on-site care showed significantly higher antimicrobial prescriptions. Further investi-
gation is needed into the underlying causes of prescribing rate variances and how
these care delivery options may affect efforts to reduce inappropriate utilization of
antimicrobials.

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1617. Age-specific Distribution of Antimicrobial Use Surveillance using National Database of Health Insurance Claims and Specific Health Checkups of Japan (NDB Japan) 2011–2013
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Session: 170. Stewardship: Targets for Intervention
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Background. Antimicrobial use (AMU) surveillance is one of the key actions in the Japanese national plan on antimicrobial resistance (AMR). National database of health claims is established in Japan (NDB), which arches e-claim big data, is one candidate for their data source, since universal healthcare sys-
tem is established in Japan and e-claim data covers almost all citizens. However, no study has been performed using NDB for assessing AMU. Our objective was to analyze the quantities and patterns of total systemic antibiotic prescriptions using NDB and to evaluate its utility.

Methods. The data were analyzed in accordance with the Anatomical Therapeutic Chemical (ATC) classification using defined daily dose (DDD) as a measurement unit, as recommended by the WHO Collaborating Centre for Drug Statistics Methodology. The population-weighted total consumption was normalized and expressed as defined daily doses (DDDs) per 1000 inhabitants per day (DID). Trend analysis of DID from 2011 to 2013 and subgroup analysis stratified by age group (0–14, 15–64, 65 and above years old), and ATC classification were performed.

Results. The DID value of oral antimicrobial use in 2013 was 13.2, which was a 1.04-fold increase in comparison with that in 2011. The DID value of parenteral anti-
microbial use in 2013 was 0.83, which was a 1.13-fold increase in comparison with that in 2011. The DID value of each antibiotics category calculated using the NDB was comparable to that calculated using sales data in our previous study (1 Glob Antimicrob Resist. 7:19–23, 2016), suggesting that the NDB is useful for analyzing the quantities and patterns of total systemic antibiotic prescription. AMU in those under 15 years old decreased from 2011 to 2013 regardless of dosage form, although those in the other age groups increased. While third-generation cephalosporins were the most frequently used oral antibiotic subgroups in those under 15 years old, macrolides were the most frequently used oral antibiotic subgroups in the other age groups.

Conclusion. This is the first report evaluating age-specific distribution of AMU in Japan from 2011 to 2013 using the NDB. These results demonstrated the utility of AMU surveillance using the NDB as a tool and benchmark to assess the AMR action plan.

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1618. Variation in Antibiotic Prescribing among Emergency Departments, Urgent Care Centers, and Retail Health Clinics in the United States, 2014
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Background. At least 30% of antibiotic courses prescribed in physician offices’ and emergency departments (EDs) are unnecessary, but little is known about other ambulatory settings. The study aimed to assess antibiotic prescribing for acute respira-
tory conditions across U.S. EDs, urgent care centers (UCs), and retail health clinics (RHs).

Methods. We included visits to EDs, UCs and RHs based on claims from individ-
uals < 65 years old with medical and pharmacy benefits captured in the 2014 Truven MarketScan Commercial Claims and Encounters Database, a convenience sample
of employer-based health insurance. Claims for dispensed systemic antibiotics were
linked to the most recent ED, UC and RH visit within 3 days for oral antibiotics and
of on-site care showed significantly higher antimicrobial prescriptions. Further inves-
tigation is needed into the underlying causes of prescribing rate variances and how
to care delivery options may affect efforts to reduce inappropriate utilization of
antimicrobials.

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1620. Outpatient Antibiotic Prescribing Among Older Adults in the United States, 2011 to 2014

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**Background.** Antibiotics are some of the most commonly prescribed medications for older adults, but antibiotic prescribing practices are poorly understood. We analyzed outpatient antibiotic prescribing data for older adults to identify potential targets for antibiotic stewardship.

**Methods.** Outpatient oral antibiotic prescriptions dispensed in the United States for older adults (i.e., ≥ 65 years) between 2011 and 2014 were extracted from the QuintilesIMS Xponent database. The number of prescriptions and U.S. Census denominators were used to calculate prescribing rates. A chi-square for trend test was used to evaluate annual trends in antibiotic prescribing rates. A descriptive analysis of prescribing rates according to antibiotic, age group, sex, state, census region, and provider specialty was completed.

**Results.** In 2011–2014, antibiotic prescribing rates remained stable in U.S. older adults (P = 0.89). In 2014, older adults were prescribed 51.6 million prescriptions at a rate of 1115 prescriptions/1000 persons. Within this cohort, the rate of prescriptions increased with age; persons aged ≥75 years had a rate of 1157 prescriptions/1000 persons compared with 1084 prescriptions/1000 persons in persons aged 65–74. Rates were highest in the South census region and lowest in the West (1228 vs. 854 prescriptions/1000 persons). Although azithromycin was the most commonly prescribed drug followed by amoxicillin and ciprofloxacin, the most commonly prescribed antibiotic class was the fluoroquinolones (245 prescriptions/1000 persons), followed by penicillins and macrolides. Among individuals aged ≥75 years, ciprofloxacin was the most frequently prescribed drug.

**Conclusion.** On average, U.S. older adults receive enough antibiotic courses for every older individual to receive a prescription each year. Fluoroquinolone use is a potential target for addressing the appropriateness of outpatient antibiotic prescribing practices among older adults. As with antibiotic use in other age groups, efforts to improve antibiotic prescribing may be most needed in the South.

1621. Evaluating the Impact of Long-Term Outpatient Ertapenem (ETP) vs. Ceftriaxone (CTX) on Clinical Success and Development of Resistance for Documented Enterobacteriaceae Infections

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**Session:** 170. Stewardship: Targets for Intervention

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**Background.** Ceftriaxone and ertapenem are two commonly prescribed outpatient once-daily parenteral antimicrobials with activity against Enterobacteriaceae. However, there is minimal data evaluating the impact of long-term CTX and ETP therapy on development of resistance. Therefore, the goals of this study were to compare the development of resistance, incidence of Clostridium difficile colitis and clinical outcomes.

**Methods.** We conducted a single center, retrospective, case cohort study of all adult patients who completed at least 2 weeks of outpatient therapy. A list of adult patients receiving home ETP or CTX between 2011 and 2014 were screened for inclusion. The primary outcome was development of resistance during therapy or within 6 months of completing therapy, and secondary outcomes were mortality, readmission, clinical failure, C. difficile infection and antibiotic cost.

**Results.** 1,989 patients were screened and 188 were included: 115 patients in the ETP group and 73 in the CTX group. The most common reason for exclusion was lack of documented Enterobacteriaceae infection. Resistance developed in 13 (6.9%) of all patients, but there was no difference in the development of resistance among groups (ETP: 7/115 (6.1%) vs. 6/73 (8.2%), P = 0.57). Similar rates of C. difficile colitis occurred between groups: 7 (6.1%) patients receiving ETP and 4 patients receiving CTX. There was no difference in mortality, clinical failure or readmission.

The total cost per treatment course per patient was significantly more expensive in the ETP group ($3,604 vs $221, P < 0.001).

**Conclusion.** ETP and CTX demonstrated similar rates of mortality, clinical failure, readmission, and the development of resistance or C. difficile colitis. However, ETP therapy was significantly more expensive, and could be a target for stewardship intervention in select patients receiving home antibiotic therapy.

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

1622. Evaluation of discharge antibiotic prescribing at a freestanding children's hospital: Opportunities for Stewardship

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**Session:** 170. Stewardship: Targets for Intervention

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**Background.** The focus of most antibiotic stewardship programs is inpatient prescribing, however, a substantial percentage of hospitalized children are discharged with an antibiotic to complete at home. Adult studies, even in hospitals with comprehensive stewardship programs, have identified high rates of suboptimal antibiotic prescribing at discharge. Similar studies in pediatrics are lacking.

**Results.** Of the 1,989 patients screened and 188 were included: 115 patients in the ETP group and 73 in the CTX group. The most common reason for exclusion was lack of documented Enterobacteriaceae infection. Resistance developed in 13 (6.9%) of all patients, but there was no difference in the development of resistance among groups (ETP: 7/115 (6.1%) vs. 6/73 (8.2%), P = 0.57). Similar rates of C. difficile colitis occurred between groups: 7 (6.1%) patients receiving ETP and 4 patients receiving CTX. There was no difference in mortality, clinical failure or readmission.

The total cost per treatment course per patient was significantly more expensive in the ETP group ($3,604 vs $221, P < 0.001).

**Conclusion.** ETP and CTX demonstrated similar rates of mortality, clinical failure, readmission, and the development of resistance or C. difficile colitis. However, ETP therapy was significantly more expensive, and could be a target for stewardship intervention in select patients receiving home antibiotic therapy.

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