

Big data to improve antibiotic prescribing

Dan Knecht, MD, MBA
*Vice President
Clinical Strategy and Policy*

Aetna, a CVS Health Company

Founded in 1853 in Hartford, CT, Aetna is one of the nation's leading diversified health care benefits companies, serving our members with information and resources to help them make better decisions about their healthcare.



- **22.1** million medical members
- **12.7** million dental members
- Network of **1.2 million** health care professionals

+



- **9,800** retail locations
- **1,100** walk-in medical clinics
- **94 million** pharmacy benefits manager plan members

We believe that our corporate responsibility starts with helping people live healthier lives. And that means using our resources to make the communities and the world we live in better places.

Estimates as of November 2018

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Aetna's tools for execution

*Innovative tactics to preserve a **precious medical resource***



Analytics

Medical & pharmacy claims data

Leverage data analytics to identify at-risk members and outlying providers



Promotion

Stewardship & evidence-based guidelines

Provide education and intervene at impactable moments



Collaboration

Cross-sector partnerships

Foster alliances to advance strategies, expand reach and add credibility

Identifying and notifying antibiotic 'superprescribers'

HEDIS metric

Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis

CDC & State collaboration

MD, FL, CA, NJ, TX, IL, PA, WA



2018 letters

1,445 superprescribers

432 repeat-superprescribers



175 champions

20 repeat-champions

Results

16% decrease among 2016 notified providers still eligible 2018

Antibiotic stewardship letter samples

Harold L. Paz, M.D., M.S.
Executive Vice President
Chief Medical Officer
151 Farmington Ave, RC5A
Hartford, CT 06156



Dear Dr. X,

You're a Top Performer In Antibiotic Stewardship

Antibiotic resistance is among the greatest threats to our health today. As you know, inappropriate prescribing of antibiotics threatens the usefulness of these agents, which may result in more prolonged and severe infections, potential need to use more toxic and less effective alternate-line therapies and the emergence of "superbugs." In the United States, an estimated 2 million people become infected with antibiotic-resistant bacteria and at least 23,000 people die annually as a direct result of these infections.¹ At least 80 million antibiotic prescriptions in the United States each year are believed to be unnecessary.²

In our recent analysis, you were identified as a top performer in antibiotic stewardship based on your performance in the past year based on your Aetna member data.

Our information is uncomplicated and indicated that you are a top performer in antibiotic stewardship based on your performance in the past year based on your Aetna member data.

Harold L. Paz, M.D., M.S.
Executive Vice President
Chief Medical Officer
151 Farmington Ave, RC5A
Hartford, CT 06156

We Need Your Help to Fight Antibiotic Resistance

Antibiotic resistance is among the greatest threats to our health today leaving more infections untreatable and complicating critical procedures. As you know, inappropriate prescribing of antibiotics threatens the usefulness of these agents, which may result in more prolonged and severe infections, potential need to use more toxic and less effective alternate-line therapies and the emergence of "superbugs." In the United States, an estimated 2 million people become infected with antibiotic-resistant bacteria and at least 23,000 people die annually as a direct result of these infections.¹ At least 80 million antibiotic prescriptions in the United States each year are believed to be unnecessary.²

In order to combat this growing threat, Aetna is collaborating with Centers for Disease Control and Prevention (CDC) and the Maryland Department of Health to focus on the topic of improving antibiotic prescribing among our clinical community. In addition to sharing best practices, we hope to help doctors understand how their antibiotic prescribing habits compare to those of their peers. As part of this effort, we are identifying and alerting prescribers who our data indicates are outliers in their antibiotic prescribing patterns. **For the second year in a row, you have been identified as prescribing antibiotics inappropriately at least 50% of the time for acute uncomplicated bronchitis for at least 5 Aetna members.** This analysis of Aetna claims and pharmacy data over the past year was based upon the HEDIS (Healthcare Effectiveness Data and Information Set) quality measure of avoidance of antibiotic treatment in adults with acute



Texas Department of State Health Services

John Hellerstedt, M.D.
Commissioner

May 4, 2018

Dear Colleagues:

As Commissioner of the Texas Department of State Health Services (DSHS) and a pediatrician, I am seeking your partnership in implementing good antimicrobial stewardship practices in our state.

Antibiotic resistance is a serious and growing public health threat. The use of antibiotics is the single most important factor contributing to the worldwide problem. The Centers for Disease Control and Prevention estimates that more than 2 million Americans are infected with antibiotic-resistant organisms each year, resulting in 23,000 deaths. Twenty to 50 percent of all antibiotics prescribed in U.S. acute care hospitals are either unnecessary or inappropriate.



Antibiotic stewardship is an interdisciplinary activity that improves the quality of antibiotic therapy (correct drug, dose, and duration), and antimicrobial stewardship programs (ASPs) have been shown to reduce the overall antibiotic resistance, improve individual patient outcomes, and reduce costs.

In my role as Commissioner, I am committed to promoting the use of antibiotics in our state, based on the CDC's *seven core elements of an ASP*, in our state's outpatient health care facility in Texas. To support these efforts, I have appointed an antimicrobial stewardship expert on staff to promote ASPs and to work with health care providers with antimicrobial stewardship activities.

Your partnership of all medication prescribers (including health care providers, veterinarians), as well as ranchers and farmers who produce and consume meat, to commit to using antibiotics appropriately, is critical to our fight against antimicrobial resistance. Together, we can save lives.

D.

1515 North East Street, Austin, Texas 78714-9347 • Phone: 888-963-7111 • TTY: 800-735-2989 • dshs.texas.gov

Thank you for applying the principles of antibiotic stewardship in treating your patients. We understand the pressures of patient satisfaction that may influence prescribing habits; we've included resources to further assist in your conversations surrounding antibiotic resistance. Aetna will not share your name or prescribing patterns with any outside entity including those with whom we are partnering in this effort.

Additional information is also available at: <https://www.cdc.gov/antibiotic-use>. We encourage you to email us at AntibioticStewardship@aetna.com if you have any questions. We welcome the opportunity to collaborate with you in combating antibiotic resistance.

Sincerely,

Harold L. Paz, M.D., M.S.
Executive Vice President
Chief Medical Officer

Carina Blackmore, DVM, PhD, Dipl. ACVPM
State Epidemiologist
Director, Disease Control & Health Protection



Antibiotic Resistance

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In order to combat this growing threat, Aetna is collaborating with Centers for Disease Control and Prevention (CDC) and the New Jersey Department of Health to focus on the topic of improving antibiotic prescribing among our clinical community. In addition to sharing best practices, we hope to help doctors understand how their antibiotic prescribing habits compare to those of their peers. As part of this effort, we are identifying and alerting prescribers who our data indicates are outliers in their antibiotic prescribing patterns. **For the second year in a row, you have been identified as prescribing antibiotics inappropriately at least 50% of the time for acute uncomplicated bronchitis for at least 5 Aetna members.** This analysis of Aetna claims and pharmacy data over the past year was based upon the HEDIS (Healthcare Effectiveness Data and Information Set) quality measure of avoidance of antibiotic treatment in adults with acute

Path forward: Five-year recommendations

- Encourage multi-stakeholder **collaborative data-share**
- Promote **public awareness** around AMR
- Incentivize **value-based reimbursement** for appropriate antibiotic prescribing

Questions?