Results. 8,024 patients met study criteria. Baseline characteristics are presented in Table 1. 3,597 (44.8%) had an APR severity of ≥3. Factors associated with APR severity ≥3 include age group (P < 0.001), ethnicity (P = 0.013), hospital county (P < 0.001), first-line prescribing ≤45.4% (P = 0.049), E. coli TMP-SMX resistance ≥29.0% (P < 0.001) via chi-squared test. In the logistic regression analysis counties with higher first-line prescribing was associated with decreased odds for severe infection (aOR: 0.83 [0.72 - 0.97]). Additional factors associated with severe infection are presented in Table 2.

Table 1: Baseline Characteristics

| Age-Group | N (%) |
|-----------|-------|
| 50 to 69  | 1,227 (15.3) |
| 70 or Older| 6,797 (84.7) |
| White     | 3,950 (48.7)  |
| Hispanic, Multi-Racial, or Other| 1,605 (20.3) |

| County     | Number (n) |
|------------|------------|
| Albany     | 383 (4.8)  |
| Bronx      | 886 (11)   |
| Dutchess   | 274 (3.6)  |
| Fulton     | 22 (0.3)   |
| Kings      | 1,259 (15.7) |
| Manhattan  | 1,301 (16.2) |
| Orange     | 273 (3.4)  |
| Pembina    | 81 (1)     |
| Queens     | 1,257 (15.7) |
| Richmond   | 376 (4.7)  |
| Rockland   | 254 (3.2)  |
| Suffolk    | 1,459 (18.2) |
| Sullivan   | 55 (0.7)   |
| Ulster     | 144 (1.8)  |
| Average    | 3,439 (38.8) |
| Median     | 1,240 (15.4) |
| IQR        | 1,030 (12.7) |

Table 2: Factors Associated with APR Severity

| Variable                          | P     | OR    | 95% CI | aOR  |
|-----------------------------------|-------|-------|--------|------|
| Age ≥ 70                          | < 0.01| 1.382 | 1.220  | 1.567|
| First-line prescribing ≤ 45.4%    | < 0.01| 1.83  | 1.716  | 1.96  |
| County Group*                     | < 0.01| 1.01  | 1.131  | 1.05  |
| E. coli TMP-SMX resistance ≥ 29.0%| < 0.01| 1.00  | 1.010  | 1.00  |
| E. coli NIT resistance ≥ 2.0%     | < 0.01| 1.03  | 1.213  | 1.00  |
| Hispanic                          | < 0.01| 1.20  | 1.112  | 1.30  |
| County Group                       |        |       |        |      |

*County group: Albany, Bronx, Dutchess, Fulton, Manhattan, Orange, Putnam, and Sullivan County.

Conclusion. Prescribing patterns may have a significant influence on initial presentation to the hospital for urinary tract infections. Outpatient antimicrobial stew-ardship should endeavor to promote guideline driven prescribing. Further research is needed to corroborate the findings from this cross-sectional study.

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152. Use of Antimicrobials among Suspected COVID-19 Patients at Selected 12 Hospitals in Bangladesh: Findings from the First Wave of COVID-19 Pandemic

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Background. Antimicrobials are empirically used in COVID-19 patients resulting in inappropriate stewardship and increased antimicrobial resistance. Our objective was to assess antimicrobial use among suspected COVID-19 in-patients while waiting for the COVID-19 test report.

Methods. From March to August 2020, we collected data from in-patients of 12 tertiary-level hospitals across Bangladesh. We included suspected COVID-19 patients, collected information on antimicrobial received within 24 hours before and on hospitalization, and tested nasopharyngeal swab for SARS-CoV-2 using rRT-PCR. We used descriptive statistics and a regression model for data analysis.

Results. Among 1188 suspected COVID-19 patients, the median age was 34 years (IQR:2-56), 69% were male, 40% had comorbidities, 53% required oxygen, and 1% required ICU or ventilation support after admission. Antibiotics were used in 92% of patients, 47% within 24 hours before, and 89% on admission. Patients also received antibiotic, most frequently (1%) and antiparasitic drugs particularly ivermectin (3%). Third-generation cephalosporin use was the highest (70860%), followed by macrolide (481%, 40%), and the majority (85378%) who took antibiotics were SARS-CoV-2 negative. On admission, 77% mild and 94% moderately ill patients received antibiotics. Before admission, 3% patients had two antibiotics, and on admission, 27% received two to four courses of antibiotics at the same time. According to WHO AWaRe classification, the Watch group antibiotics were mostly used before (43%) as well as on admission (84%). Reserve group antibiotic particularly linezolid was used in 1% patients includes mild cases on admission. Antibiotic use on admission was higher among...
severely ill patients (AOR = 11.79%[CI:4.5–30.1]) and those who received antibiotics within 24 h before hospital admission (AOR = 1.69%[CI:1.0–2.5]).

Antimicrobials used among suspected COVID-19 patients and SARS-CoV-2 positive and negative patients 24 h before and on hospital admission at 12 selected hospitals in Bangladesh, March–August 2020

| Antimicrobials | Suggested COVID-19 Patients (n = 1188) | SARS-CoV-2 positive (n = 257) | SARS-CoV-2 negative (n = 931) | p-value |
|---------------|----------------------------------------|------------------------------|----------------------------|---------|
| Antibiotic | Total | Mild | Moderate | Severe | Critical | Total |
| Cefuroxime | 1090 | 521 | 412 | 155 | 0 | 1090 |
| Ceftriaxone | 297.7 | 73.7 | 120.7 | 0 | 0 | 297.7 |
| Azithromycin | 10.7 | 3.7 | 6.7 | 0 | 0 | 10.7 |
| Vancomycin | 3.7 | 0.7 | 0.7 | 0 | 0 | 3.7 |
| Gentamicin | 0.7 | 0.2 | 0.2 | 0 | 0 | 0.7 |
| Tobramycin | 0.7 | 0.2 | 0.2 | 0 | 0 | 0.7 |

Antimicrobials used on admission among suspected COVID-19 patients according to disease severity at 12 selected hospitals in Bangladesh, March–August 2020

Conclusions. Antimicrobial use was highly prevalent among suspected COVID-19 in-patients. Initiating treatment with Watch group antibiotics like third-generation cephalosporin and azithromycin among mild to moderately ill patients were common. Promoting antimicrobial stewardship with monitoring is essential to prevent blanket antibiotic use, thereby mitigating antimicrobial resistance.

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153. Utilization of Post-Exposure Prophylaxis to Prevent Lyme Disease in a Large US Healthcare Database

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Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. In the United States, at least 50,000 emergency department visits for tick bite and an estimated 476,000 Lyme disease diagnoses occur annually, with incidence of both high among children. The majority of these healthcare visits occur in the northeastern and midwestern states having high Lyme disease incidence and during the summer and fall months, corresponding to peak opportunities for exposure to blacklegged ticks. Post-exposure prophylaxis (PEP) with a single dose of doxycycline can effectively prevent Lyme disease after a tick bite that is high risk for transmission of Lyme disease. We describe characteristics of patients with dispensings of single-dose doxycycline in a large US-based system that includes patients enrolled in private and public health insurance plans.

Methods. Single-dose doxycycline (≤200 mg) dispensings during January 2019 to September 2020 were identified for patients enrolled in seven data partners that contributed electronic healthcare data to the Food and Drug Administration Sentinel Distributed Database, including large national insurers, an integrated delivery care network, a state Medicaid, and the 100% Medicare fee-for-service plan. We examined patient and PEP dispensing characteristics by patient age, state of residence, and month of dispensing.

Results. We identified 408,897 patients with PEP (n=474,414 total dispensings) with a mean age of 60 years at first dispensing. Overall, there were 21 patients per 10,000 eligible members with PEP dispensings. Dispensings were less common in children (< 1 and 4 patients per 10,000 eligible members aged 8 and 18 years, respectively). Most dispensings (72%) occurred in states with high incidence of Lyme disease. Seasonality of dispensings was bimodal, with most occurring during April – July and October – November (71% – 83%, by year).

Conclusions. Lyme disease PEP was relatively common and mirrored geographic and seasonal trends observed for ED visits for tick bites and Lyme disease diagnoses. However, we observed more PEP among older adults, and few dispensings among children. Despite healthcare visits for tick bites and Lyme disease occurring disproportionately among pediatric age groups, PEP appears to be underutilized in children.

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154. Antibiotic Use During Three Separate Waves of the COVID-19 Pandemic at a Large Academic Medical Center in Detroit, MI

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Session: P-09. Antimicrobial Stewardship: Trends in Antimicrobial Prescribing

Background. Inpatient antibiotic use early on in the COVID-19 pandemic may have increased due to the inability to distinguish between bacterial and COVID-19 pneumonia. The purpose of this study was to determine the impact of COVID-19 on antimicrobial usage during three separate waves of the COVID-19 pandemic.

Methods. We conducted a retrospective review of patients admitted to Detroit Medical Center between 3/10/19 to 4/24/21. Median days of therapy per 1000 adjusted patient days (DOT/1000 pt days) was evaluated for all administered antibiotics. Medical Center between 3/10/19 to 4/24/21. Median days of therapy per 1000 adjusted patient days (DOT/1000 pt days) was evaluated for all administered antibiotics.

Results. Antibiotics included in our pneumonia guidelines during 4 separate time periods: pre-COVID (3/10/19–3/29/19); 1st wave (3/8/20–5/2/20); 2nd wave (12/3/21–1/30/21); and 3rd wave (3/3/21-4/24/21). Antibiotics included in our pneumonia guidelines include: amoxicillin, cephalosporin, linezolid, moxifloxacin, piperacillin-tazobactam, tobramycin, and vancomycin. The percent change in antibiotic use between the separate time periods was also evaluated.

Conclusion. Antimicrobial use was highly prevalent among suspected COVID-19 patients according to disease severity at 12 selected hospitals in Bangladesh, March–August 2020.