Facility D

**Results.** We identified 29 NTS isolates with azithromycin resistance representing 22 different serotypes from 19 states. The prevalence of azithromycin resistance among surveillance isolates increased from 1.4 per 1000 isolates tested in 2011–2014 to 3.7 per 1,000 in 2015–2016 (P = 0.014). In addition to azithromycin resistance, most isolates were multidrug resistant; 16 (55%) were resistant to agents from ≥2 antimicrobial classes. Of 16 sequenced isolates with resistance genes detected, 13 (81%) had mphA and 1 (3%) had mphE. Median patient age was 45 years (interquartile range 21–61.5; n = 29); 13 (46% n = 28) were male. Of 15 patients with travel histories, 5 (33%) traveled to Asia, 2 (13%) traveled to Latin America, and 1 (7%) traveled to Europe prior to illness onset.

**Conclusion.** Azithromycin resistance among NTS is increasing in the United States, though it remains rare. The rise is associated with the emergence of plasmid-mediated macrolide resistance genes mphA and mphE, raising concern for spread of resistant strains among bacteria. Resistance determinants may enter the USA via international travelers, while frequent clinical use of azithromycin may contribute to selective pressure domestically.

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

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674. **Antibiotic Consumption Point Prevalence Survey in a Teaching Hospital in Guatemala**

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**Session:** 74: Stewardship: Data and Program Planning

**Thursday, October 5, 2017: 12:30 PM**

**Background.** Antibiotics are among the most commonly prescribed drugs and are considered a major determinant in the development of resistance. Regionally no regulations exist to restrict antibiotic use and resistance is an important and growing problem. Close vigilance to the use and indication of antibiotics prescription need to be reinforced in order to develop better guidelines for its management.

**Methods.** A point prevalence study of the prescription of antibiotics from all inpatients in the Surgery Department (SD), Intensive Care Unit (ICU), Pediatric Intensive Care Unit (PICU) and Neonatal Intensive Care Unit (NICU) was performed in November 2016. Data were collected using standardized method.

**Results.** Of 231 patients, 193 (83.75%) received one or more antibiotics. The highest rate of prescription occurred in the PICU (96%, 24/25) and SD (90%; 114/127) and the lowest in the ICU (68%; 19/28). The parental route was used in 100% of Carbapenems were the most commonly prescribed antibiotic in critical care units (61.5%) and combination therapy with another broad-spectrum antibiotic was found in 50% of cases. Therapeutic prescription, with either clinical or microbiological diagnosis, was indicated in 81.8% of cases; 33.86% (64/189) of which were nosocomial. A positive bacterial culture was identified in 65.4% (151/231) of charts. The rates of therapeutic prescription, with either clinical or microbiological diagnosis, was indicated in 81.8% of cases; 33.86% (64/189) of which were nosocomial.

**Conclusion.** These data indicates a high rate of antibiotic broad-spectrum use at the hospital. Considering that almost 20% of cases didn’t have an infectious disease diagnosis, antibiotics prescription seems to be strongly empirical. National antibiotic stewardship policies are required with a multifaceted strategy including education, regulation and greater financial support from the government to impact on antimicrobial resistance rates.

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

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675. **Appropriateness of Antibiotic Prescriptions for Acute Sinusitis and Pharyngitis in Ambulatory Care Settings of an Integrated Health Care System**

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**Session:** 74: Stewardship: Data and Program Planning

**Thursday, October 5, 2017: 12:30 PM**

**Background.** Outpatient antibiotic use constitutes over 80% of total antibiotic use. Acute sinusitis and pharyngitis are among the top three conditions which result in inappropriate antibiotic prescriptions. The objective of the study was to perform a comprehensive patient-level analysis to evaluate the appropriateness of antibiotic prescriptions and factors associated with inappropriate prescriptions in acute sinusitis and pharyngitis.

**Methods.** This was a retrospective cross-sectional study involving patients >1 year old with an initial visit for acute sinusitis or pharyngitis to a clinic, emergency department, or urgent care center of an integrated health care system. A random sample of cases occurring between May and October 2016 were reviewed manually for clinical, diagnostic, and treatment data. The primary endpoint was inappropriate antibiotic prescriptions, defined as lack of an indication for an antibiotic or antibiotic choice, dose, or duration of therapy discordant with Infectious Diseases Society of America guidance.

**Results.** Of 540 patients reviewed, 130 patients with sinusitis and 275 patients with pharyngitis were included for analysis; the median age was 46 and 13 years, respectively. In total, antibiotics were prescribed at 117 (90%) visits for sinusitis and 130 (47%) visits for pharyngitis. In cases where the antibiotic was prescribed only for sinusitis or pharyngitis, the prescription was overall inappropriate in 92 of 113 (81%) cases of sinusitis and 53 of 111 (48%) cases of pharyngitis. The reasons for classification as inappropriate prescriptions are shown in the Figure. Antibiotics were given when not indicated in 54 of 113 (48%) cases of sinusitis and 16/111 (14%) cases of pharyngitis. The most common prescribing error in sinusitis was longer duration of therapy while dosing errors were more common in pharyngitis.

**Figure 1:** Inappropriate antibiotic prescriptions in acute pharyngitis and sinusitis

**Conclusion.** Inappropriate antibiotic prescriptions are common in both acute sinusitis and pharyngitis, but more so in sinusitis. The types of prescribing errors differed markedly between the two infections. This suggests individualized approaches to improve antimicrobial use for these infections are necessary.

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

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676. **Protecting Our Most Vulnerable: Why Antimicrobial Stewardship for Senior Living Is a Must: Results from Four Large Senior Living Centers**

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**Session:** 74: Stewardship: Data and Program Planning

**Thursday, October 5, 2017: 12:30 PM**

**Background.** Antibiotics are frequently prescribed among senior living residents, with the over diagnosis of infections playing a significant problem. Elderly are vulnerable to the harms of inappropriate antibiotic use.

**Methods.** We evaluated the use of systemic antibiotics, the diagnosis of facility-onset urinary tract infection (based on McGee’s criteria), and C. difficile infections in the 4 large (>250 resident beds) Senior Living Centers in 4 different states. All measurements were normalized per 1,000 resident-days and evaluated over 9 months between July 2015 and March 2016. In addition, we visited the 4 facilities and qualitatively evaluated factors that may influence antibiotic use.

**Results.** There were 27,255 antibiotic-days at a rate of 106.8 per 1,000 resident-days. Non-quinolone antiniurinary agents accounted for 22.3 (20.9%), quinolones for 21.5 (20.2%), cephalexins 16.8 (15.7%), penicillins 8.0 (7.5%), and tetracyclines 8.2 (7.7%), and macrolides 6.31 (5.9%) antibiotic-days per 1,000 resident-days. There were marked differences in the use of urinary antimicrobials between the 4 facilities (Figure 1). Facility A and B had more than 6 times antibiotic use compared with facility D, and had the highest rates for UTI (Table 1). Clostridium difficile infections were highest in facility A compared with other facilities. The two facilities lowest antimicrobial use had strong physician-nursing partnership with engaged medical directors.

**Conclusion.** Considerable opportunities reside in Senior Living to optimize testing and appropriate antibiotic use. Engaging both nurses and physicians, in addition to regular evaluation of use with feedback are key to standardizing the care and improving the outcomes.

**Table 1:** Antimicrobial Use, Urinary Tract Infections, and Clostridium difficile Infections at the 4 Facilities.

| Facility | Antibiotic Days | Urinary Tract Infections | Clostridium difficile Infections |
|----------|----------------|--------------------------|--------------------------------|
| A        | 11,087         | 106                      | 16                            |
| B        | 9,439          | 146                      | 4                             |
| C        | 5,109          | 131                      | 62                            |
| D        | 1,620          | 32                       | 0                             |

**Facility D**