Disclosures. J. Dreyfus, Premier, Inc.: Employee and Shareholder, Salary. E. Begier, Pfizer, Inc.: Employee and Shareholder, Salary. H. Yu, Pfizer, Inc.: Employee and Shareholder, Salary. A. Quintana, Pfizer, Inc.: Employee and Shareholder, Salary. J. Gayle, Premier, Inc.: Employee, Salary. M. A. Olsen, Pfizer: Consultant, Consulting fee.

1229. Prevalence and Acquisition of MRSA in Females During Incarceration at a Large Inner-City Jail
Kyle J. Popovich, MD MS FIDSA; Chad Zawitz, MD; Alla Arosutcheva, MD, FIDSA; Darjai Payne, BS, MPH; Michael Schoeny, PhD; Lisa Diep, MPH; Bala Hota, MD, MPH; Mary K. Hayden, MD, FIDSA, FSHEA and Robert A. Weinstein, MD; 2Stroger Hospital of Cook County, Chicago, Illinois, 3Rush University Medical Center, Chicago, Illinois, 4Cermak Health Services, Chicago, Illinois, 5Department of Nursing, Rush University Medical Center, Chicago, Illinois

Session: 137. Healthcare Epidemiology: MSSA, MRSA and Other Gram Positive Infections
Friday, October 5, 2018: 12:30 PM

Background. USA300 MRSA is endemic in the community, with congregate settings such as urban jails potentially facilitating spread. It has been reported previously that males have a higher risk for MRSA carriage and bacteremia than females. However, it is unclear if there is differential risk for MRSA based on gender in high-risk populations. We determined the prevalence of MRSA colonization at jail entrance in females and defined an acquisition rate during incarceration.

Methods. Females incarcerated at the Cook County Jail, one of the largest US single-site jails, were enrolled within 72 hours of intake. Surveillance cultures (nares, throat, groin) were collected to determine prevalence of MRSA colonization. A survey was administered to identify predictors of colonization. Detainees in jail at Day30 had cultures repeated to determine MRSA acquisition. Univariate and multivariate analyses were performed to identify predictors of MRSA colonization.

Results. 250 women were enrolled (70% AA, 15% Hispanic) with 70% previously in jail (21% in the past 6 months). The prevalence of MRSA colonization at intake was 20% (50/250), with 42% of those colonized solely in the throat or groin. This intake prevalence is comparable to the 19% for male detainees in a parallel study. 9% (2/23) of initially negative women who remained in jail for 30 days acquired MRSA; five remained colonized and no one lost colonization. Univariate predictors (table) of MRSA at entrance to the jail were: illicit drug use (including using needles), unstable housing, engaging in anal sex, and recent exchange of sex for drugs/money. Women who exchange sex for drugs/money (vs. not) reported higher rates of needle use (35% vs. 4%, P < 0.001) and unstable housing (80% vs. 20%, P < 0.001). With multivariate adjustment for race/ethnicity, needles for illicit drugs was a significant predictor of MRSA (OR 5.89, 95% CI: 1.66, 20.94, P = 0.006).

Conclusion. We found that a high proportion (20%) of females entered jail colonized with MRSA, comparable to rates in males, suggesting that previously reported gender disparities in MRSA may not exist in high-risk populations. Entry colonization risk factors suggest high-risk activities or venues in the community, with potential for directing gender-specific interventions.

Disclosures. All authors: No reported disclosures.

1230. Epidemiology and Risk Factors for Recurrent Invasive Methicillin-Resistant Staphylococcus aureus Infection: nine US States, 2006–2013
Ian Kracalik, PhD, MPH; Kelly Jackson, MPH; Jolene Nadle, MPH; Wendy Bamberg, MD; Susan Petit, MPH; Susan M. Ray, MD; Ruth Lynfield, MD, FIDSA; Lee H. Harrison, MD; John M. Townes, MD; Ghinwa Dumyati, MD, FSHEA; William Schaffner, MD, FIDSA, FSHEA; Jason Lake, MD and Isaac See, MD; 1Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, Georgia, 2California Emerging Infections Program, Oakland, California, 3Colorado Department of Public Health and Environment, Denver, Colorado, 4Connecticut Department of Public Health, New Haven, Connecticut, 5Emory University School of Medicine, Atlanta, Georgia, 6State Epidemiologist and Medical Director for Infectious Diseases, Epidemiology and Community Health, Minnesota Department of Health, St. Paul, Minnesota, 7University of Pittsburgh, Pittsburgh, Pennsylvania, 8Infectious Diseases, Oregon Health and Science University, Portland, Oregon, 9NY Emerging Infections Program, Center for Community Health and Prevention, University of Rochester Medical Center, Rochester, New York, 10Vanderbilt University School of Medicine, Nashville, Tennessee, 11Centers for Disease Control and Prevention, Atlanta, Georgia

Session: 137. Healthcare Epidemiology: MSSA, MRSA and Other Gram Positive Infections
Friday, October 5, 2018: 12:30 PM

Background. Methicillin-resistant Staphylococcus aureus (MRSA) causes >70,000 invasive infections annually in the United States, and recurrent infections pose a major clinical challenge. We examined risk factors for recurrent MRSA infections.

Methods. We identified patients with an initial invasive MRSA infection (isolation from a normally sterile body site) from 2006 to 2013, through active, population-based surveillance in selected counties in nine states through the Emerging Infections Program. Recurrence was defined as invasive MRSA isolation >30 days after initial isolation. We used logistic regression with backwards selection to evaluate adjusted odds ratios (aOR) associated with recurrence within 180 days, prior healthcare exposures, and initial infection type, controlling for patient demographics and comorbidities.

Results. Among 24,478 patients with invasive MRSA, 3,976 (16%) experienced a recurrence, including 61% (2,438) within 180 days. Risk factors for recurrence were: injection drug use (IDU) (aOR: 1.38, 95% confidence interval [CI]: 1.15–1.65), central venous catheters (aOR: 1.35, 95% CI: 1.22–1.51), dialysis (aOR: 2.00, 95% CI: 1.74–2.31), and history of MRSA colonization (aOR: 1.35, 95% CI: 1.22–1.51) (figure). Recurrence was more likely for bloodstream infections (BSI) without another infection (aOR: 2.08, 95% CI: 1.74–2.48), endocarditis (aOR: 1.46, 95% CI: 1.16–1.55), and bone/joint infections (aOR: 1.38, 95% CI: 1.20–1.59), and less likely for pneumonia (aOR: 0.75, 95% CI: 0.64–0.89), compared with other initial infection types. When assessed separately, the presence of a secondary BSI with another infection increased the odds of recurrence over that infection without a BSI (aOR: 1.96, 95% CI: 1.68–2.30).

Conclusion. Approximately one in six persons with invasive MRSA infection had recurrence. We identified potential opportunities to prevent recurrence through infection control (e.g., management and early removal of central catheters). Other possible areas for preventing recurrence include improving the management of patients with BSI and bone/joint infections (including both during and after antibiotic treatment) and mitigating risk of infection from IDU.
1231. Patient-Level Factors Associated with Vancomycin-Resistant Enterococci Transmission and Patient Characteristics That Facilitate Transmission: A Case-Control Study

Kolokotronis M., Diaz L., Carvajal R., Diaz M., Caro J., Rios R.

Friday, October 5, 2018: 12:30 PM

Background. Vancomycin-resistant Enterococcus (VRE) is transmitted from person-to-person, most commonly by healthcare workers (HCW) whose hands or attire have become contaminated while interacting with an infected or colonized patient. Our group recently found that VRE colonized patients transmitted this pathogen to HCW gloves or gloves in 15% of the time. This study aims to describe patient-level factors associated with higher risk of transmission of VRE to HCW gloves or gloves and thus likely to subsequent transmission among those of animal origin (distributed among a number of smaller early-branching sub-clades). A further split within the clinical subclade (subclade II) that diverged around ~371 years ago was also evident. Latin American isolates were distributed within sub-clades I (48%) and II (42%). Isolates in “animal” branches exhibited an average recombinant network of 34 Kbp, where it was 5 Kbp and 21 Kbp for subclades I and II, respectively. More resistance determinants were found in subclade II (62%), followed by 1 (54%) and absence of cas was the norm in the clinical subclades.

Conclusion. Inclusion of E. faecium isolates from diverse geographical regions supports a continuous evolution of these organisms causing human infections. Important evolutionary events seem to favor emergence of novel subclades capable to cause important morbidity and mortality.

Disclosures. All authors: No reported disclosures.

1233. An Automated E-mail Notification Systemic to Infectious Disease Specialists and Effect on the Management of Staphylococcus aureus Bacteria in a Community Hospital setting

Pineles N., Schoch J., Kolar M., Brouwer K., Petter L., Ozkan A., Pineles D., Ozkan C.

Friday, October 5, 2018: 12:30 PM

Background. Staphylococcus aureus is the leading cause of community and health-care-associated bacteremia and carries a high burden with a substantial mortality, ranging from 20 to 40 %. Evidence suggests infectious disease (ID) consultation improves mortality and adherence to the Infectious Diseases Society of America (IDSA) guidelines. Due to complications from a lack of ID consultation, a notification system consisting of automated e-mails to ID providers was implemented. The objective of this study was to review the impact of the automatic notification to ID consultants with positive blood culture results in a community hospital system.

Methods. Cases of staphylococcus aureus bacteremia were identified from the microbiology database by at least one positive blood culture. The automated e-mail notification system was implemented in December 2014. ID providers were encouraged to verbally contact primary providers for positive results. Cases of bacteremia prior to implementation of the automated notification system were compared with those post-intervention. Patients under age 18 were excluded. Data gathered included mortality, re-admission rates, and compliance with IDSA guidelines.

Results. There were no significant differences in inpatient mortality (9 vs. 18%, P = 0.180). 30-day mortality between the two groups (18 vs. 20%, P = 0.815). The 30-day readmission rate among surviving patients was reduced by 50% (40% vs. 19%, P = 0.014). Compliance with antibiotic duration in complicated bacteremia increased post-intervention (57% vs. 85%, P = 0.04).

Conclusion. An automatic notification to ID specialists reporting patients with Staphylococcus aureus bacteremia led to improved compliance with IDSA guidelines regarding antibiotic duration and reduced re-admission rates. There was no effect on overall mortality.

Table 1: Patient Demographics

|            | Pre Intervention (N = 57) | Post Intervention (N = 60) | P-value |
|------------|--------------------------|----------------------------|---------|
| Average patient age (years) | 64.4 | 62.2 | 0.448 |
| Male       | 63% | 63% | 1 |
| Immunosuppressed | 16% | 13% | 0.80 |
| Complicated bacteremia | 70% | 69% | 1 |

Table 2: Patient Outcomes

|                          | Preintervention (N = 57) | Postintervention (N = 60) | P-value |
|--------------------------|--------------------------|---------------------------|---------|
| Inpatient mortality      | 9% | 18% | 0.190 |
| 30-day mortality (%)     | 18% | 20% | 0.815 |
| Readmitted within 30 days | 40% | 19% | 0.014 |
| Bedside ID consult        | 75% | 78% | 0.888 |
| Appropriate antibiotic duration | 57% | 85% | 0.04 |

All authors: No reported disclosures.