(BSI) with high mortality rates. (1). Multi-drug resistant *P. aeruginosa* (MDRPA) infection rates are reported to be increasing (2) and have been associated with increased mortality (3). This study aims to review the susceptibility pattern and trend of *P. aeruginosa* BSIs and mortality and identify patients at increased risk of BSI with a resistant *P. aeruginosa* isolate. This data has important treatment implications.

Methods. Cases of nosocomial *P. aeruginosa* bacteremia were prospectively identified at the University of Alberta, Edmonton, Alberta, Canada by the infection prevention and control surveillance program between January 1, 2007 and December 31, 2018. Patient charts were retrospectively reviewed to collect microbiological, clinical, and epidemiological information.

Results. 148 cases of *P. aeruginosa* BSI were identified over a 12-year period between January 2007 and December 2018. There were 19 cases of MDRPA BSI and 9 cases of XDRPA BSI. The incidence of *P. aeruginosa* BSI was 0.47 per 10,000 patient days and remained relatively stable over the study period. 66.9% of cases occurred in men. The mean age was 60 years. The average length of stay prior to bacteremia was 42 days. The overall 30-day mortality following *P. aeruginosa* BSI was 36.4%. Risk factors for increased 30-day mortality included: pulmonary source of infection (OR 4.26, $p < 0.001$), bacteremia with extremely drug resistant *Pseudomonas aeruginosa* (XDRPA) ($p < 0.0001$), and diabetes (OR 2.24, $p < 0.05$). BSI with MDRPA was not an independent risk factor for increased mortality. Significant risk factors for bacteremia with an MDRPA or XDRPA were length of stay > 28 days (OR 4.22, $p < 0.001$) and hemodialysis (OR 8.92, $p < 0.000001$).

Annual hospital acquired P. aeruginosa blood-stream infections from 2007-2018
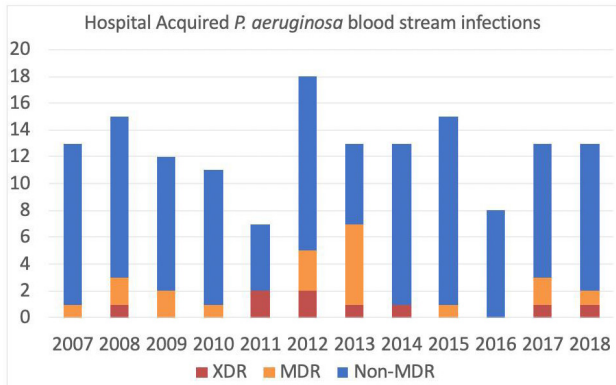
Antibiogram of P. aeruginosa blood-stream isolates from 2007-2018
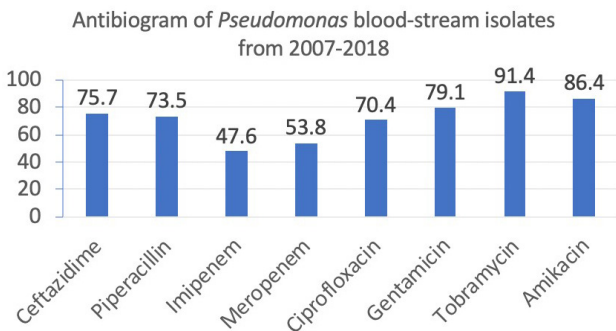
Conclusion. The incidence of *P. aeruginosa* BSI as well as the rate of MDRPA and XDRPA BSI have remained stable at our centre between 2007 and 2018. We found that BSI with XDRPA but not MDRPA alone was a significant risk factor for mortality. Risk factors for BSI with a resistant *P. aeruginosa* strain may be considered to guide empiric therapy.

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845. Trends and Regional Differences in Community-Onset Fluoroquinolone-Resistant *E. coli* in Hospitalized Adults in the United States
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Session: P-36. HAI: Gram-negatives (MDR-GNR)

Background. *Escherichia* coli is a common cause of community-onset (CO) infections, including urinary tract and abdominal infections, and CO sepsis. Fluoroquinolones (FQ) are used in the empiric treatment of *E. coli* infections, but FQ-resistance may limit their effectiveness. We examined trends and regional differences in FQ-resistant *E. coli* clinical cultures among hospitalized adult patients in the U.S.

Methods. We measured the incidence of *E. coli* clinical cultures among hospitalized adults in a cohort of hospitals in the Premier Healthcare Database and Cerner Health Facts from 2012 through 2017. FQ resistance was defined as resistance to ciprofloxacin, levofloxacin, or moxifloxacin. Only cultures collected prior to day 4 of hospitalization, defined as CO, were considered. We extrapolated national estimates using a raking procedure to generate weighted adjustments matching the American Hospital Association distribution for U.S. acute care hospitals. Weights were based on U.S. census division, bed size category, teaching status, and urban/rural designation. We used a weighted means survey procedure to calculate national estimates and weighted multivariable logistic regression to examine trends and regional differences.

Results. In 2017, we estimated 949,393 CO *E. coli* infections with FQ susceptibility testing; 312,304 (33%) were due to *E. coli* resistant to FQ. Of FQ-resistant *E. coli* isolates, 76% were isolated from urine. We did not observe a significant trend in FQ-resistant *E. coli* from 2012 to 2017 (p = 0.85). Percent FQ-resistant varied significantly by region ($p < 0.0001$) with an estimated range of 19% (Mountain) to 42% (Southeast Central) in 2017. We also found variability by hospital (2017 Q1: 26% and Q3: 39%). FQ-resistance rates were higher in urine (36%: 95% CI 34-38%) than blood isolates (27%: 95% CI 26-29%) and higher for males (40%: 95% CI 38-42%) than females (33%: 95% CI 31-35%).

Conclusion. FQ-resistance is common in CO *E. coli* infections with significant variability by region and hospital. Empiric FQ treatment for infectious syndromes commonly caused by *E. coli* may need to be reconsidered. Clinicians should consult with local antibiograms and antibiotic stewardship programs to determine the most appropriate empiric treatment of *E. coli* infections in hospitalized adults.

Disclosures. **All Authors**: No reported disclosures

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846. Trends in *Acinetobacter baumanii* Antibiotic Resistance Rates
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Session: P-36. HAI: Gram-negatives (MDR-GNR)

Background. Carbapenem-resistant *Acinetobacter baumannii* is described as an urgent threat by the Centers for Disease Control and Prevention and several older studies have described increasing resistance in *Acinetobacter*. We sought to describe these trends in the national Veterans Affairs (VA) Healthcare System.

Methods. We assessed *A. baumannii* positive clinical cultures collected from VA patients (> 18 years) from 2010 to 2018. We categorized cultures based on location at the time of collection: VA medical center (VAMC), community living center (CLC), or outpatient (Outpt). Multidrug resistance (MDR) and extensive drug resistance (XDR) were defined as resistance to > 1 drug in > 3 or all of the following categories, respectively: extended-spectrum cephalosporins (es-CS), fluoroquinolones (FQ), aminoglycosides (AMG), carbapenems (CARB), piperacillin/tazobactam (PIP/TAZ), and ampicillin/sulbactam (AMP/SUL). *Joinpoint* Software was used for regression analyses of trends over time and to estimate annual average percent changes (AAPC) with 95% confidence intervals.

Results. We identified 19,376 *A. baumannii* positive cultures over the study period (53% VAMCs, 4% CLCs, 43% Outpts), which represented 0.5% of all positive cultures in the VA. In VAMCs, the number of *A. baumannii* cultures decreased significantly by 12.5% per year. Of all positive cultures in VAMCs, the proportion that were *A. baumannii* decreased significantly by 5.4% per year. Similar trends were observed in CLCs, while Outpt cultures remained stable. Over the 9-year study period, resistance decreased significantly, with MDR decreasing by 10.2% per year and XDR decreasing by 9.4%. Carbapenem resistance decreased significantly by 4.9% per year in VAMCs (2010, 39%; 2018 28%) and 11.3% in Outpts (2010, 12%; 2018, 6%). Similar annual significant decreases were observed with AMG (9.4%), es-CS (1.4%), and FQ (7.4%) in VAMCs; es-CS (2.7%) and FQ (5.6%) in CLCs; and AMG (9.5%) and FQ (8.2%) in Outpts.

Conclusion. In the national VA Healthcare System, the prevalence of *A. baumannii* is decreasing, as is the resistance previously observed with this organism. MDR *A. baumannii* still made up one-third of cultures in VAMCs and CLCs in 2018, and thus remains a treatment challenge.

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847. Trends in *Stenotrophomonas maltophilia* Antibiotic Resistance Rates
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