Patients with hospital or ventilator-associated pneumonia were excluded. Appropriate therapy was defined as empiric therapy with known risk-factors, concordant therapy with no de-escalation option, or concurrent sepsis or febrile neutropenia. Vancomycin appropriateness was assessed based on medical history and microbiology for both empiric and definitive therapy. We characterized patients receiving inappropriate therapy and calculated the proportion of inappropriate days of therapy (DOT).

Results. We identified 52 patients with CAP who were treated with vancomycin for a median of 2 DOT (Interquartile Range (IQR): 1–3). Approximately 21% (11/52) of patients had risk factors warranting vancomycin empiric therapy and 42% (22/52) had concurrent sepsis. Nine CAP patients received inappropriate courses of vancomycin, median of 1 day (IQR: 1–2.25) of inappropriate therapy. The most common reason for classifying use as inappropriate was a positive culture for organisms other than MRSA. Patients receiving inappropriate therapy were more frequently transferred from another hospital (44% vs. 30%, $P = 0.22$). Overall, 16% (20/125) of vancomycin DOT were inappropriate.

Conclusion. In our study,CAP patients accounted for a small number of pneumonia patients who received vancomycin. The median inappropriate DOT was relatively short, possibly indicating that identification and de-escalation was performed quickly. Further work is required to determine the impact of these findings on patients.

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1028. Dalbavancin Use in Complicated Infections and-associated Cost-Savings

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Background. Dalbavancin is a lipoglycopeptide antibiotic active against Gram-positive organisms with an extended half-life that allows for weekly dosing. Initially approved for treating skin and soft-tissue infections, use for more complicated infections provides several potential benefits, particularly in the outpatient setting when daily intravenous antibiotics are not practical due to social or financial issues.

Methods. We conducted a retrospective study to describe dalbavancin use at our institution and to estimate resulting cost avoidance. We identified all patients aged 18 years or older who received at least one dose of dalbavancin via medication records, regardless of setting.

Results. 46 patients received dalbavancin between April of 2015 and March of 2019. The most commonly treated infections were bone and joint infections (41%), complicated bacteremias (24%), and skin and soft-tissue infections (20%). The most commonly treated organism was *Staphylococcus aureus* (55%). A variety of dosing regimens were used, 26 patients (57%) received a single dose to complete a treatment course. The majority of doses were administered in an outpatient infusion center (61%) although 28% of doses were administered in the inpatient setting prior to discharge. Reasons for dalbavancin selection included history of intravenous drug use (35%), contraindications to alternative antibiotics (30%), prior history of nonadherence or manipulation of PICC (18%), other social issues preventing PICC (11%), and limited outpatient daily infusion options due to lack of funding (9%). 4 patients (8.7%) were lost to follow-up. 11 (24%) patients were readmitted to the hospital within 30 days, 2 (4%) of these patients were readmitted with a concern related to their infection or an adverse effect of the dalbavancin infusion. Based on a calculation of equivalent dalbavancin therapy days for each patient, 774 hospital days were saved. In total, this is estimated to be $1,885,479 in overall cost avoidance and a mean cost avoidance of $40,988 per patient.

Conclusion. As data regarding the efficacy of dalbavancin for more complicated infections continue to emerge, it should be considered as a cost-effective alternative therapy when social and financial factors limit treatment options.

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1029. Clinical and economic outcomes of a newly implemented daptomycin dosing policy in a four-hospital health system

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Background. In light of recently published clinical and pharmacokinetic data regarding the use of daptomycin in obese patients, the Charleston Area Medical Center (CAMC) Antimicrobial Stewardship Program implemented an adjusted body weight dosing strategy for obese patients. Along with this new dosing strategy, an effort to reduce drug waste was also implemented by restricting the timing of routinely scheduled daptomycin doses for inpatients. This study aims to determine the clinical outcomes for patients receiving daptomycin both before and after this policy change. Secondary objectives include assessing creatinine phosphokinase (CK) levels in the study participants, defining the risk of CK elevation with the coadministration of HMG Co-A reductase inhibitors and daptomycin, and assessing any reduction in drug waste for the pharmacy department.

Methods. This study is a single-center, one-group pretest-posttest, quasi-experimental study evaluating the implementation of a two-part daptomycin dosing policy. The pretest group included all patients meeting inclusion and exclusion criteria that received daptomycin at CAMC from September 1 - November 30, 2017. The new daptomycin dosing policy was implemented on September 1, 2018. The posttest group included all patients meeting the stated criteria that received daptomycin from September 1 - November 30, 2018.

Results. A total of 118 patients were included in this study. There were 5 (7.7%) treatment failures in the pretest group and 3 (5.7%) in the posttest group ($P = 0.7$). Of the patients with CK levels monitored, 6 (33%) were found to have significant elevations in the pretest group and 4 (40%) were found in the posttest group ($P = 0.6$). There was no difference observed in the risk of CK elevation with daptomycin administration in the presence of an HMG-CoA reductase inhibitor. For the two time periods reviewed, the pharmacy department purchased fewer vials of daptomycin in the posttest group.

Conclusion. Patients at CAMC receiving daptomycin after implementation of a new dosing policy did not experience an increased risk of treatment failure. The Antimicrobial Stewardship Program will continue to monitor patients receiving daptomycin therapy at CAMC.

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1030. Analysis of a Novel Mortality Prediction Rule for Organizing and Guiding Antimicrobial Stewardship Team Activities

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Background. Antimicrobial stewardship team (AST) surveillance at our hospital is facilitated by an internally-developed database. In 2013, the database was expanded to incorporate a validated internally-developed prediction rule for patient mortality within 30 days of hospital admission. AST prospective audit and feedback expanded to include all antimicrobials prescribed in patients with the highest risk for mortality determined by risk score. This study describes the impact of an expanded AST review in patients at the highest risk for mortality.

Methods. This retrospective, observational study analyzed all adult patients with the highest mortality risk score who received antimicrobials not historically captured via AST review. Patients were identified through administrative and AST databases. Study periods were defined as 2011 – Q3 2013 (historical group) and Q4 2013 – 2018 (intervention group). Primary and secondary outcomes were assessed for confounders including demographic data and infection-related diagnoses. Outcomes were assessed using both unweighted and propensity score weighted versions of the t-test or Wilcoxon rank-sum test for continuous variables and the chi-squared test or Fisher's Exact test for discrete variables.

Results. A total of 2,852 and 5,460 patients were included in the historical and intervention groups, respectively. After adjusting for demographic and clinical characteristics, there were significant reductions in median antimicrobial duration (5 vs. 4, P = 0.002), antimicrobial days of therapy (7 vs. 7, P = 0.001), length of stay (LOS) (6 vs. 5 days, P = 0.001), intensive care unit (ICU) LOS (3 vs. 2 days, $P < 0.001$), and total hospital cost ($11,017 vs. $9,134, $P < 0.001$) in the intervention cohort. There were no significant differences observed in 30-day mortality or 30-day readmissions. Secondary analyses showed significant decreases in fluroquinolone and intravenous vancomycin utilization between cohorts.

Conclusion. Reductions in antimicrobial use, inpatient and ICU length of stay, and total hospital costs were observed in a cohort of patients following incorporation of a novel mortality prediction rule to guide AST surveillance.

Table 1. Outcomes by Cohort

Variable	Pre-intervention 2011 – Q3 2013 (N=2852)	Post-intervention Q4 2013 – 2018 (N=5460)	P Value	PS weighted p-value
Categorical Variables, N (%)				
30-day Mortality	1030 (36.12%)	1922 (35.2%)	0.422	0.551
30-day Readmission	592 (20.76%)	1099 (20.14%)	0.525	0.346
Continuous Variables, Median [IQR]				
Inpatient Hospital Cost	Median [IQR]: $11017 [6332, 19892]	Median [IQR]: $9134 [5611, 15394]	< 0.001	< 0.001
Total Hospital LOS	Median [IQR]: 6 [3, 9] Mean (SD): 7.335 (7.688)	Median [IQR]: 5 [3, 8] Mean (SD): 6.575 (5.801)	< 0.001	0.001
ICU LOS	Median [IQR]: 3 [2, 6] Mean (SD): 4.897 (5.401)	Median [IQR]: 2 [1, 4] Mean (SD): 3.648 (4.454)	< 0.001	< 0.001
Number of Days with Antibiotics (Antimicrobial Duration)	Median [IQR]: 5 [3, 8] Mean (SD): 5.905 (5.309)	Median [IQR]: 4 [2, 7] Mean (SD): 5.266 (4.423)	< 0.001	0.002
Antimicrobial Days of Therapy	Median [IQR]: 7 [4, 13] Mean (SD): 10.396 (10.805)	Median [IQR]: 7 [3, 12] Mean (SD): 8.896 (8.759)	< 0.001	0.001
Secondary Analyses				
Intravenous Vancomycin Days of Therapy	Median [IQR]: 2 [1, 4] Mean (SD): 3.365 (3.205)	Median [IQR]: 2 [1, 3] Mean (SD): 2.538 (2.071)	< 0.001	< 0.001
Fluoroquinolone Days of Therapy	Median [IQR]: 2 [1, 4] Mean (SD): 3.142 (3.306)	Median [IQR]: 2 [1, 3] Mean (SD): 2.532 (2.107)	0.002	0.015

Note: P-values shown for the continuous outcomes are from the Wilcoxon rank sum test. Mean and SD are presented for descriptive purposes.

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