ul style="list-style-type: none"> • Large number of patients affected • Leading cause of morbidity/mortality • Severity of illness
Opportunity: <ul style="list-style-type: none"> • Opportunity for improvement exists, as demonstrated by the coefficient of variation for the measure.
Evidence: <ul style="list-style-type: none"> • A wide variety of studies examining hospital-onset MRSA bacteremia infection rates and process measures exist. In 2006, the Healthcare Infection Control Practices and Advisory Committee (HICPAC) published a clinical guideline for managing MDROs in the health care setting, which is where this measure is focused. The 2006 HICPAC guideline, Management of Multidrug-Resistant Organisms In Health care Settings, included results from over 400 studies.