



# Improving Antibiotic Stewardship Through NCQA's HEDIS<sup>®</sup> Antibiotic Measures

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# Objectives

1. Outline the importance of antibiotic stewardship.
2. Define the four HEDIS antibiotic measures.
3. Describe how NCQA evaluates health plan performance with the incorporation of the AXR measure in Measurement Year (MY) 2023.
4. Understand how to apply the HEDIS antibiotic measures to design, implement, and evaluate quality improvement initiatives aimed at optimizing antibiotic use and enhance antibiotic stewardship efforts.



# Background

## *Antibiotic Utilization*



*Antibiotics are prescribed at high rates*

*Risks include*

- Antibiotic-resistant infections affecting 2.8 million people and associated with 35,000 deaths each year<sup>1</sup>
- Approximately 30% of outpatient antibiotic prescriptions in the U.S. are unnecessary<sup>2</sup>



*Antibiotics are often prescribed without indication*

*Commonly prescribed for acute respiratory conditions:*

- Common cold (rhinitis) and influenza
- Pharyngitis
- Bronchitis, Bronchiolitis



*Antibiotics require careful consideration*

*Interventions targeting inappropriate antibiotic use may be informed by:*

- Monitoring overall antibiotic utilization
- Leveraging data to identify areas for improvement

*Antibiotic Stewardship*

<sup>1</sup> Centers for Disease Control and Prevention. (2025, February 4). *Antimicrobial Resistance Facts and Stats*. <https://www.cdc.gov/antimicrobial-resistance/data-research/facts-stats/index.html>

<sup>2</sup> Centers for Disease Control and Prevention. (2024, December 5). *Outpatient Antibiotic Prescribing in the United States*. <https://www.cdc.gov/antibiotic-use/hcp/data-research/antibiotic-prescribing.html>



# Antibiotic Clinical Guidelines

*CDC “Be Antibiotics Aware: Virus or Bacteria ‘What’s got you sick?’”*

Common Respiratory Condition	Common Cause			Are Antibiotics Needed?
	Bacteria	Bacteria or Virus	Virus	
Strep throat	X			Yes
Whooping cough	X			Yes
Sinus infection		X		Maybe
Middle ear infection		X		Maybe
Bronchitis/chest cold		X		No*
Common cold/runny nose			X	No
Sore throat (except strep)			X	No
Flu			X	No

\*Studies show that in otherwise healthy children and adults, antibiotics for bronchitis won't help you feel better.



# Antibiotic Stewardship

## *Outpatient settings*

The effort to **measure** and **improve** how **antibiotics** are **prescribed** by clinicians and **used** by patients<sup>1</sup>

### Commitment

Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety

### Action for Policy and Practice

Implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working and modify as needed

### Core Elements of Outpatient Antibiotic Stewardship<sup>2</sup>

### Tracking and Reporting

Monitor antibiotic prescribing practices and offer regular feedback to clinicians, or have clinicians assess their own antibiotic prescribing practices themselves

### Education and Expertise

Provide educational resources to clinicians and patients on antibiotic prescribing and ensure access to needed expertise on optimizing antibiotic prescribing



<sup>1</sup>Centers for Disease Control and Prevention. Core Elements of Antibiotic Stewardship. April 7, 2021. [www.cdc.gov/antibiotic-use/core-elements/index.html](http://www.cdc.gov/antibiotic-use/core-elements/index.html)

<sup>2</sup>Sanchez GV, Fleming-Dutra KE, Roberts RM, Hicks LA. Core Elements of Outpatient Antibiotic Stewardship. MMWR Recomm Rep 2016;65(No. RR-6):1–12

# HEDIS Antibiotic Measures Set

3 measures assess avoidance of inappropriate antibiotic prescribing for key respiratory conditions

**Acute  
Bronchitis/  
Bronchiolitis  
(AAB)**

**Pharyngitis  
(CWP)**

**Upper  
Respiratory  
Infection  
(URI)**

**Domain**

Effectiveness of Care

1 measure describes prescribing across all respiratory conditions

**Respiratory  
Conditions  
(AXR)**

**Domain**

Utilization



# Avoidance of Antibiotic Treatment for Acute Bronchitis/Bronchiolitis (AAB)

## *Measure Description*

Episodes for  
members ages 3 months and older  
with a diagnosis of **acute  
bronchitis/bronchiolitis** that did  
**not** result in an antibiotic dispensed

## Product Lines

Medicaid, Commercial,  
Medicare

## Data Source

Administrative claims

## Required Benefit

Medical and Pharmacy

## Domain

Effectiveness of Care





# Appropriate Treatment for Upper Respiratory Infection (URI)

## *Measure Description*

Episodes for  
members ages 3 months and older  
with a diagnosis of **upper  
respiratory infection** that did **not**  
result in an antibiotic dispensed

## Product Lines

Medicaid, Commercial,  
Medicare

## Data Source

Administrative claims

## Required Benefit

Medical and Pharmacy

## Domain

Effectiveness of Care



# Appropriate Testing for Pharyngitis (CWP)

## *Measure Description*

Episodes for  
members ages 3 years and older  
where the member was diagnosed  
with **pharyngitis**, dispensed an  
**antibiotic**, and received a group A  
**strep test**

## Product Lines

Medicaid, Commercial,  
Medicare

## Data Source

Administrative claims

## Required Benefit

Medical and Pharmacy

## Domain

Effectiveness of Care



# Antibiotic Utilization for Respiratory Conditions (AXR)

## *Measure Description*

Percentage of episodes  
for members 3 months of age  
and older with a diagnosis  
of a **respiratory condition** that  
**resulted in**  
**an antibiotic dispensing**  
**event**

*Captures both appropriate and inappropriate prescribing*

## Product Lines

Commercial, Medicaid, Medicare

## Data Source

Administrative claims

## Required Benefit

Medical and Pharmacy

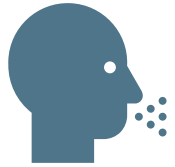
## Domain

Utilization



# Example

## *How to Use HEDIS Antibiotic Measures for Stewardship*



Patient has bronchitis, but is coded as having sinusitis and dispensed an antibiotic



Performance on bronchitis measure looks good (higher is better)



*By focusing only on appropriate use, we are not aware that overall utilization may be too high*

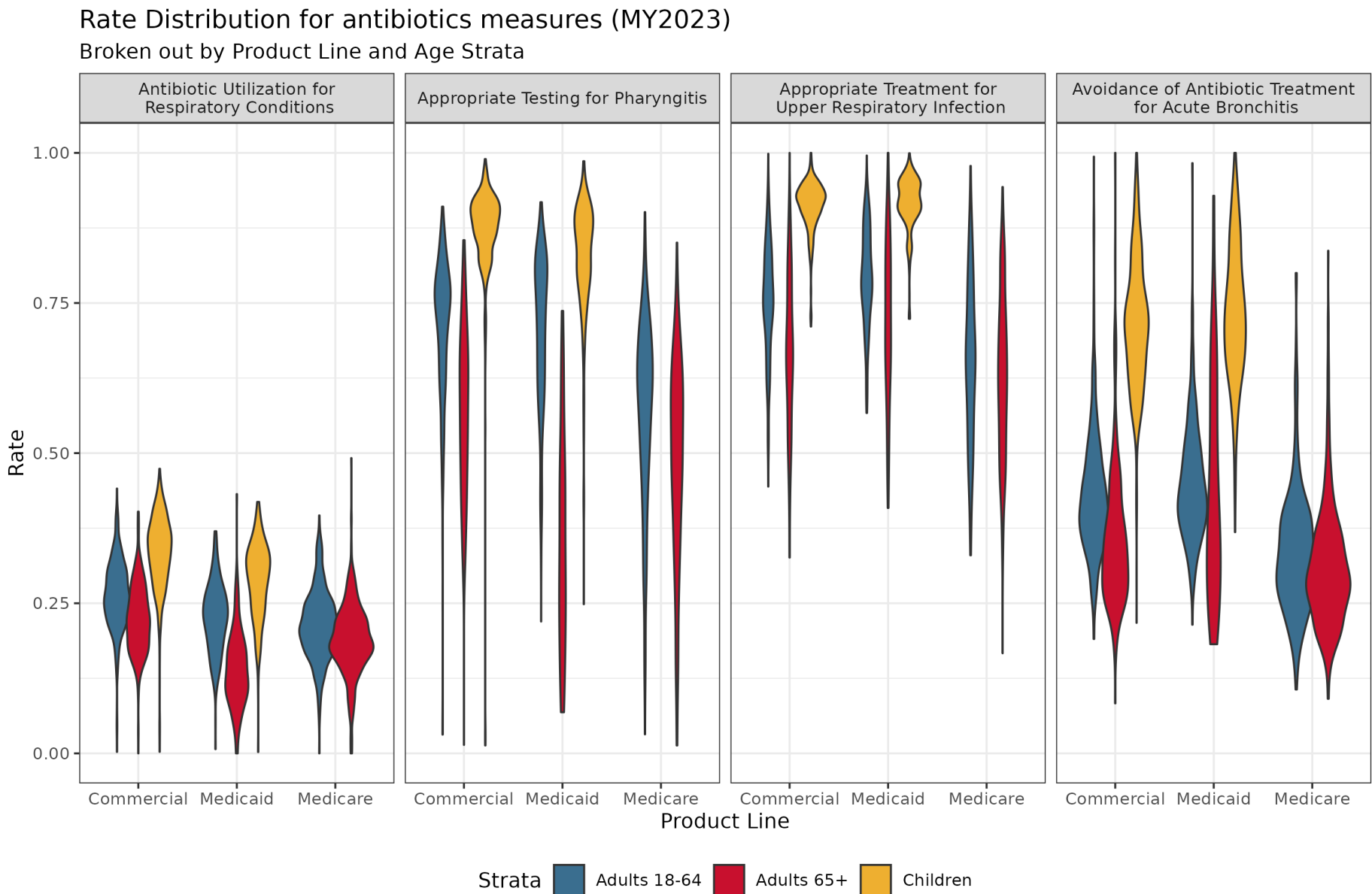


*Tracking overall prescribing across all respiratory conditions in conjunction with the inappropriate prescribing measures can illuminate areas to focus on*



# Performance Rates Across All Four HEDIS Antibiotic Measures

Measurement Year 2023



Performance differs across measures, ages, and product lines

# Considerations for Determining High Performers

Assess overall antibiotic utilization levels

A health plan's AXR measure rate must be at or in the bottom 50th percentile

Performance differs across measures, ages and product lines

Apply a consistent, percentile-based benchmark  
Calculate by measure, age band, and product line

A plan may not have reportable data for all indicators

Require at least two reportable indicators

A plan's performance is not uniform across measures

Require at least a third of indicators perform at or above the benchmark



# Identifying Top Performers – Step 1

Measure	Indicator	Plan A	Plan B	Plan C
Antibiotic Utilization for Respiratory Conditions	Total	<div>✓ 45th percentile</div>	<div>✓ 30th percentile</div>	<div>X 60th percentile</div>
Meets criteria		<div>★</div>	<div>★</div>	<div>X</div>



# Identifying Top Performers – Step 2

Measure	Age Band	Plan A	Plan B
Bronchitis	Child		
	Adult 18-64		
	Adult 65+		
Upper Respiratory Infection	Child		
	Adult 18-64		
	Adult 65+		
Pharyngitis	Child		
	Adult 18-64		
	Adult 65+		

\*Plan C removed from consideration

Plans were compared *within* product lines



# Identifying Top Performers – Step 2

Measure	Age Band	Plan A	Plan B
Bronchitis	Child		
	Adult 18-64		
	Adult 65+		
Upper Respiratory Infection	Child		
	Adult 18-64		
	Adult 65+		
Pharyngitis	Child		
	Adult 18-64		
	Adult 65+		
Reportable indicators		6	4

Plans were compared *within* product lines

## Identifying Top Performers – Step 2

Measure	Age Band	Plan A	Plan B
Bronchitis	Child	✓	
	Adult 18-64		
	Adult 65+		
Upper Respiratory Infection	Child	✓	
	Adult 18-64		✓
	Adult 65+	✓	
Pharyngitis	Child	✓	
	Adult 18-64		
	Adult 65+		
Reportable indicators		6	4
Appropriate Prescribing		4	1

Plans were compared *within* product lines



X



# Top Performer Results

Measurement Year 2023

Geographically Diverse

Represent all three product lines

Varied in enrollment size

	Count of Plans		High Performers
	High Performing	All Plans	as a Percent of All Plans
Commercial	57	384	14.8%
Medicaid	36	221	16.3%
Medicare	39	357	10.9%

# Key Takeaways

## Final Summary

- Inappropriate prescribing is one of the most significant risk factors for antibiotic resistance.
- Health plans can play an important role in antibiotic stewardship in outpatient settings.
- The AXR measure can be used in concert with the three appropriateness measures (URI, CWP, AAB) to outline a full picture of antibiotic utilization across a health plan's membership.
- A methodology to identify plans who are performing well on the four HEDIS antibiotic measures can help health plans understand how NCQA calculates high performing plans.





# Steps to claim continuing education credits

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Select Login with NCQA Account

Select “Create Account” if you do not have an existing account, complete the requested information to complete the form and to gain access to the account. If you have an existing account, log in using those same credentials.

Once you have logged on, click the course link to register: <http://bit.ly/44CyNeb>

## 2. Complete your course and download your certificate

Complete the Evaluation and Attestation to gain access to your certificate.

Click on your name at the top right to select your profile.

On profile, please be sure you have entered your Name and Credential(s) as they should appear on your certificate by clicking “edit” → “info” → “save”

Select Awards on the left to retrieve the certificate and download the PDF file

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