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Background. Antimicrobial stewardship programs seek to reduce initiation of unwarranted therapy, promote de-escalation and prevent excessive duration. The CDC Antimicrobial Use option provides ward-level reports of antibiotic use and risk-adjusted Standardized Antimicrobial Administration Ratios for pre-specified antibiotic groups that allow for inter-facility comparison, but do not provide the indication for use or temporal patterns that allow de-escalation assessments.

Methods. We characterized antibiotic use on days 0–2 (Choice), 3–4 (Change) and 5–6 (Completion) of therapy (CCC) for pneumonia (LRTI), skin-soft-tissue infections (SSTI) and urinary tract infection (UTI). We then explored the relationship between total MRSA or multi-drug-resistant GNR (MDRO) antibiotic use and use over CCC intervals for LRTI and SSTI in patients in acute non-ICU settings in 33 high-complexity VA facilities. Data were from 2016 and extracted from the VA Corporate Data Warehouse.

Results. The mean rates of anti-MRSA and anti-MDRO therapy were 108 and 123 Days of Therapy (DOT)/1000 days present, respectively. The table shows the fraction (mean, range) of patients with SSTI or LRTI receiving anti-MRSA or anti-MDRO therapy at the CCC intervals and the change in use in (i.e., de-escalation) over the treatment course.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Therapy</th>
<th>Choice</th>
<th>Change</th>
<th>Completion</th>
<th>Difference from Choice to</th>
<th>DOT (DOT)/1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRTI</td>
<td>Anti-MRSA</td>
<td>34% (22–47%)</td>
<td>26% (9–45%)</td>
<td>24% (8–45%)</td>
<td>8% (10–26%)</td>
<td>11% (1–26%)</td>
</tr>
<tr>
<td>SSTI</td>
<td>Anti-MRSA</td>
<td>65% (39–81%)</td>
<td>56% (37–83%)</td>
<td>47% (26–79%)</td>
<td>9% (1–21%)</td>
<td>18% (7–43%)</td>
</tr>
<tr>
<td>LRTI</td>
<td>Anti-MDRO</td>
<td>46% (20–64%)</td>
<td>39% (14–62%)</td>
<td>37% (10–66%)</td>
<td>7% (1–18%)</td>
<td>8% (4–27%)</td>
</tr>
<tr>
<td>SSTI</td>
<td>Anti-MDRO</td>
<td>47% (21–67%)</td>
<td>42% (13–69%)</td>
<td>36% (9–57%)</td>
<td>6% (5–16%)</td>
<td>11% (0–25%)</td>
</tr>
</tbody>
</table>

Among the facilities there was a 0.55–0.86 correlation between overall use of MRSA or anti-pseudomonal antibiotics and the fraction of patients on therapy at each of the CCC metrics.

Conclusion. Syndrome-specific CCC metrics show substantial variations in the rates of de-escalation of antimicrobial use over treatment courses. Insights provided by these metrics will allow facilities to identify specific areas for improvement by targeting syndrome-specific initial choices of therapy or antibiotic de-escalation. OXID 2017:4 (Suppl 1)

688. Antibiotic Utilization in the Dental Clinic over 7 Years; Room for Improvement
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Background. At least 30% of antibiotic courses prescribed in the outpatient setting are unnecessary, meaning that no antibiotic is needed at all. Specialty areas such as dental clinic are a common place for antibiotic use and a potential for antibiotic overuse. The duration and indications for antibiotic use in dental clinics have not been clearly defined except in the setting of endocarditis prophylaxis. Antibiotics are often used and sometimes indicated for periodontal, periodontal implant and surgical procedures. Our goal was to measure antibiotic usage and duration in the dental clinic at a large VA hospital.

Methods. Outpatient antibiotic prescriptions from 2010–2016 for VA Boston were extracted from the VA data warehouse. Prescriptions were classified by date, antibiotic, and duration. Dental clinic visits and associated CPT codes were extracted for visits within 7 days +/- prescription.

Results. Of 119,193 dental visits during the study period, 3.7% (4,358) were associated with a unique antibiotic prescription. CPT diagnoses included periodontal (17.1%), endodontic (5.1%), surgical (36.5%) and implant (26.2%) procedures. The antibiotics prescribed included amoxicillin (62.0%), clindamycin (17.7%), penicillin (10.5%), macrolides (4.3%), augmentin (3%) and in less than 1% other classes including fluoroquinolones (0.2%). Mean days of antibiotics were 7.6 +/- SD 5.2 days (7.4 +/- SD 4.0 days for the above CPT codes). Duration did not vary by diagnostic code or by antibiotic class. There were no temporal trends over time.

Conclusion. The majority of antibiotic use in dental clinic was for diagnostic codes that may warrant antibiotic use. The spectrum of activity of agents is in keeping with guidelines. However, the duration of antibiotics is longer than what might be anticipated for prophylaxis of dental procedures or treatment of dental infections. Limitations include lack of manual chart review to identify specific indications and potential for missing prescriptions by non-dental providers. Surveillance and stewardship activities can optimize antibiotic use in dental clinic.
689. Antibiotic Prescribing and Stewardship Opportunities within a Veterans Affairs Dental Care Practice
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Background. Antibiotic overuse is a major healthcare problem worldwide. Dental providers prescribe approximately 10% of outpatient antibiotics nationally. As a part of a larger quality improvement initiative, the prescribing habits of the Veterans Affairs Pittsburgh Dental Providers were reviewed.

Methods. Outpatient antibiotic prescriptions by dental providers at the Veterans Affairs Pittsburgh Dental Clinic from June 2015 - May 2016 were identified. A random sample of all prescriptions were reviewed for antibiotic prescribed, type of visit during which the prescription occurred, procedure associated with prescription, and indication. Available American Dental Association (ADA) guidelines were used to define appropriateness.

Results. Over the period reviewed, 15111 total outpatient prescriptions were filled at VA Pittsburgh, of which 1505 (10%) were prescribed by 21 dental providers. Antibiotics most commonly prescribed by dentists were amoxicillin (78%), clindamycin (13%), penicillin VK (4%), and amoxicillin/clavulanate (3%). Antibiotic prescriptions were concordant with existing ADA guidelines. Of non-concordant prescriptions were post-operative complications 52% (96/182), prophylaxis 22% (40/182) and acute. The most common antibiotic was amoxicillin (13%), penicillin VK (4%), and amoxicillin/clavulanate (3%). Antibiotic prescriptions were post-operative complications 52% (96/182), prophylaxis 19% (34/182) and abscess 13% (23/182). Seventy-four percent (135/182) of antibiotic prescriptions were concordant with existing ADA guidelines. Of non-concordant prescriptions, 43% (21/48) were written for antibiotic prophylaxis.

Conclusion. Dental providers are active prescribers of outpatient antibiotics, and current dental guidelines are weak in antibiotic restriction. Opportunities for prescribing improvement exist, in particular with prophylaxis. Dental providers represent a potentially overlooked target for antimicrobial stewardship intervention.

Disclosures. All authors: No reported disclosures.

690. Antibiotic Prescribing by Dentists and Geographic Variability in the Veterans Affairs (VA) Health System
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Background. Antibiotic overuse is a major healthcare problem worldwide. Antibiotics are prescribed by dentists at the Veterans Affairs (VA) Health System, and geographic variability in prescribing has not been well described.

Methods. Outpatient antibiotic prescriptions for 77,305 patients for a visit-based prescribing rate of 68.8/1000 visits. The most common antibiotic was amoxicillin (64.3%), followed by clindamycin (19.6%). Less than 2% of RXs were broad-spectrum agents. The mean duration was 7.81 ± 8.52 days; 35% were > 10 days. The majority (69.9%) of antibiotics were prescribed for prophylaxis, with 30.1% prescribed for treatment of an oral infection. There was geographic variability in prescribing (P < 0.01) with the highest prescribing rate in the West (74.9/1000 visits) and the lowest in the Northeast (57.2/1000 visits). By state, Arkansas (100/7/1000 visits) and North Dakota (33.5/1000 visits) had the highest and lowest rates, respectively (Figure). As compared with other regions, dentists in the Northeast were more likely to prescribe broad-spectrum agents (RR = 1.80; 95% CI: 1.57-2.08), but less likely to prescribe clindamycin as compared with B-lactams (RR = 0.86; 95% CI: 0.82-0.90; P < 0.01 for all).

Conclusion. This is the first US study to determine indications and prescribing rates of antibiotics prescribed by dentists. Antibiotic prescribing varies geographically and differs as compared with prescribing patterns of medical providers. Dentistry may provide a novel opportunity for future stewardship efforts.

Disclosures. All authors: No reported disclosures.

691. Antibiotic Use Metrics to Guide Antibiotic Stewardship Priorities: Dental Antibiotic Prescribing in the U.S. Veterans Affairs (VA) System
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Background. In the private sector, dentists prescribe approximately 1 out of every 10 antibiotic prescriptions and are the top specialty prescriber of antibiotics. However, antibiotic prescribing practices of VA dentists have not been reported. Standardized metrics of antibiotic consumption (ie, antibiotic days) are useful to guide stewardship efforts, but have not been reported for dentistry. Thus, the purpose of this study was to report antibiotic use metrics in the VA with an emphasis on antibiotics prescribed by dentists.

Methods. Cross-sectional study of all Veteran users of VA dental care from all dental clinics (n = 205) in 2013. Antibiotic data were collected at the patient-level where >1 day and/or >1 dose of a systemic antibiotic was ordered and dispensed. Metrics included: antibiotic days (AD; average number of days/patient where any antibiotic use was documented) and days of therapy (DOT; average number of days/patient where a unique agent was administered). Dentists were identified by VA personnel files with the professional designation of ‘Dentistry’. Antibiotics in the carbapenem, quinolone, anti-pseudomonal penicillins, third-/fourth-generation cephalosporin, macrolide, tetracycline, and aminoglycoside classes were considered to be broad spectrum. Student’s t-test was used for statistical analysis; P < 0.05 was considered significant.