**Supplemental Table 2. Frequency of antibiotic-prescribing for patient-visits in EDs and UCCs based on tier of diagnosis, stratified by clinician type and location (2016-2018)** 1,2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Physicians** | | **Advanced Practice Providers** | |
|  |  | **N** | **Median (IQR)** | **N** | **Median (IQR)** |
| **Tier 1** | Emergency Departments | 282 | 78.6% (70.6-84.8%) | 140 | 82.6% (76.3-86.1%) |
| Urgent Care Centers | 67 | 77.5% (71.6-82.1%) | 37 | 80.2% (75.6-85.4%) |
| **Tier 2** | Emergency Departments | 525 | 44.4% (32.8-57.9%) | 196 | 53.1% (40.8-62.6%) |
| Urgent Care Centers | 113 | 53.5% (41.1-62.3%) | 48 | 56.0% (48.0-62.0%) |
| **Tier 3 respiratory** | Emergency Departments | 192 | 50.0% (25.2-74.5%) | 133 | 53.7% (32.4-69.4%) |
| Urgent Care Centers | 73 | 53.9% (31.6-77.6%) | 37 | 48.5% (31.1-64.3%) |
| **Tier 3**  **non-respiratory** | Emergency Departments | 1414 | 5.2% (3.5-7.2%) | 311 | 6.0% (4.2-8.0%) |
| Urgent Care Centers | 251 | 5.5% (3.9-8.1%) | 84 | 6.2% (4.9-8.7%) |
| **All visits** | Emergency Departments | 1502 | 17.1% (12.8-21.6%) | 329 | 22.0% (15.5-26.1%) |
| Urgent Care Centers | 260 | 20.0% (14.2-26.9%) | 94 | 24.3% (19.1-29.3%) |

Abbreviations: ED Emergency Department; IQR interquartile range; UCC Urgent Care Center

1. Tier 1 diagnoses included conditions in which antibiotics are almost always indicated (i.e. appropriate). Tier 2 diagnoses include conditions in which antibiotics are sometimes indicated (i.e. potentially appropriate). Tier 3 diagnoses includes conditions in which antibiotics are almost never indicated (i.e. inappropriate). Specific diagnoses within each tier are shown in Supplemental Table 1.
2. Only clinicians with ≥ 100 visits within the specified tier were included.

**Supplemental Table 3. Frequency of antibiotic-prescribing for patient-visits in EDs and UCCs based on tier of diagnosis, stratified by US Census Region (2016-2018)** 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Northeast (1)** | **Midwest (2)** | **South (3)** | **West (4)** |
| **Tier 1** | Number of qualifying visits | 29,314 | 49,200 | 87,871 | 52,739 |
| % prescribed antibiotics | 65.5% | 78.7% | 72.2% | 77.4% |
| **Tier 2** | Number of qualifying visits | 53,517 | 94,451 | 158,639 | 80,667 |
| % prescribed antibiotics | 41.4% | 51.7% | 49.2% | 46.5% |
| **Tier 3**  **respiratory** | Number of qualifying visits | 27,097 | 46,691 | 84,090 | 39,918 |
| % prescribed antibiotics | 44.0% | 50.4% | 51.3% | 47.8% |
| **Tier 3**  **non-respiratory** | Number of qualifying visits | 306,596 | 537,291 | 995,301 | 538,212 |
| % prescribed antibiotics | 5.8% | 7.3% | 6.8% | 6.9% |
| **Total**2 | Number of visits | 416,678 | 728,057 | 1,326,408 | 711,783 |
| % prescribed antibiotics | 17.1% | 20.6% | 19.1% | 18.9% |

Abbreviations: ED Emergency Department; UCC Urgent Care Center

1. Tier 1 diagnoses included conditions in which antibiotics are almost always indicated (i.e. appropriate). Tier 2 diagnoses include conditions in which antibiotics are sometimes indicated (i.e. potentially appropriate). Tier 3 diagnoses includes conditions in which antibiotics are almost never indicated (i.e. inappropriate). Specific diagnoses within each tier are shown in Supplemental Table 1.
2. The total includes the 1,332 visits that could not be classified into a tier due to the absence of diagnostic codes.

**Supplemental Table 4. Frequency of antibiotic-prescribing for patient-visits in EDs and UCCs based on tier of diagnosis, stratified by year**1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | **2016** | **2017** | **2018** |
| **Tier 1** | Number of qualifying visits | 70,877 | 73,394 | 74,853 |
| % prescribed antibiotics | 73.6% | 74.0% | 74.3% |
| **Tier 2** | Number of qualifying visits | 125,841 | 130,618 | 130,815 |
| % prescribed antibiotics | 49.8% | 48.4% | 46.4% |
| **Tier 3**  **respiratory** | Number of qualifying visits | 64,136 | 68,476 | 65,184 |
| % prescribed antibiotics | 53.5% | 49.9% | 44.8% |
| **Tier 3**  **non-respiratory** | Number of qualifying visits | 782,397 | 801,094 | 793,909 |
| % prescribed antibiotics | 6.9% | 6.9% | 6.6% |
| **Total**2 | Number of visits | 1,043,253 | 1,073,926 | 1,065,747 |
| % prescribed antibiotics | 19.5% | 19.3% | 18.6% |

Abbreviations: ED Emergency Department; UCC Urgent Care Center

1. Tier 1 diagnoses included conditions in which antibiotics are almost always indicated (i.e. appropriate). Tier 2 diagnoses include conditions in which antibiotics are sometimes indicated (i.e. potentially appropriate). Tier 3 diagnoses includes conditions in which antibiotics are almost never indicated (i.e. inappropriate). Specific diagnoses within each tier are shown in Supplemental Table 1.
2. The total includes the 1,332 visits that could not be classified into a tier due to the absence of diagnostic codes.

**Supplemental Figure 1. Frequency of antibiotic-prescribing for patient-visits in Emergency Departments based on tier of diagnosis, stratified by clinician type (2016-2018) 1,2**

**![Chart, box and whisker chart

Description automatically generated]()**

1. Tier 1 diagnoses include conditions in which antibiotics are almost always indicated (i.e. appropriate). Tier 2 diagnoses include conditions in which antibiotics are sometimes indicated (i.e. potentially appropriate). Tier 3 diagnoses include conditions in which antibiotics are almost never indicated (i.e. inappropriate). For the above figure, tier 3 is the same as tier 3 respiratory while tier 4 equates to tier 3 non-respiratory. Specific diagnoses within each tier are shown in Supplemental Table 1.
2. Only clinicians with ≥ 100 visits within the specified tier were included.

**Supplemental Figure 2. Frequency of antibiotic-prescribing for patient-visits in Urgent Care Centers based on tier of diagnosis, stratified by clinician type (2016-2018) 1,2**

**![Chart, box and whisker chart

Description automatically generated]()**

1. Tier 1 diagnoses include conditions in which antibiotics are almost always indicated (i.e. appropriate). Tier 2 diagnoses include conditions in which antibiotics are sometimes indicated (i.e. potentially appropriate). Tier 3 diagnoses include conditions in which antibiotics are almost never indicated (i.e. inappropriate). For the above figure, tier 3 is the same as tier 3 respiratory while tier 4 equates to tier 3 non-respiratory. Specific diagnoses within each tier are shown in Supplemental Table 1.
2. Only clinicians with ≥ 100 visits within the specified tier were included.