Antimicrobial Steward Call
October 13, 2020
Tennessee Department of Health
Healthcare Associated Infections and Antimicrobial Resistance Program
Announcements
NHSN Updates

• TDH AU Option Data Validation Reports by year’s end

• TDH HAI Quality and Infection Prevention resuming

• CDC NHSN AU Option Quarterly User Call
  – October 28, 2020
  – 2:00–3:00pm EASTERN Time
  – https://cdc.zoomgov.com/webinar/register/WN_lGiTmGkLS-Ka7ipub_Ak-g
Next NHSN User Call

- Influenza Vaccination in the time of COVID
- Dr. Shelley Fiscus
  - TDH Immunizations Program Medical Director
- October 19, 2020 11am Eastern/10am Central Time
- Webex invite coming…
TDH AU Point Prevalence Survey

• Deadline for Q2 Data – October 31, 2020
Key Messages

• Annual one-week observance to raise awareness of the importance of appropriate antibiotic use to combat the threat of antibiotic resistance.

• *Be Antibiotics Aware* complements U.S. Antibiotic Awareness Week by providing up-to-date information to help improve human antibiotic prescribing and use in the United States.
Save the Date

- Scheduled for November 18–24, 2020
- TDH Plans
  - Social Media Campaign
  - Governor’s Proclamation
  - Daily Pearls and Goings-on
  - Partner Participation
  - 2021 High Prescriber Notification
Methods

- IQVIA Xponent Dataset Analyzed
  - January 1–December 31, 2018
  - Compared results to previous 2016 analysis
- Included only orally administered antibacterial agents
- Patients < 20 years old were classified as pediatric
- County level population data obtained
- Rates calculated as antibiotics prescribed per 1,000 population in the specified patient age group
- Analysis was performed using SAS 9.4 and visualized using Tableau 2020.1.
Data Source

- 2016 IQVIA™ Xponent (formerly QuintilesIMS) outpatient antibiotic prescription dataset, purchased by Tennessee Department of Health
OUTPATIENT PRESCRIPTION RATE OF ALL ANTIBIOTIC CLASSES DISPENSED IN U.S. PHARMACIES BY STATE MAP

This map displays prescription rates of all antibiotic classes per 1,000 population dispensed in outpatient pharmacies across U.S. states in 2018.

TN Statewide AU Rate

- 2016: 1,195 antibiotics per 1,000 persons
- 2018: 1,074 antibiotics per 1,000 persons

Arkansas:
1,051 antibiotics per 1,000 persons
With the lowest contribution to the total volume of prescriptions, the rural areas (NCHS region 6 & 5) has the highest average prescription as opposed to the urban regions. This corroborates the findings of 2016.
Patient Demographics

Rate by Patient Gender
- Males: 826
- Females: 1,288

Rate by Patient Age Group
- 0-2: 1,372
- 3-9: 1,072
- 10-19: 802
- 20-39: 858
- 40-64: 1,066
- 65+: 1,459

AU Rate per 1000 Population
Rates by Drug Prescribed

Narrow penicillins: 270
Macrolides: 158
Fluoroquinolones: 96
Tetracyclines: 94
1st and 2nd Ceph: 93
SMX/TMP: 81
3rd Ceph: 71
Extended penicillins: 68
Urinary agents: 46
Clindamycin: 45
Cdifficile Tx: 36
Others: 7

Narrow PCNs and macrolides remained the most prescribed antibiotics.
Top 5 Antibiotics - Adults

- Amoxicillin: 189
- Azithromycin: 159
- Doxycycline: 100
- SMX-TMP: 91
- Cephalexin: 88

Top 5 Antibiotics - Peds

- Amoxicillin: 413
- Cefdinir: 128
- Azithromycin: 124
- Cephalexin: 59
- SMX-TMP: 49

Adults (>20 yrs)

- Azithromycin: 186
- Amoxicillin: 150
- Amoxicillin-Clav: 122
- Ciprofloxacin: 106
- TMP-SMX: 104

Pediatrics (<= 20 yrs)

- Amoxicillin: 398
- Azithromycin: 177
- Cefdinir: 152
- Amoxicillin-Clav: 129
- Cephalexin: 73

Adults: Broad spectrum drugs have been dropped from the top 5 in 2018 and replaced by cephalexin and doxycycline.
Peds: Amoxicillin-Clav has been dropped from the top 5 in 2018 and replaced by SMX/TMP.
While urologists and dermatologists have a low contribution to the total volume of prescriptions, they write the most scripts on average.

This is consistent with the pattern observed in 2016.
In 2018, 9.2% (3,098) of the prescribers contributed to half of the total volume of prescriptions. Similarly, 9.3% (2,994) of the providers contributed to 50% of the total prescriptions in 2016. Of these, 2,090 providers were among the top prescribers in 2018.
High Prescriber Notification - Materials
Dear [Insert Name],

I am writing to ask for your help in promoting appropriate antibiotic use to protect patients from harms caused by unnecessary antibiotic use and combat antibiotic resistance, one of the most urgent threats to the public’s health.

Antibiotics are powerful tools we have to fight life-threatening infections, like those that can lead to sepsis. However, anytime they are used, they can cause side effects and lead to antibiotic resistance. Side effects can include rash, dizziness, nausea, diarrhea, and yeast infections, but also more serious conditions like C. difficile infection and severe or life-threatening allergic reactions. Infections caused by antibiotic-resistant bacteria often require extended hospital stays, additional follow-up visits to healthcare providers, and treatments that may be more costly and potentially more toxic.

[STATE HD] is working to combat the growing threat of antibiotic resistance and improve patient safety by participating in a Centers for Disease Control and Prevention (CDC) initiative to improve antibiotic prescribing. As part of this effort, [STATE HD] is identifying and alerting providers who are writing a higher number of antibiotic prescriptions than other clinicians in our state.

You prescribe more antibiotics than the majority (90%) of [Insert specialty] in [Insert State].

This analysis was based upon the number of antibiotic prescriptions dispensed from community pharmacies in 2018 from data provided by IQVIA, a research organization participating in CDC’s Antimicrobial Resistance (AMR) Challenge to fight antibiotic resistance across the globe. While volume of antibiotic prescribing does not indicate appropriateness, we hope you will consider taking the following actions and using the below tools to optimize antibiotic prescribing:

1. Display a personalized commitment poster* to communicate your commitment to using antibiotics appropriately with your patients.

2. Communicate to patients why antibiotics are not needed for certain infections — you can use the
Information on CDC Stewardship Training

- Offering free continuing education for MDs, NPs, RNs, Pharmacists, etc.
I made a commitment to responsible antibiotic prescribing!

Antibiotics are used to treat infections caused by bacteria.

Antibiotics won’t help for some common bacterial infections including most cases of bronchitis, many sinus infections, and some ear infections.

When not needed, antibiotics will not help you, and they might cause you harm.

Learn more about antibiotic resistance and stewardship at:
www.health.state.mn.us/onehealthbix
Be Antibiotics Aware Materials

**IMPROVING ANTIBIOTIC USE**

**Do I really need antibiotics?**

**SAY YES TO ANTIBIOTICS**

When needed for certain infections caused by bacteria.

**SAY NO TO ANTIBIOTICS**

for viruses, such as colds and flu, or many others even if mucus is thick, yellow or green. Antibiotics also won’t help for some common bacterial infections including most cases of bronchitis, many viral infections, and some ear infections.

**Antibiotics are only needed for treating certain infections caused by bacteria. Antibiotics do NOT work on viruses.**

**Do antibiotics have side effects?**

Anytime antibiotics are used, they can cause side effects. When antibiotics aren’t needed, they won’t help, and the side effects could hurt you. Common side effects of antibiotics can include:

- Rash
- Dizziness
- Nausea
- Yeast Infections
- Diarrhea

More serious side effects include: Antibiotics can cause diarrhea which can lead to severe dehydration and death. People can also have severe and life-threatening allergic reactions.

**1 out of 5 medication-related visits to the ED are from reactions to antibiotics.**

**What are antibiotic-resistant bacteria?**

Antibiotic resistance occurs when bacteria no longer respond to the drugs designed to kill them. Anytime antibiotics are used, they can cause antibiotic resistance.

- Bacteria, not the body, become resistant to the antibiotics designed to kill them.
- When bacteria become resistant, antibiotics cannot fight them, and the bacteria multiply.
- Some resistant bacteria can be harder to treat and can spread to other people.

More than 2.8 million antibiotic-resistant infections occur in the United States each year, and more than 35,000 people die as a result.

**Can I feel better without antibiotics?**

Respiratory viruses usually go away in a week or two without treatment. To stay healthy and keep others healthy, you can:

- Wash Hands
- Cover Coughs
- Stay Home When Sick
- Get Recommended Vaccines

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.
Survey of Practices

Healthcare Provider Survey

Please complete this short survey regarding your attitudes on your practice and across Tennessee. Your answers will help providers and healthcare facilities in improving their practice by aligning with the efforts of the Tennessee Department of Health.

Please send questions or comments to Eric Sullivan (colleen.roberts@tn.gov).

Thank you!

Opinion on Antibiotic Prescribing

To what extent do you agree or disagree with the following statements?

Antibiotics are over-prescribed in Tennessee

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<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
</table>

Antibiotics are over-prescribed at my facility/practice

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

I prescribe antibiotics more often than I should

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<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
</table>

I am concerned about antibiotic resistance in the community when I prescribe antibiotics

<table>
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<tr>
<th>Strongly Disagree</th>
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<th>Agree</th>
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</table>

My patients think I should prescribe antibiotics for cough, cold, or flu symptoms

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<tr>
<th>Strongly Disagree</th>
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<th>Agree</th>
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I can reduce my own antibiotic prescribing without any decrease in patient satisfaction

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Prescribing antibiotics for uncomplicated acute bronchitis is an accepted standard of care in my facility/practice

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Comments:

Provider-Patient Communication Around Antibiotic Prescribing

If a patient/family member asked you to prescribe antibiotics for a non-specific upper respiratory tract infection, how comfortable would you feel explaining why antibiotics do not work for certain conditions?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
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- Emergency Department
- Family Practice Clinic
- Federally Qualified Health Center
- General Internal Medicine Clinic
- Obstetrics Clinic
- Pediatric Clinic
- Nurse Practitioner
Next Steps

• Next Call
  – December 8 at 2pm Eastern/1pm Central Time
  – Topic TBD

• Feedback always appreciated
  – Christopher.evans@tn.gov
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