



The Reluctant Steward: Overcoming Barriers to Successful Antimicrobial Stewardship

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The **OUTPATIENT
ANTIBIOTIC** world is sort of the Wild,
Wild West, and to some degree,
we're asked to be the sheriff.

Barack Obama

- Discuss strategies for overcoming barriers to successful antimicrobial stewardship
- Evaluate disease states that can serve as intervention targets in the outpatient setting
- Identify key stakeholders in the outpatient setting
- Discuss opportunities for outpatient antimicrobial stewardship

- **How many of you have a formalized inpatient ASP program?**
- **How many have a formal outpatient program?**
- **How many inpatient folks are expected to assist with outpatient efforts? 😊**
- **How many of you are just beginning to think of this outpatient business?**

“I know the evidence re: prescribing antibiotics for bronchitis and I know it’s typically not indicated but at
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w
they’ll go somewhere that will and then give me a bad Press Ganey score and not come back to us”

Thanks for the quotation idea,
Dr. Szymczak!

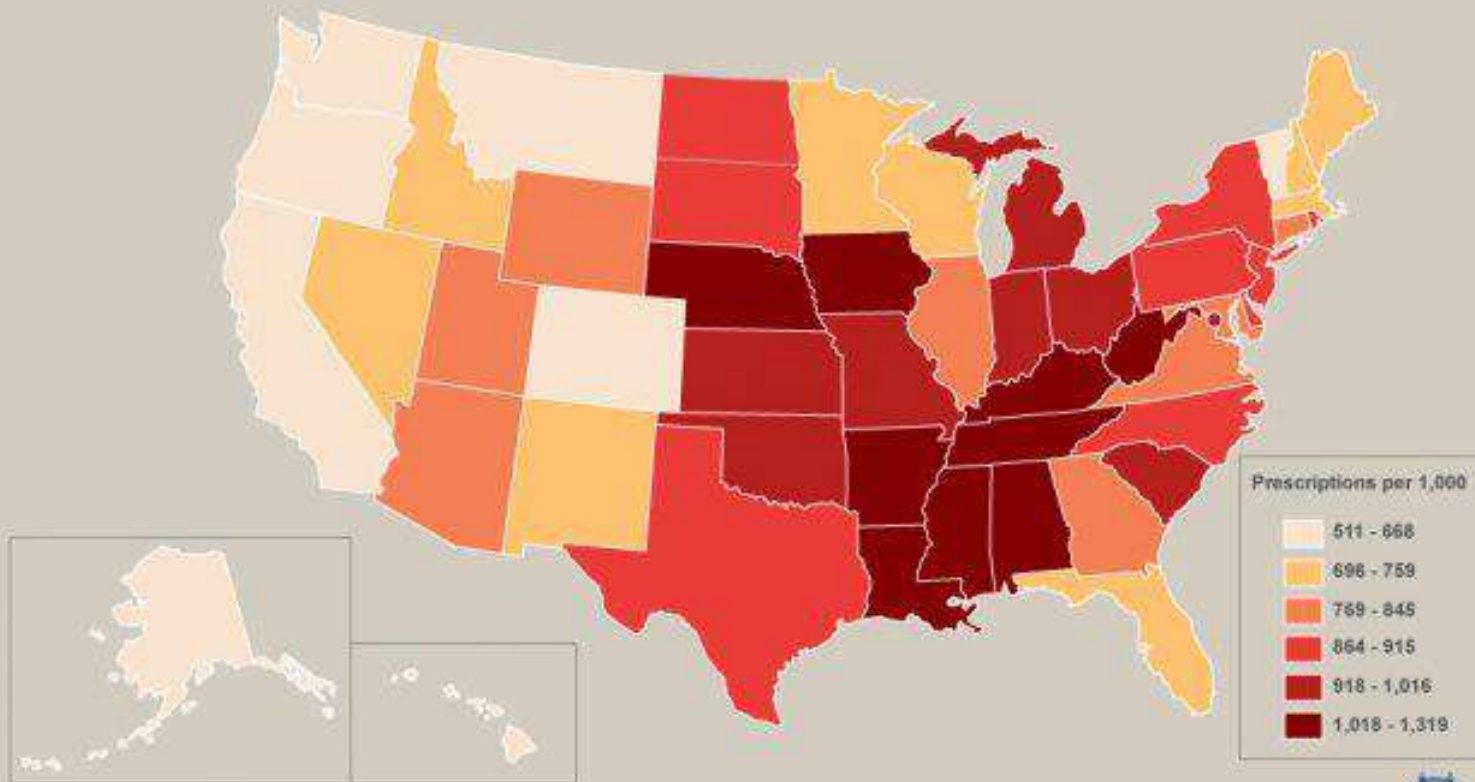
- ED/urgent care physician

- “I rarely, if ever, give antibiotics for URIs. The only time I find myself doing so is when I’m on call. The patient will state that their usual Dr. X gives them a Z-pack every time they have these symptoms. So I feel that withholding one script is not going to change the overall outcome of the situation. It pains me to do this but it’s the easiest thing to do at 9 pm on a Friday night.”

-Outpatient PCP

Community Antibiotic Prescriptions per 1,000 Population by State - 2015

At least 30% of antibiotics prescribed in doctors' offices,
emergency departments and hospital clinics are unnecessary.*

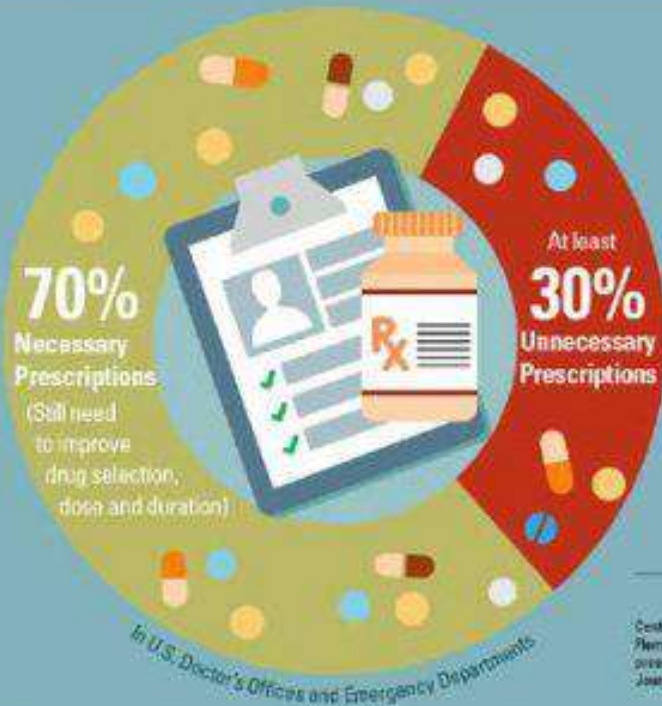


Data source: IMS Health Xponent 2014

*Fleming-Dutra, K., et al. (2016). "Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011." *JAMA, the Journal of the American Medical Association* 315(17): 1864-1873



Improve Antibiotic Use to Combat Antibiotic Resistance



CDC is working to reduce unnecessary antibiotic use

National Action Plan to Combat Antibiotic-Resistant Bacteria (CARB)

Goal: By 2020, reduce inappropriate outpatient antibiotic use by 50%

Find out when antibiotics are necessary. Visit: <http://www.cdc.gov/getsmart>

Centers for Disease Control and Prevention (2013).
Fleming-Dutra, K et al. Prevalence of inappropriate antibiotic prescriptions among US ambulatory care visits, 2010-2011. *Journal of the American Medical Association*, May 2016.



Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

Not just #'s of ABXs but also CHOICE

Percent of Patients Receiving The Recommended First-Line Antibiotic by Condition, United States, 2010-2011*

Condition	Adults (20+ years of age)	Children (0-19 years of age)
Sinus infection	37%	52%
Pharyngitis (sore throat)	37%	60%
Middle ear infection	n/a	67%

Non first line agents are chosen >50% of the time!

JAMA Intern Med 2016;176:1870

<https://www.cdc.gov/antibiotic-use/stewardship-report/outpatient.html>

- Outpatient prescribing accounts for **60%** of antibiotic use in humans
- In 2015, 269 million ABX Rx dispensed in outpatient pharmacies
 - 10 million from ED
- 47 million unnecessary ABX Rx from doctors' offices and EDs
 - Most are for respiratory illnesses
- Adult Rx are rising whereas children are decreasing
...Why?

Original Investigation
Antib:

Ann Allergy Asthma Immunol 119 (2017) 54–58

risk

Early Antibiotic Exposure and Weight Outcomes in Young Children

Jason P. Block, MD, MPH,^a L. Charles Bailey, MD, PhD,^b Matthew W. Gillman, MD, SM,^{a,c} Doug Lunsford, MEd,^d Matthew F. Daley, MD,^e Ihuoma Eneli, MD, MS,^f Jonathan Finkelstein, MD, MPH,^g William Heerman, MD, MPH,^h Casie E. Horgan, MPH,^a Daniel S. Hsia, MD,ⁱ Melanie Jay, MD, MS,^j Goutham Rao, MD,^k Juliane S. Reynolds, MPH,^l Sheryl L. Rifas-Shiman, MPH,^a Jessica L. Sturtevant, MS,^l Sengwee Toh, ScD,^l Leonardo Trasande, MD, MPP,^m Jessica Young, PhD,^a Christopher B. Forrest, MD, PhD,^b on behalf of the PCORnet Antibiotics and Childhood Growth Study Group

Christine Cole Johnson, MD, MPH,^a Suzanne L. Havstad, MD,^{b,f} Edward L. Peterson, MD,^a Detroit, Mich, and Augusta, Ga

MD, MSCE;

Institute for Child

- Inappropriate antibiotic use is a major public health concern, **NOT just inpatient!**
 - Emergence of MDR
 - Intangible; unnoticeable for many outpatient providers
 - Adverse drug reactions and superinfections
 - 500,000 annual *C. difficile* infections [not so common]
 - Healthcare utilization and cost
 - “Not my problem”

YOU have to believe it to make change and convince others...but how?

Inpatient vs Outpatient

Inpatient

- Controlled setting
- Formulary
- Formulary restrictions
- More personnel
- Easier access to data mining resources
- Justify funding with reduced ABX spending and length of stay

Outpatient

- Largely uncontrolled
 - Free-for-all!
- Formulary guided by insurance co
 - Most PO are generic/ cheap
- Less dedicated personnel
- Resources limited
- Less justifiable funding incentives

- **Insurance companies rarely regulate duration or choice**
 - Exceptions?
 1. Aetna: partnered with CDC for acute bronchitis
 2. 2017 Ohio Anthem BCBS: voluntary Q-HIP for hospitals that have submitted evidence of an ASP or passed a TJC survey
 - **CDC partnerships with other insurance companies may be effective**

- **“Super-prescriber” initiative launched in 2016**
 - Initially started to battle **opioid** epidemic
 - Sent letters to physicians, dentists, and oral surgeons that prescribed opioids at a higher rate than peers
- **Dr. Harold Paz, CMO, signed letter in 2017**
 - >1,100 letters sent to providers who diagnosed >5 patients w/ acute bronchitis AND treated with ABX 50% of the time
 - 127 letters sent thanking those who did not prescribe ABX to treat acute bronchitis to ANY of their patients

<https://news.aetna.com/2017/07/aetnas-outreach-tackle-antibiotic-resistant-bacteria/>

<https://news.aetna.com/2016/08/opioid-super-prescribers/>

- **Sept 2014 Executive Order 13676**
 - Issued to establish AS across the continuum of care **including** outpatient settings
- **2016 CDC Core Elements Document**
- **Jan 2017: Joint Commission Standard**
 - Applies to acute care settings
 - Outpatient still under consideration
- **Eventual CMS CoP for outpatient clinics?**

Executive order 13676, 79 CFR 56931.2014.

The Joint Commission. Proposed standard for antimicrobial stewardship in AHC, CAH, HAP, NCC and OBS.

CDC Core Elements of Outpatient Antibiotic Stewardship

EASIER SAID
Than Done

Core Element	Example
Commitment	Developing and implementing policies for optimizing antibiotic prescribing
Action for policy and practice	Implementing antibiotic prescribing, assess
Tracking and reporting	Monitoring antibiotic feedback to clinicians, reporting practices
Education and expertise	Provide educational resources to clinicians and patients on antibiotic prescribing, and ensure access to needed expertise on optimizing antibiotic prescribing

CDC is not regulatory. These are recommendations that should be followed in preparation for future regulatory requirements.

Adapted from: CDC. Core Elements of Outpatient Antibiotic Stewardship.

CDC Core Elements of Outpatient Antibiotic Stewardship: Intended audiences

- Primary care
- EDs & urgent care
- Dental clinics
- Specialty clinics
- Retail health clinics (i.e. minute clinic)
- Health care systems
- Providers (NPs, PA, physicians) all practicing within these environments

- Identify high priority infectious diseases syndromes
- **TARGET: Upper respiratory infections**
 - Bronchitis
 - Sinusitis
 - Otitis media
 - Viral pharyngitis

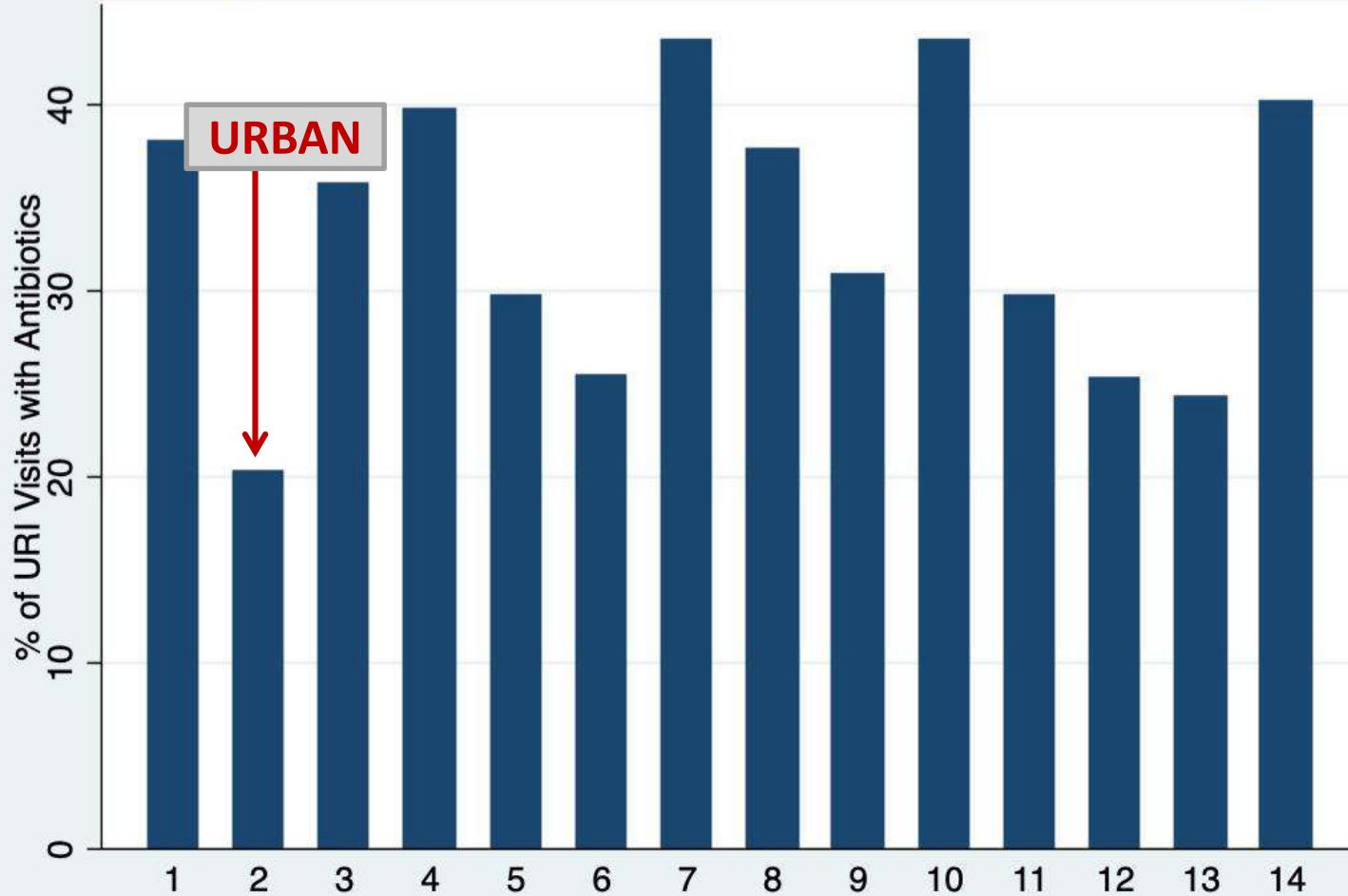
	Causative pathogen	Diagnosis	Management
Acute rhinosinusitis	Viral (90-98%) Bacterial is uncommon	Bacterial: Severe (>3-4 days) , fever $\geq 39^{\circ}\text{C}$ (102°F) & purulent nasal discharge or facial pain; Persistent (>10 days) w/o improvement , nasal discharge or daytime cough; or Worsening (3-4 days) worsening or new onset fever, day cough, or nasal discharge after initial improvement of a viral URI lasting 5-6d	Viral: Watchful waiting Bacterial: ABX warranted
Bronchitis	Viral	Clinical diagnosis \rightarrow cough regardless of sputum production (or color)	Supportive tx
Common cold	Viral (many)	Symptom based \rightarrow non specific	Decongestants/ supportive tx
Pharyngitis	Most viral 5-10% GAS (adults)	Centor criteria [fever, exudate, lymphadenopathy, no cough] \rightarrow RADT	+ RADT: PCNs or cephs (for allergic) -RADT: supportive tx

- Worked alongside medical informatics to obtain report of all coded URIs (provided specific ICD 10 diagnosis codes)
 - Date range: 9/1/2017 to 9/30/2018
 - Included visit date
 - Prescriber
 - MRN of the patient
 - Diagnosis code

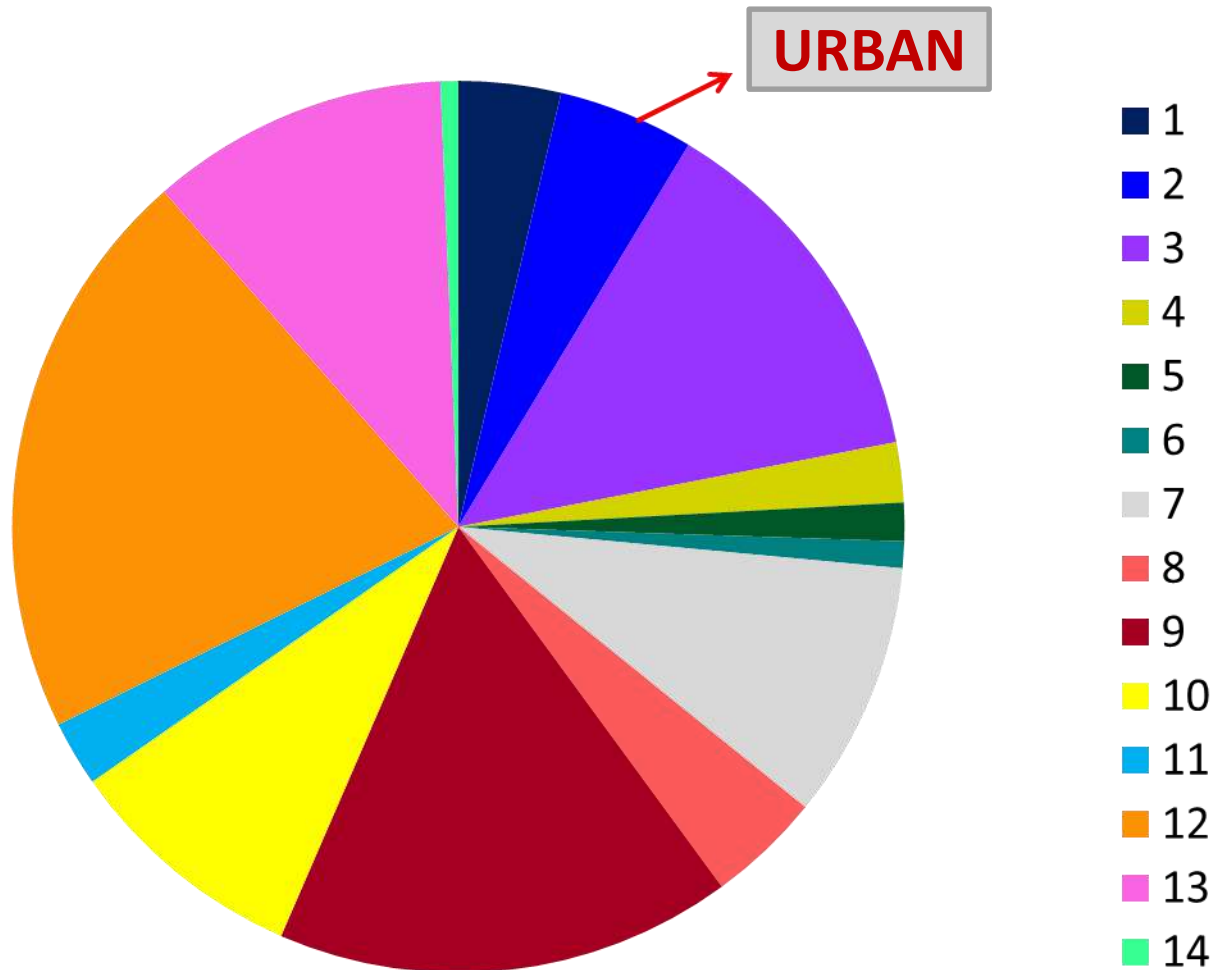
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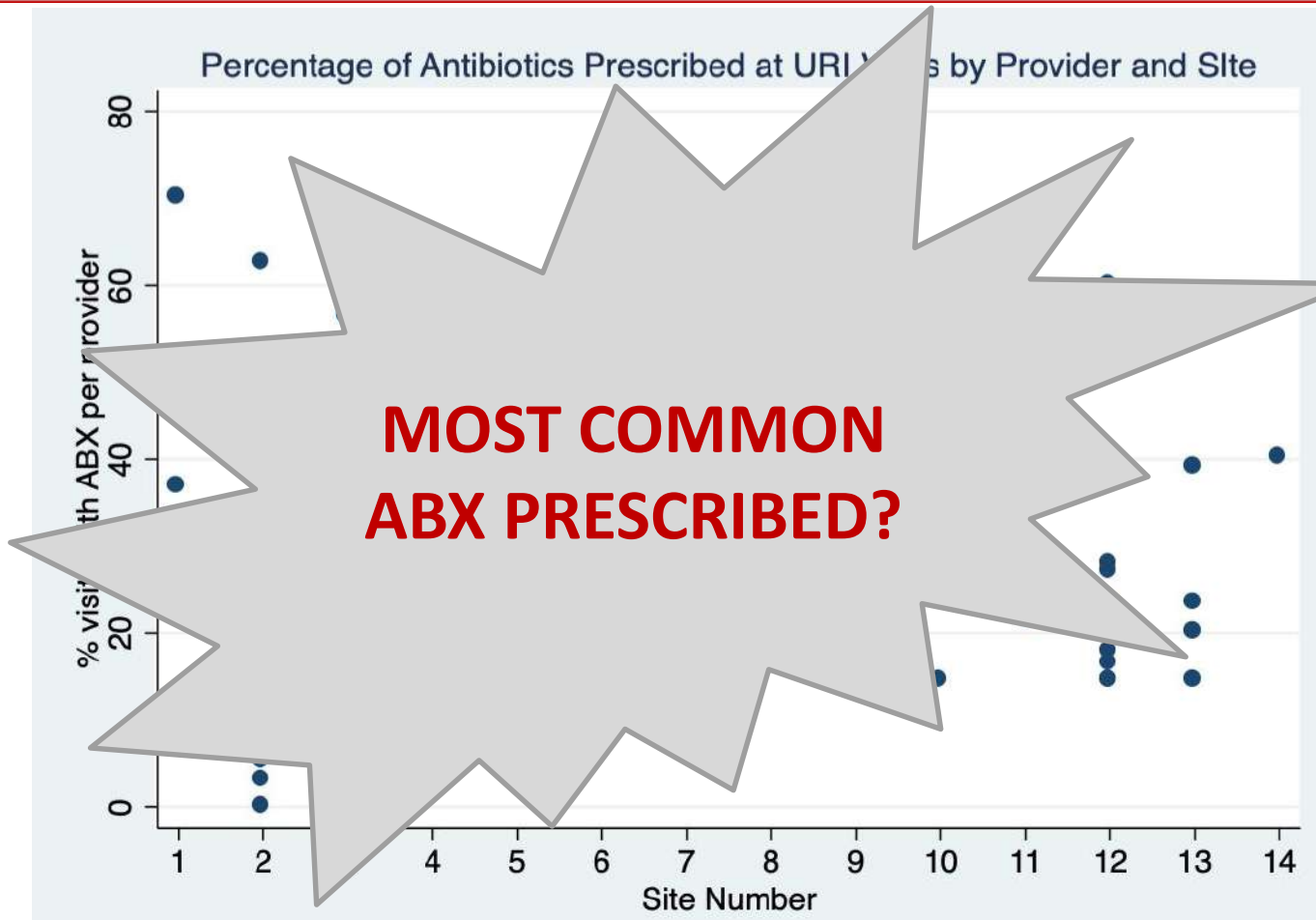
- # antibiotic prescriptions for URI including specific antibiotics

Average Percent of Antibiotics Given at URI Visits by Site



URI patient visits per clinic





Bottom line? Our providers are ALL over the place. Some clinics (i.e. 12) have similar rates while others do not.

- ✓ Meeting with division heads of internal medicine and family medicine
- ✓ Letters will be sent with provider % prescribed versus colleagues and versus mean
- ✓ Quality Improvement project for 4 internal medicine residents (ongoing)
- ✓ Goals will be set for reduction in prescribing (to be determined)

Steps	Purpose	Goals
<p>Identify program scope</p> <p>Cre...</p> <p>Prac...</p> <p>ASP</p> <p>AS In...</p> <p>of co...</p> <p>Proc...</p>	<p>Identify stakeholders</p> <div data-bbox="112 157 1825 1206" style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;"><u>Bottom line?</u></p> <ul style="list-style-type: none"> • Who is doing it <ul style="list-style-type: none"> ○ Who is responsible AND accountable AND interested? ○ Find support network [not necessarily clinic director] • What is the focus? <ul style="list-style-type: none"> ○ PICK ONE condition (i.e. URIs) • What data are you collecting → FOCUS on a few items • Pick intervention(s) • Disseminate the data (respectfully and carefully) <ul style="list-style-type: none"> ○ In person if possible! • Check progress </div>	<ul style="list-style-type: none"> • Identify point person to <p>outcomes</p>

- **Funding & time**

- Administrative support should assist with alleviating patient care responsibility to allow for AS activities
- Grants
 - Particularly useful if a stand-alone clinic with no hospital affiliation
- Divide up the work

- **Implementation**

- Clinical decision support should be built into provider workflow- should not be an extra step

- **Cooper Urgent Cares**

- Developed Smart Sets for various diseases
 - Upper respiratory Infections
 - Urinary tract infections (UTIs)
 - Skin/soft tissue infections
- Lead Coordinator: Urgent Care APN

- **Cooper ED**

- Developed Order Sets including discharge recs
 - Sexually transmitted infections
 - UTIs
 - *C.difficile* infection
 - Pneumonia
 - Others largely for admission

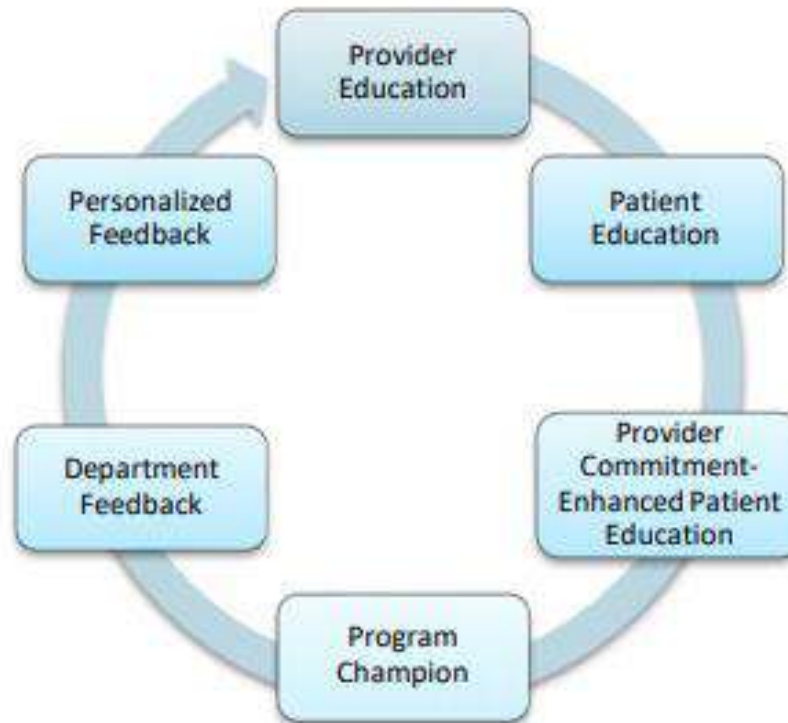


**Engage
external
colleagues**

- Outpatient is largely “unrestrictable” vs inpatient
 - Possibility with insurance companies as mentioned
 - Time consuming and resource/personnel dependent
- Compensation (or bonus structure) for many outpatient providers is linked to patient satisfaction ratings
 - Unfortunately has many flaws
 - Educate providers on how to keep scores up without giving antibiotics
- Patients that request specific medications are more likely to obtain that Rx
 - Antibiotics, opioids, imaging, etc.
 - May be a demographic correlation with antibiotic pressure

Don't waste your time on those who won't make change. Let the regulators regulate that!

- Systematically adapted ASP developed for use in the ED and urgent care
- Implementation will meet CDC Core Elements of Outpatient Antibiotic Stewardship



- **Provider education**

- Should include tips on how to overcome patient pressures
 - Limit the “No’s” just like toddlers!
 - Educating about harms of antibiotics
- Provide data
 - Not just prescribing but also outcome data
- **OTHER STAFF TOO!**

- **Patient education**

- Waiting rooms, pamphlets, tools on antibiotic harm
- Provider commitment
- Personalized posters with clinician signature

- **Program champion**
 - Does not have to be clinic director
 - Recruit interested personnel and assess data
 - Engage specialty colleagues to assist
- **Departmental feedback**
 - Data on practice change
 - Potential for incentives!
- **Personalized feedback**
 - Performance rankings

