was 1.19 (98.4%), comprising cephalosporins (0.76, 63.6%), macrolides (0.23, 18.9%), penicillins (0.12, 10.2%), and quinolones (0.07, 5.5%). DID values of oral AMU in outpatient settings were compared for in-house (0.89, 74.4%) and outside (0.31, 25.6%) prescriptions; in-house resulted in a higher proportion of oral cephalosporins (0.60, 66.9% vs. 0.17, 54.1%), but a lower proportion of oral penicillins (0.08, 9.0% vs. 0.04, 13.8%) (Table 1).

Conclusion. Oral AMU in outpatient settings comprised the highest proportion of antibiotic prescribing by dentists in Japan (98.4%). Oral cephalosporins, the predominant drug type and thought to result from inappropriate prescribing in general, were more frequently prescribed in-house than outside. To tackle AMR, further studies are needed to determine the patient and dentist characteristics encouraging cephalosporin prescription.

Figure 1. Trend in total antimicrobial use among all dentists in Japan, 2015-2017

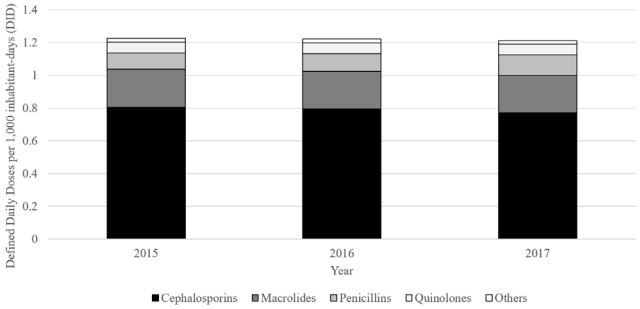

Table 1. Comparison of oral AMU among all dentists between in-house and outside prescribing in Japan

	In-house	Outside
Total	0.89	0.31
Cephalosporins	0.60 (66.9)	0.17 (54.1)
Macrolides	0.15 (17.2)	0.007 (23.9)
Penicillins	0.08 (9.0)	0.04 (13.8)
Quinolones	0.05 (5.2)	0.02 (6.1)
Others	0.01 (1.6)	0.01 (2.1)
Data show defined daily doses per 1000 inhabitants per days, DID (%).		

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774. A New Outpatient Parenteral Antimicrobial Therapy (OPAT) Management Program Reduces Excess Antimicrobial Days of Therapy and Expedites Timely Central Line Removal

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Session: 69. What's New in Clinical Practice?
Thursday, October 3, 2019: 12:15 PM

Background. Patients discharged on parenteral antimicrobials often require in-person follow-up to determine antimicrobial discontinuation and coordination of central line (CL) removal at the end of therapy. Without close attention to timing of follow-up, antimicrobial courses may be extended beyond a planned end date until scheduled follow-up, leading to excess antimicrobial days of therapy (DOT) and CL retention. Excess DOT can result in increased cost of medication and CL supplies, antimicrobial exposure, and risk of CL-associated bloodstream infections or thrombosis. We sought to assess the impact of the University of Virginia (UVA) OPAT program on excess antimicrobial DOT and excess CL days.

Methods. This was a retrospective chart review of patients enrolled in the OPAT program at UVA between August 2018 and April 2019. The UVA OPAT program was started in August 2018. Quality improvement (QI) practice changes were implemented in February 2019 for improving follow-up and stopping antimicrobials at the projected end date. Patients were therefore divided into 2 cohorts – August through January 2018 and February through April 2019. Data collected included projected end date of therapy (EOT), actual EOT, actual removal date of CL, and follow-up date. Excess antimicrobial DOT and excess CL days were calculated by the difference in projected vs. actual dates. For continuous data, Student *t*-test was used.

Results. 248 patients enrolled in OPAT from August 2018 through April 2019. After implementation of QI efforts, mean time from projected EOT to follow-up appointment decreased from 10.0 days to 4.3 days for those with appointments after projected EOT. Mean excess antimicrobial DOT decreased from 2.8 ± 4.53 SD days to 1.6 ± 2.75 SD days ($P = 0.026$), and mean excess CL days decreased from 3.2 ± 4.63 SD days to 2.0 ± 2.89 SD days ($P = 0.035$).

Conclusion. The involvement of an OPAT program with close attention to outpatient follow-up and cessation of antimicrobials decreased the excess antimicrobial DOT and CL days and reduced variability in care. Reduction in antimicrobial overuse and CL overuse is expected to reduce cost and decrease the risk of medication- and CL-related collateral damage.

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775. Comparison of Initial Vancomycin Costs and Target Attainment Between Trough- and 24-Hour Area Under the Concentration–Time Curve (AUC24)-Guided Dosing

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Session: 69. What's New in Clinical Practice?
Thursday, October 3, 2019: 12:15 PM

Background. Vancomycin is the treatment-of-choice for most invasive methicillin-resistant *Staphylococcus aureus* (MRSA) infections. Although serum trough concentration-guided vancomycin dosing is the current standard, dosing based on AUC_{24} to minimum inhibitory concentration ratio best predicts efficacy while often reducing trough concentrations associated with increased nephrotoxicity. Data regarding the impact of AUC_{24}-guided dosing on drug costs is sparse. We compared the relative initial acquisition cost of vancomycin when utilizing AUC_{24}- vs. trough-guided dosing. We also sought to describe current dosing practices relative to attainment of targeted vancomycin exposures.

Methods. A retrospective, single-center cohort study was performed on 200 randomly-selected hospitalized adults at Duke University Hospital (DUH) in calendar year 2017 with suspected or confirmed invasive MRSA infection and stable renal function. For the primary outcome measure, a cost-minimization analysis was performed utilizing DUH wholesale vancomycin acquisition cost through 48 hours as determined from prescribed trough- and Bayesian computer-simulated AUC_{24}-guided dosing. Descriptive statistics were utilized to characterize dosing, serum concentration monitoring practices and attainment of goal vancomycin exposures.

Results. In the 200 enrolled subjects, the median ($IQR_{25,75}$) cost difference per patient among trough- and AUC_{24}-guided dosing was $0.00 (-15.02, 15.02). Serum vancomycin troughs were labeled correctly in 54% of samples, while 20.7% exceeded 2 hours of the next scheduled dose. Mean loading doses were 21.0 mg/kg and 24.8 mg/kg, respectively. Goal steady-state troughs were achieved in 22% of subjects. Initial dosing was predicted to achieve an AUC_{24} within 400–600 mg.hr/L in 66.5% and 100%, respectively. Troughs ≥15 mg/dL (a known risk factor for nephrotoxicity) were measured in 32.1% of trough-guided dosing regimens while predicted in 5.0% of AUC_{24}-guided dosing regimens

Conclusion. When compared with trough-, AUC_{24}-guided dosing may lead to improved attainment of vancomycin target exposures, including potential reductions in excessive and incorrectly labeled trough concentrations, without impacting drug acquisition costs.

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776. Effect of the SEP-1 Sepsis Bundle on Mortality in Hospital-Onset v. Community-Onset Sepsis

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Session: 69. What's New in Clinical Practice?
Thursday, October 3, 2019: 12:15 PM

Background. The SEP-1 sepsis bundle is a performance measure from the Centers for Medicare and Medicaid Services that requires blood cultures, serum lactate, broad-spectrum antibiotics, and IV fluids (in some cases) within 3 hours of onset of sepsis. Published evidence regarding an effect of SEP-1 on mortality is mixed and largely excludes cases of hospital-onset sepsis.

Methods. Retrospective cohort study using clinical data from 4 University of California hospitals. Sepsis-related admissions from 2014–2017 were identified by diagnosis codes. We compared the effect of the SEP-1 sepsis bundle on in-hospital mortality in cohorts with community-onset and hospital-onset sepsis. To control for selection bias, patients who did and did not receive the SEP-1 bundle from each cohort were balanced on key variables related to likelihood of treatment using Mahalanobis distance matching.

Results. 5,034 out of 6,005 sepsis-related patient encounters were matched, including 1,770 (35%) patients who received the SEP-1 bundle and 3,264 (65%) who did not. The SEP-1 bundle was not associated with an effect on mortality in the unmatched (Table 2) or matched analyses (Table 3). Point estimates from the matched analysis suggested a greater potential benefit associated with SEP-1 and its components in community-onset sepsis, but differences in effect size between community-onset and hospital-onset were nonsignificant. Among bundle components, timely blood cultures, lactate, and antibiotics were not associated with an effect on mortality, while IV fluids were associated with a