



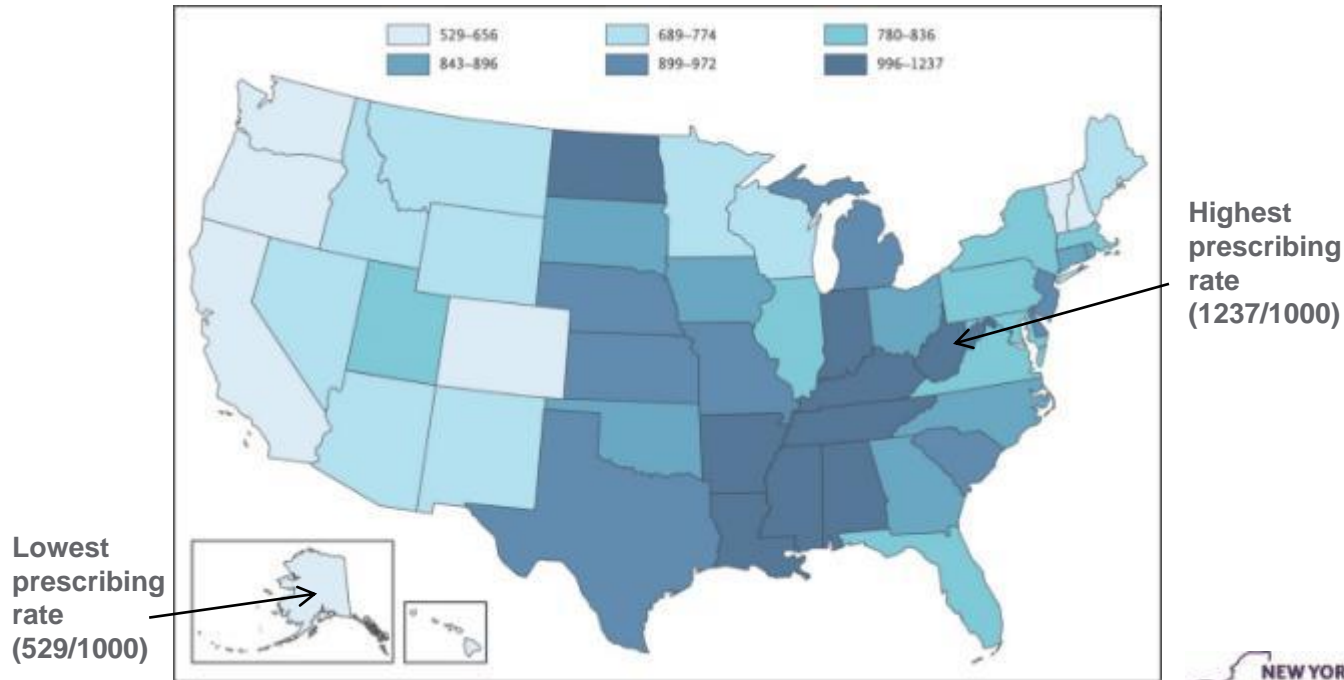
**Department
of Health**

Outpatient Antibiotic Prescribing

Outline

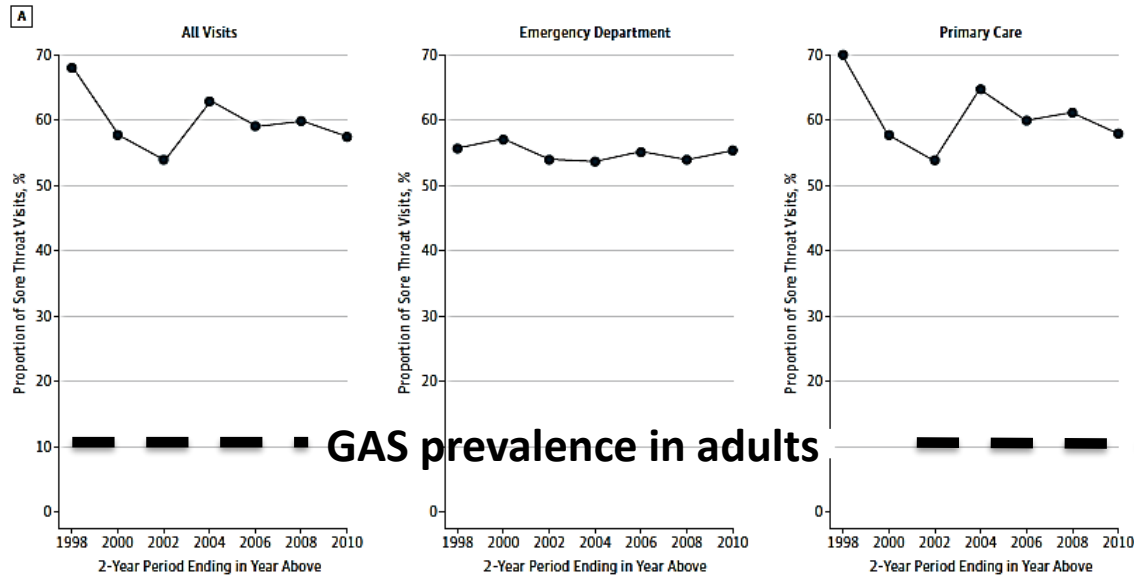
- Antibiotic prescribing across the U.S.
- What is known about antibiotic prescribing in New York State
- CDC's Get Smart program
- Our antibiotic prescribing project
- Resources

Antibiotic Prescriptions per 1000 Persons of All Ages By State, 2010



Group A Streptococcal Pharyngitis

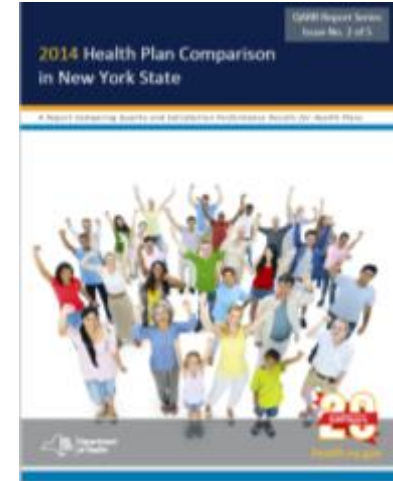
Figure. Antibiotic Prescribing to Adults With Sore Throat in the United States, 1997-2010



Barnett, M. L. and J. A. Linder (2014). *JAMA Intern Med* **174**(1): 138-140.

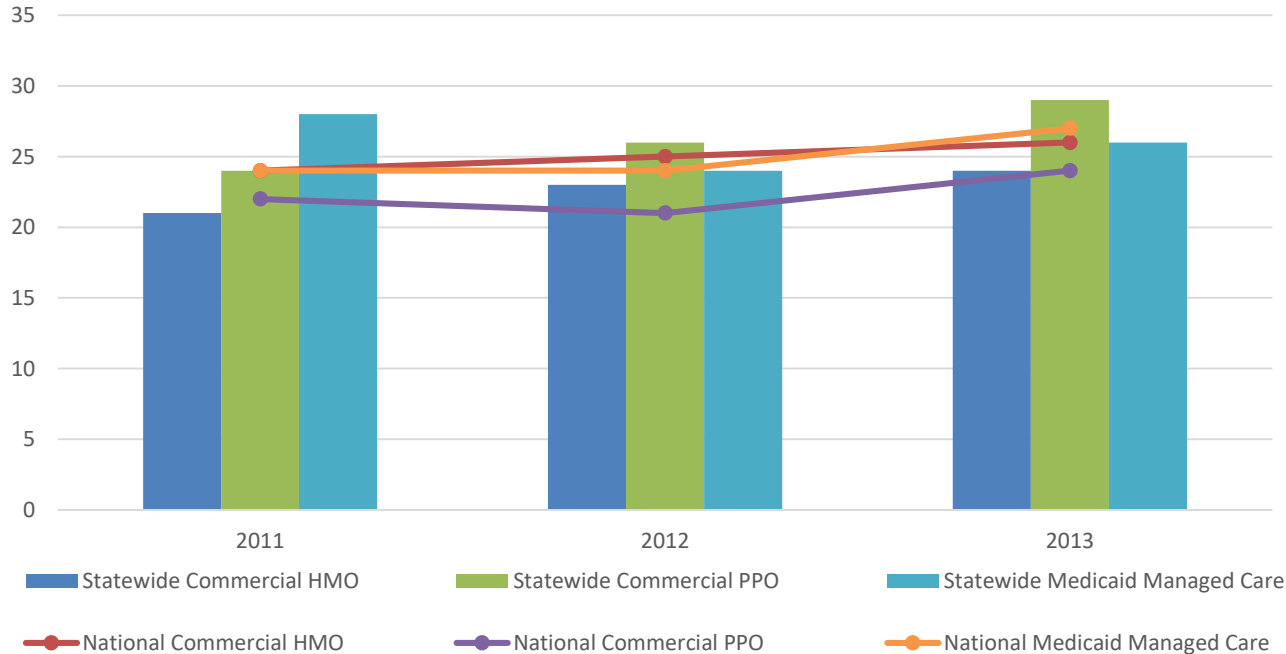
NYS Specific Data (eQARR)

- NYS mandated program for managed care health plans.
- Reporting includes quality of care measures
 - National Committee for Quality Assurance (NCQA)
 - Healthcare Effectiveness Data and Information Set (HEDIS)
- NCQA HEDIS measures on antibiotic use in adults:
 - *Avoidance of Antibiotics Therapy in Adults with Acute Bronchitis*
*The percentage of adults, ages 18 to 64 years, with acute bronchitis who did **NOT** receive a prescription for antibiotics. (Commercial HMO, Commercial PPO, Medicaid, HIV SNP)*



NYS Health Plan eQARR Data

Percent of encounters where antibiotics were avoided for patients with acute bronchitis



Get Smart: Know when antibiotics work

- CDC campaign
- Components targeted to setting
 - Outpatient healthcare
 - Farms
 - Healthcare facilities (generally acute care)
- Collection of evidence, information, and tools
 - Prescriber-oriented
 - Consumer-oriented
- Annual observance in November



Improving antibiotic use in the community

- Goals
 - Decrease unnecessary antibiotic use in the community
 - Reduce the spread of antibiotic resistance
- Objectives
 - Promote appropriate antibiotic prescribing
 - Decrease consumer demand for antibiotics
 - Promote adherence to prescribed therapies
- Focus
 - Common infections in ambulatory care settings, especially acute respiratory tract infections



NYS Get Smart activities

- CDC funded
- Promote Get Smart program in outpatient settings
- Outreach and education
 - NYS School Nurses
 - Professional practice organizations
 - Social media
- Workgroup
- Use of data to target intervention & messaging



Question: Are there differences
in antibiotic prescribing across
New York State?

General Methodology

- Combination of methods used in a 2014 University of Pennsylvania Medicaid national sample analysis and HEDIS antibiotic prescribing measures for adults and children
- Identify index visits for acute upper respiratory infections (ARIs)
- Use pharmacy claims to identify visits when an antibiotic was prescribed and subsequently filled
- Develop crude and risk-adjusted rates to identify target areas for intervention

Analysis Cohort

- 2013 New York State Medicaid population
- Age 3 months to 64 years old
- Minimum 60 days of eligibility prior to visit and 7 days post visit
- Eligible visits include emergency department, institutional and professional outpatient claims

Index Visit Identification

First visit in 2013 with the following criteria:

- 1) Primary diagnosis of ARI
- 2) 12-month pre-visit through 7-day post-visit negative comorbid condition history
- 3) 30-day negative competing diagnosis history
- 4) No antibiotic appropriate secondary diagnoses
- 5) No visits within 7 days with an antibiotic appropriate primary diagnosis
- 6) 30-day negative antibiotic medication history

ICD-9 Codes	Code Descriptions
ARI Primary Diagnosis (1)	
460	Common Cold
465x	Acute URIs of multiple, unspecified sites
466x	Acute bronchitis
Comorbid Conditions (2)	
491.20-491.21, 492.0-492.8, 494x, 495.0-495.9, 496	Chronic obstructive pulmonary disease
493x	Asthma
Competing Primary Diagnosis (3)	
460-466x	Any acute respiratory infections
Antibiotic Appropriate Diagnoses (4, 5)	
382x	Suppurative otitis media
381-381.4	Non-suppurative otitis media
473x	Chronic sinusitis
461x	Acute sinusitis
463	Acute tonsillitis
462	Acute pharyngitis
481-486	Pneumonia
034.0	Streptococcal sore throat
590x, 595x, 597x, 599.0	Urinary tract infections
041x	Bacterial infections
492x	Emphysema
491x	Chronic bronchitis

Antibiotic Prescribing

- Pharmacy claims for drugs filled within 4 days of the Index visit
- Antibiotics identified by National Drug Code (NDC)
- NDC lists adopted from 2013 NCQA HEDIS Measures
 - Appropriate Treatment for Children with Upper Respiratory Infection (Children aged 3 months to 17 years old)
 - Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (Adults aged 18 to 64 years old)

Observed Antibiotic Prescribing Rates

- Counts and rates were calculated separately for children and adults due to the significant disparity in antibiotic prescribing rates and the differences in the approach to treatment between these two populations

Age Group	Index Visits (N)	Index Visits w/ Antibiotic Prescription Filled (N)	Statewide Observed Rate per 100 Index Visits
Children (Age 3 Months to 17 Years)	269,424	33,257	12.34
Adults (Age 18 to 64 Years)	150,379	67,489	44.88
Total	419,803	100,746	24.00

Risk Adjusted Antibiotic Prescribing Rates

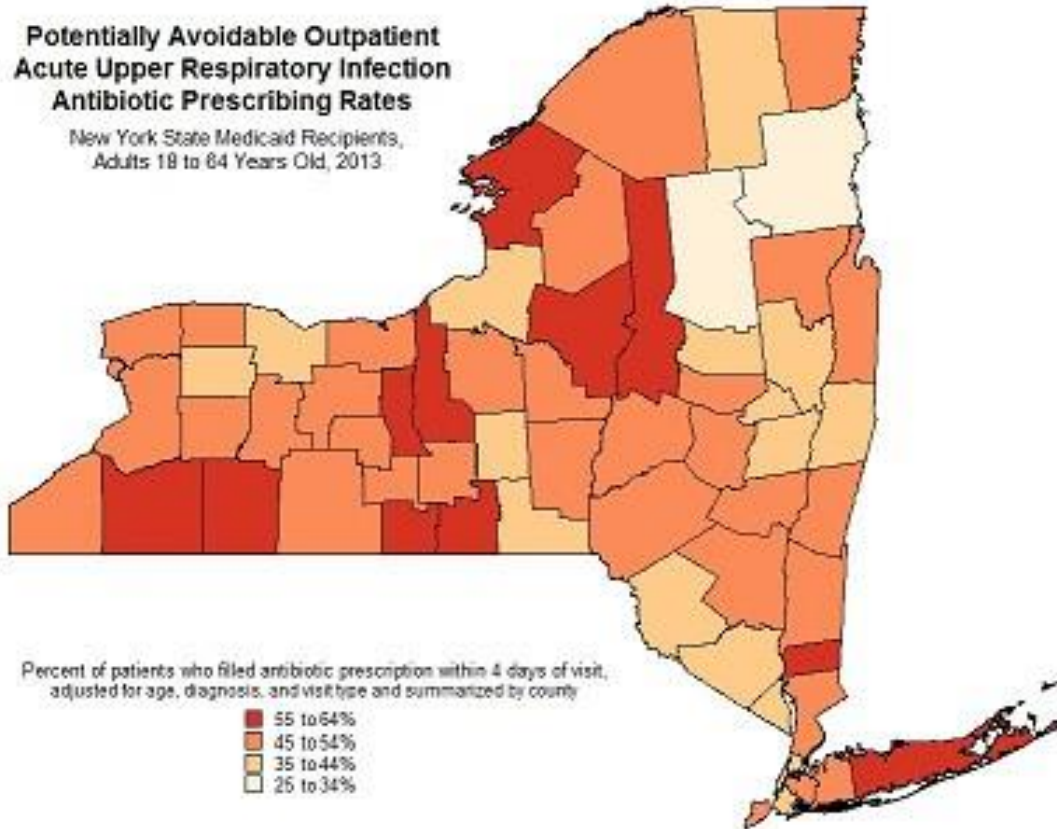
- Indirect standardization methods used to risk adjust rates by age, primary diagnosis and visit type
- Adult risk-adjusted rates were calculated at the county level to identify areas in need of improvement

Adjustment Variable	Classification Level	Statewide Observed Rate per 100 Index Visits
Age Group (Adults Age 18 to 64 Years)	18-24 YEARS	34.26
	25-34 YEARS	44.09
	35-44 YEARS	48.61
	45-64 YEARS	49.21
Primary Diagnosis	Acute Bronchitis	75.07
	Cold/Acute URI	36.57
Visit Type	Emergency Room	41.94
	Institutional Outpatient	36.27
	Professional Outpatient	47.97

Map of 11 Targeted NYS Counties

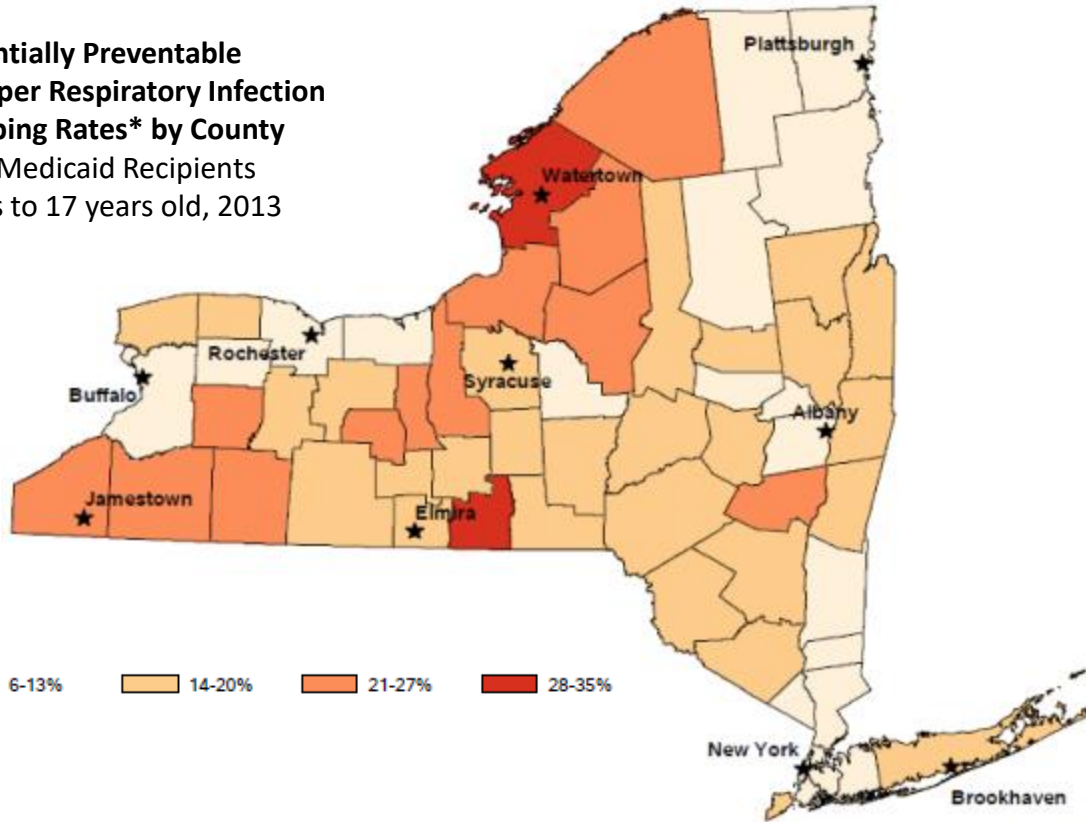
Potentially Avoidable Outpatient Acute Upper Respiratory Infection Antibiotic Prescribing Rates

New York State Medicaid Recipients,
Adults 18 to 64 Years Old, 2013



Same Map for Pediatric Population

**Adjusted Potentially Preventable
Outpatient Acute Upper Respiratory Infection
Antibiotic Prescribing Rates* by County**
New York State Medicaid Recipients
Children 3 months to 17 years old, 2013

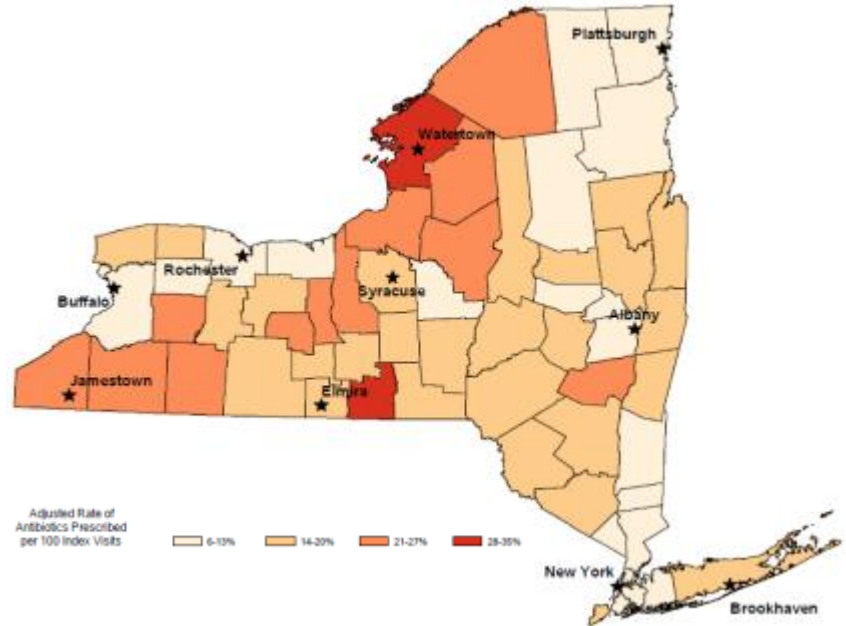
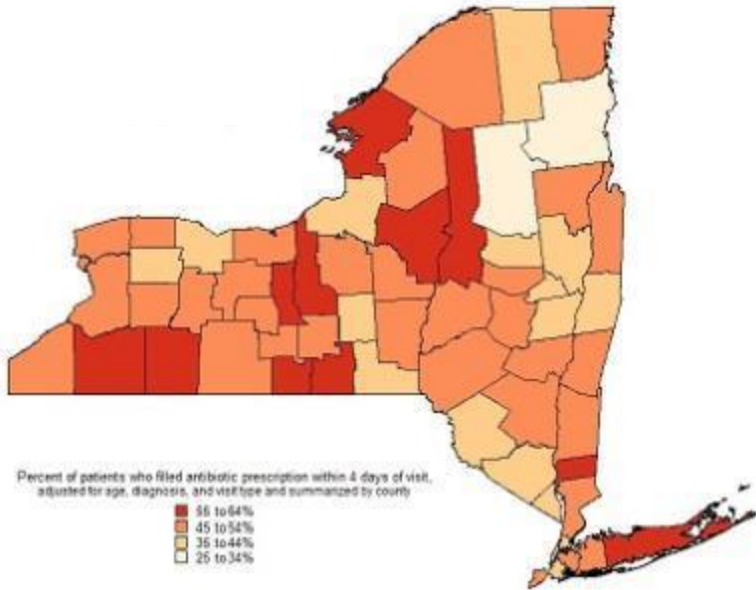


Adjusted Rate of
Antibiotics Prescribed
per 100 Index Visits

6-13% 14-20% 21-27% 28-35%

*Data is collected only for prescriptions that are filled; adjusted for age, diagnosis, and visit type

Adult and Pediatric Maps Side by Side



New York “Get Smart” Campaign



Department
of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

SALLY DRESLIN, M.S., R.N.
Executive Deputy Commissioner

July 2015

Dear Provider:

The Centers for Disease Control and Prevention (CDC) and the New York State Department of Health (Department) are working together to curb the overprescribing of antimicrobial agents.

Recently, the Department performed an analysis of statewide adult outpatient Medicaid claims data from 2013. Based upon this analysis, **your practice has been identified as being located in an area of New York State that has an unexpectedly high rate of potentially avoidable antibiotic prescribing.** Please see the enclosed map.

- NYSDOH analyzed 2013 Medicaid claims data to determine NY counties where there is a high rate of avoidable antibiotic prescribing
- Based on analysis, NYSDOH sent “Dear Provider” letters to all potential antibiotics prescribers in 11 targeted counties



New York “Get Smart” Campaign

- A follow-up mailing included educational materials
- Providers were asked to become “champions” for antibiotic stewardship in their own facilities/communities



“Get Smart” Materials

Viruses or Bacteria What's got you sick?

Antibiotics only treat bacterial infections. Viral illnesses cannot be treated with antibiotics. When an antibiotic is not prescribed, ask your healthcare professional for tips on how to relieve symptoms and feel better.

Illness	Usual Cause		Antibiotic Needed
	Viruses	Bacteria	
Cold/Runny Nose	✓		NO
Bronchitis/Chest Cold (in otherwise healthy children and adults)	✓		NO
Whooping Cough		✓	Yes
Flu	✓		NO
Strep Throat		✓	Yes
Sore Throat (except strep)	✓		NO
Fluid in the Middle Ear (otitis media with effusion)	✓		NO
Urinary Tract Infection		✓	Yes



Antibiotics Aren't Always the Answer

www.cdc.gov/getsmart



Get Smart Materials



Get Smart Materials

GET SMART...

- Antibiotics are strong medicines, but they don't cure everything.
- When not used correctly, antibiotics can actually be harmful to your child's health.
- Antibiotics can cure most bacterial infections. Antibiotics cannot cure viral diseases.
- Antibiotics kill bacteria – not viruses.
- When your child is sick, antibiotics are not always the answer.

USE ANTIBIOTICS WISELY
Talk with your healthcare provider about the right medicines for your child's health.

FOR PARENTS

GET SMART
Know When Antibiotics Work

Smart. Sniffle. Sneeze. No Antibiotics Please.

Know when Antibiotics Work!

For more information, visit the Centers for Disease Control and Prevention website at www.cdc.gov/getsmart or call 1-800-CDC-3111.





Antibiotics Aren't Always the Answer

Most illnesses are caused by two kinds of germs: bacteria or viruses. Antibiotics can cure bacterial infections – not viral infections. Even when used properly, antibiotics can cause side effects. Always use the correct dose, most complete and the full duration (don't stop early). Using antibiotics for a virus:

- WILL NOT cure the infection
- WILL NOT help your child feel better
- WILL NOT keep others from catching your child's illness

Protect Your Child, Give the Best Care

Antibiotics should not be used to treat the common cold, croup, cough, and loose stools. Children wipe off their runny noses on their own.

If your child's healthcare provider prescribes an antibiotic to treat a bacterial infection – Use every dose – be sure to give your child all of the medicine. Only using part of the prescription means that only part of the infection has been treated. Not finishing the medicine can cause resistant bacteria to develop.

Talk to Your Healthcare Provider to Learn More


Commonly Asked Questions:

How Do I Know if My Child has a Viral or Bacterial Infection?
Ask your child's healthcare provider and follow his or her advice on when to discuss your child's illness.

Remember, colds are caused by viruses and should not be treated with antibiotics.

Does This Mean I Should Never Give My Child Antibiotics?
Antibiotics are very strong medicines and should be used to treat bacterial infections. Your healthcare provider will prescribe antibiotics if your child has a bacterial infection.

If My Child's Runny Nose Changes from Clear to Yellow or Green – Does This Mean That my Child Needs an Antibiotic?
No. Yellow or green mucus does not mean that your child has a bacterial infection. It is normal for mucus to get thick and change color during a viral cold.

<http://www.cdc.gov/getsmart/community/materials-references/print-materials/parents-young-children/snort-sneeze-sneeze-color-b.pdf>



NEW YORK
STATE OF
OPPORTUNITY.

Department
of Health

Get Smart Materials



<http://www.cdc.gov/getsmart/community/materials-references/index.html>

NYSDOH Antibiotic Resistance Task Force

