

EIS Conference 2014
April 28-May 1, 2014

Select Abstract:

Risk Factors for Invasive Methicillin-resistant Staphylococcus aureus Infection after Discharge from Acute-Care Hospitals--United States, 2011-2013

Authors: Lauren Epstein (1), Alexander J. Kallen (1), Ruth Belflower (1), Yi Mu (1), Janine Scott (2), Ghinwa Dumyati (3), Christina Felsen (3), Susan Petit (4), Kimberly Yousey-Hindes (5), Joelle Nadle (6), Lauren Pasutti (6), Ruth Lynfield (7), Linn Warnke (7), William Schaffner (8,9), Karen Leib (8,9), Scott K. Fridkin (1), Fernanda C. Lessa (1)

Affiliations: (1) Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, GA, USA; (2) Georgia Emerging Infections Program, Atlanta, GA, USA; (3) University of Rochester, Rochester, NY, USA; (4) Connecticut Department of Health, Hartford, CT, USA; (5) Connecticut Emerging Infections Program, Yale School of Public Health, New Haven, CT, USA; (6) California Emerging Infections Program, Oakland, CA, USA; (7) Minnesota Department of Health, St. Paul, MN, USA; (8) Vanderbilt University School of Medicine, Nashville, TN, USA; (9) Tennessee Emerging Infections Program, Nashville, TN, USA

Background: Great strides have been made in reducing methicillin-resistant *Staphylococcus aureus* (MRSA) infections in U.S. hospitals. However, the decreases in MRSA infections among recently discharged patients have been less substantial. In 2011, an estimated 38,000 invasive MRSA infections occurred among persons discharged from U.S. hospitals in the prior 12 weeks. We assessed risk factors for developing invasive MRSA infections after an acute care hospitalization to inform new prevention strategies.

Methods: We conducted a matched case-control study. A case was defined as MRSA cultured from a normally sterile body site in a patient discharged from an acute care hospital within the prior 12 weeks. Eligible cases were identified from 15 hospitals across 6 U.S. states. For each case, two controls matched on hospital, month of discharge and age were selected. Medical record review and telephone interviews were conducted to assess exposures during the hospitalization and post-discharge periods. Conditional logistic regression was performed to identify independent risk factors for post-discharge invasive MRSA infections.

Results: From February 1, 2011 through March 31, 2013, 194 cases and 388 matched controls were enrolled. Among the cases, 152 (78%) developed blood stream infections. After controlling for gender, comorbidities and recent history of MRSA colonization, the independent predictors of invasive MRSA infections were post-discharge surgical procedures (mOR=4.7, $P=.04$), insertion of central venous catheters (CVC) during the post-discharge period (mOR=3.4, $P=.03$), discharge to a long term care facility (LTCF) (mOR=3.3, $P<.001$), and discharge with an invasive device other than CVC (mOR 2.5, $P=.007$).

Conclusions: Additional efforts to prevent post-discharge invasive MRSA infections should include improving infection prevention practices in LTCFs and improving the insertion and maintenance of invasive devices in recently discharged patients.