HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

Chicago Outpatient Antimicrobial Stewardship: Updates and Opportunities

Chicago Department of Public Health's
Outpatient Infection Control Practitioner Roundtable

Amy Hanson, PharmD, BCPS AQ-ID

July 9th, 2019

Presentation Objectives

1. Discuss the 4 CDC Core Elements of Outpatient Stewardship
2. Define the new standards from The Joint Commission
3. Explore tracking/reporting quality metrics
4. Review local +/- regional antibiogram susceptibility data
5. Introduce novel stewardship interventions:
    -Clinical decision support software
    -Clinic-specific treatment guidelines

Amy's Background

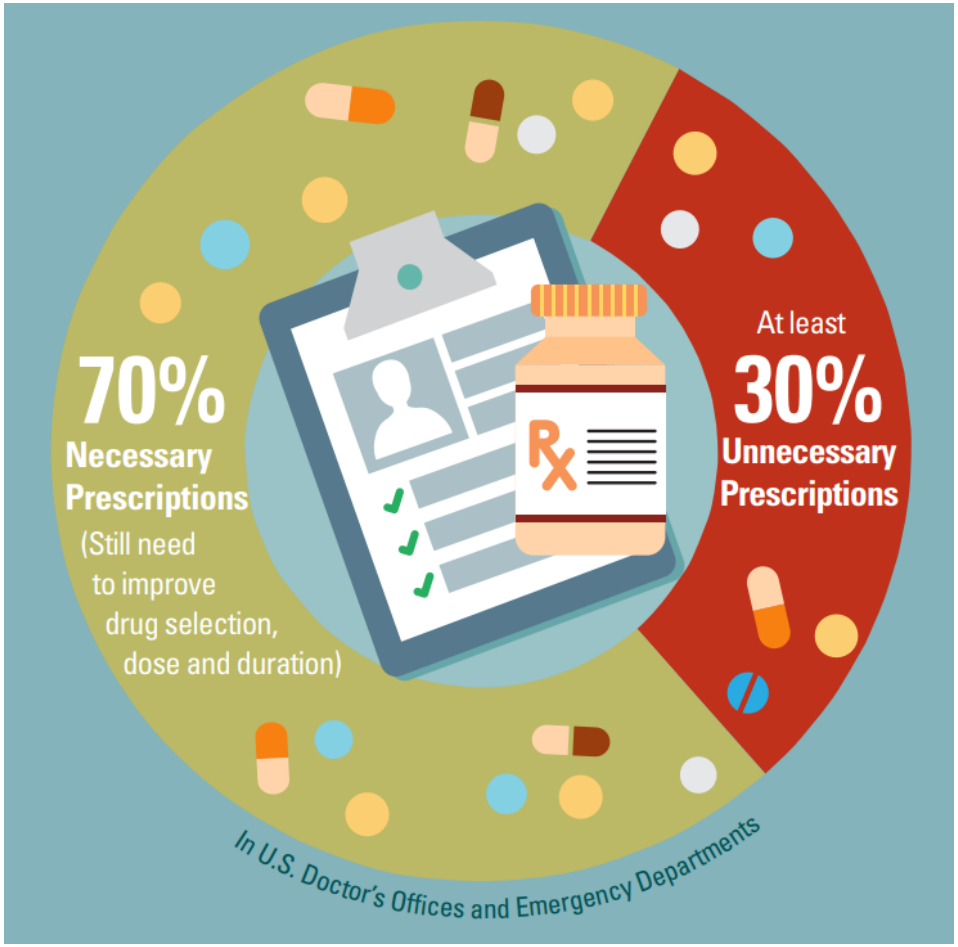
- Doctorate of Pharmacy (Drake University, Des Moines, IA) and Community Pharmacy Intern/Student Pharmacist (2002-2010): Walgreens, CVS, HyVee, Air Force Academy, etc.
- PGY-1 Pharmacy Practice Residency at Mercy Hospital (Comprehensive Pharmacy Services) in Chicago, IL (2010-2011)
- PGY-2 Pharmacy Residency specializing in Infectious Disease through Midwestern University at Rush University Medical Center (RUMC and Northwestern Memorial Hospital) (2011-2012)
- Infectious Disease Pharmacist at RUMC (2012-2018)
- Public Health Infectious Disease & Antimicrobial Stewardship Pharmacist (2018 – current)

CDC Antimicrobial Awareness Week at RUMC (November 2015)

My almost 3 year old daughter, Kylie Rose – CDPH Day 1 (December 2018)

Outpatient Statistics (CDC data to date)

Defining the Burden: Antimicrobial script volume increases in winter months in correlation with influenza-like illness trends

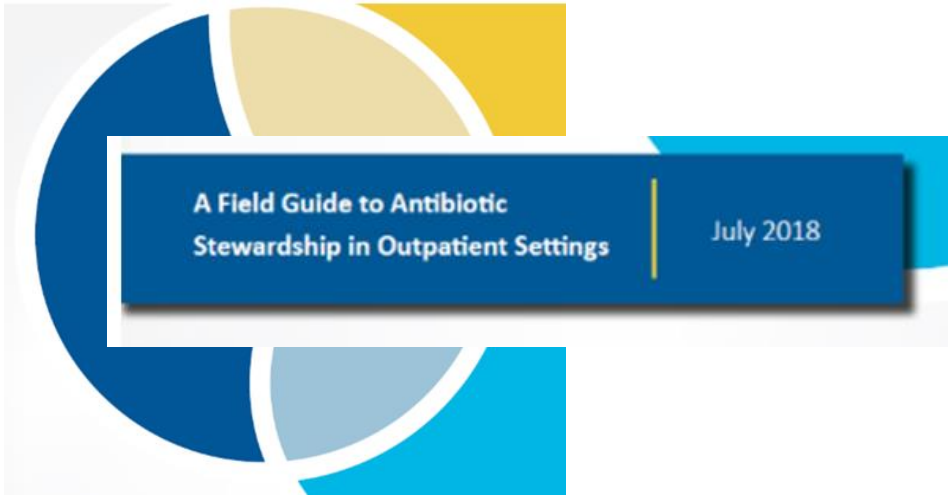


- At least 30% of antibiotics prescribed in the outpatient settings are unnecessary (no indication, and the prescription wasn't warranted)
- Total inappropriate outpatient antibiotic use (wrong drug, dose and/or duration) may approach ~50%

https://www.cdc.gov/antibiotic-use/stewardship-report/outpatient.html#anchor_1501874806

CDC Core Elements of Outpatient Antimicrobial Stewardship

Additional Resource(s) include: MITIGATE Toolkit & QIN-QIO Field Guide



https://www.google.com/search?q=core+elements+outpatient+stewardship&rlz=1C1GCEV_enUS830US830&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi4-Mv4h57jAhUWU80KHb16C3kQ_AUIESgC&biw=1920&bih=888#imgrc=kAC3iS8g2cjQYM:

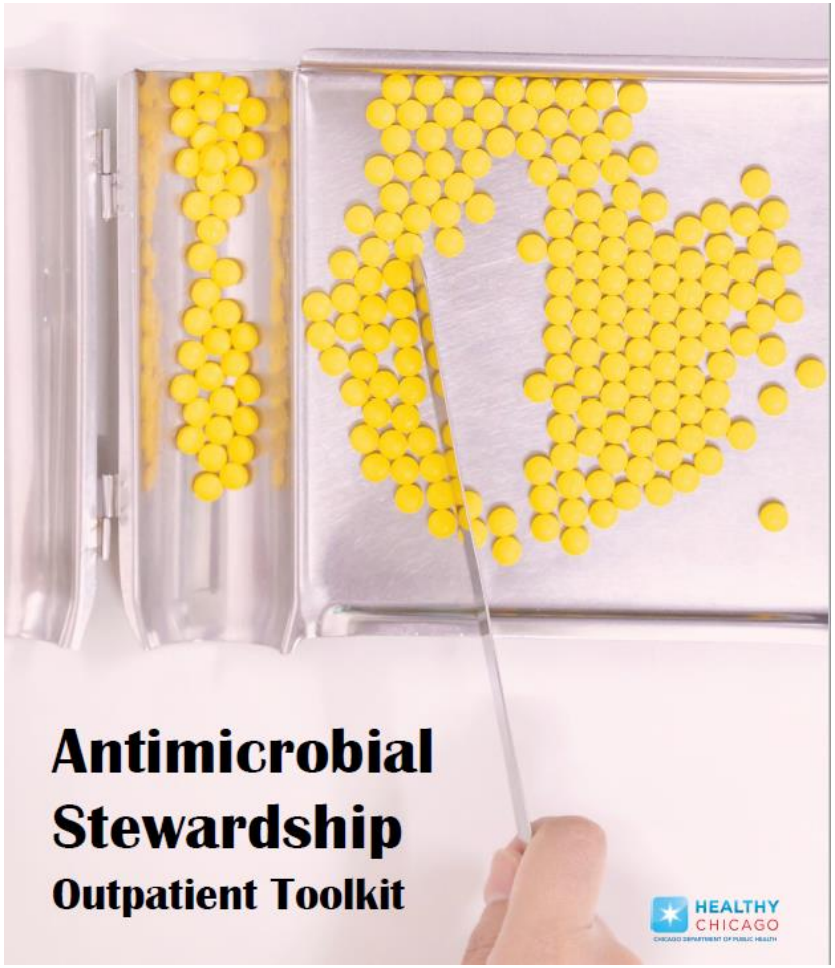
https://qioprogram.org/sites/default/files/editors/141/MITIGATE_TOOLKIT_final_approved%281%29_508v2.pdf
https://qioprogram.org/sites/default/files/editors/141/C310_Field_Guide_20180730_FNL.pdf

Stewardship in the Outpatient Setting

Provider Type	No. of Antibiotic Prescriptions in 2014 (Millions)
1. Family Practice Physicians	58
2. Physician Assistants and Nurse Practitioners	54
3. Internal Medicine	30
4. Pediatricians	25
5. Dentistry	25
6. Surgical Specialties	20
7. Emergency Medicine	14
8. Dermatology	8
9. OB/GYN	7
10. Other	25
11. All Providers	266

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

Chicago Department of Public Health (CDPH) Binders



DEPARTMENT OF PUBLIC HEALTH
CITY OF CHICAGO

Dear Providers,

We are the Healthcare-Associated Infection / Antimicrobial Resistance (HAI/AR) Unit within the Communicable Disease Program of the Chicago Department of Public Health (CDPH).

This binder is a compilation of the Illinois Department of Public Health (IDPH) Antibiotic Stewardship Toolkit and some additional supplemental resources that you can use to grow your antimicrobial stewardship program.

In this binder, you'll find suggestions on how to optimize the tracking and reporting of your facility's antimicrobial consumption, avoid fluoroquinolones and clindamycin, clarify penicillin allergies, and review updated iterations of Infectious Disease Society of America (IDSA) guidelines.

Additionally, we encourage you to reach out to your local academic hospital and/or educational affiliations to enhance your facility's antimicrobial stewardship opportunities across the spectrum of care.

A digital version of this toolkit and links to additional resources are available on the CDPH Health Alert Network Website at: www.chicagohan.org/antimicrobialstewardship/outpatienttoolkit .

If you have any additional questions regarding the contents of this binder, your antimicrobial stewardship program, or about the CDPH HAI/AR Unit please reach out to CDPHHAIAR@cityofchicago.org!

Sincerely,

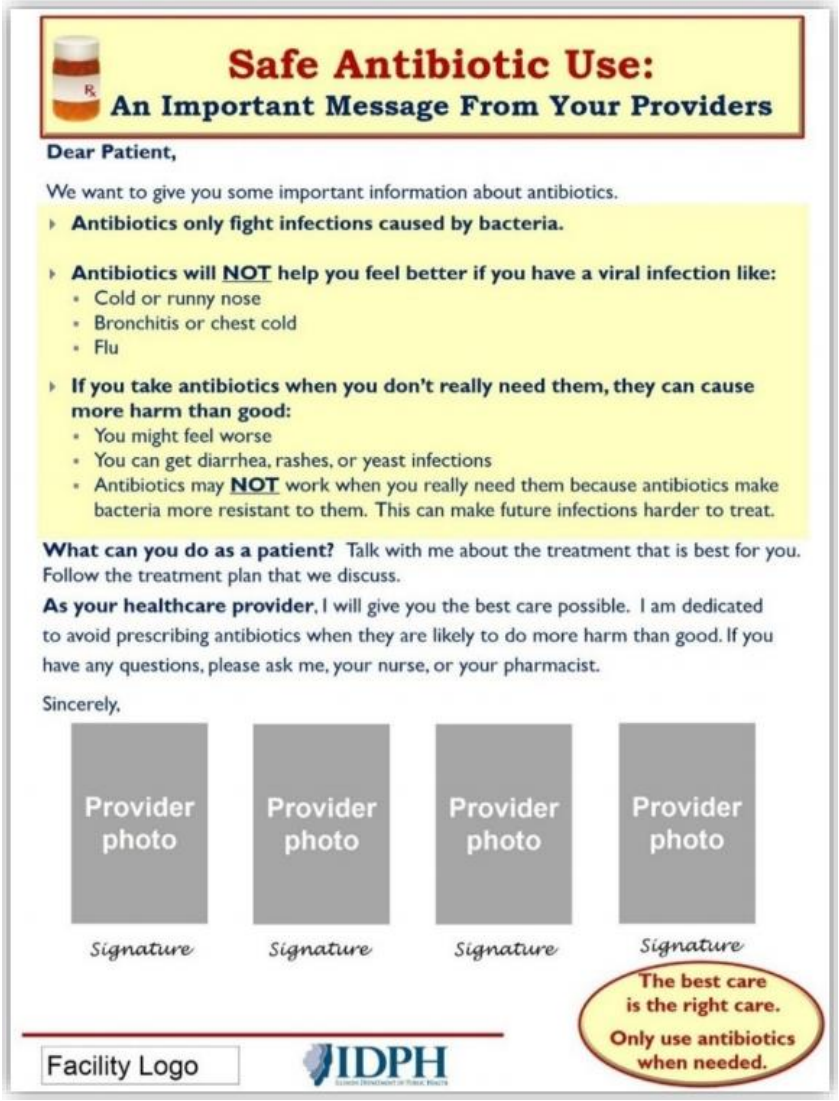
Amy Hanson, PharmD, BCPS AQ-ID
Project Administrator, Antimicrobial Stewardship
Chicago Department of Public Health, Communicable Diseases Program
West Side CDC, Chicago, IL 60612
Email: Amy.Hanson@cityofchicago.org and CDPHHAIAR@cityofchicago.org
Website: www.chicagohan.org/antimicrobialstewardship

CDC Core Element 1:
Leadership Commitment

CDC Core Element 1: Commitment

ANTIBIOTIC STEWARDSHIP TOOLKIT

FOR PRIMARY CARE PROVIDERS



Safe Antibiotic Use:
An Important Message From Your Providers

Dear Patient,

We want to give you some important information about antibiotics.

- **Antibiotics only fight infections caused by bacteria.**
- **Antibiotics will NOT help you feel better if you have a viral infection like:**
  - Cold or runny nose
  - Bronchitis or chest cold
  - Flu
- **If you take antibiotics when you don't really need them, they can cause more harm than good:**
  - You might feel worse
  - You can get diarrhea, rashes, or yeast infections
  - Antibiotics may **NOT** work when you really need them because antibiotics make bacteria more resistant to them. This can make future infections harder to treat.

What can you do as a patient? Talk with me about the treatment that is best for you. Follow the treatment plan that we discuss.

As your healthcare provider, I will give you the best care possible. I am dedicated to avoid prescribing antibiotics when they are likely to do more harm than good. If you have any questions, please ask me, your nurse, or your pharmacist.

Sincerely,

Provider photo | Provider photo | Provider photo | Provider photo

Signature | Signature | Signature | Signature

Facility Logo

IDPH

The best care is the right care.

Only use antibiotics when needed.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
IDPH
PROTECTING HEALTH, IMPROVING LIVES

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

http://www.dph.illinois.gov/topics-services/prevention-wellness/patient-safety-quality/precious-drugs-scary-bugs/resource-links-news

CDC Sample Commit Poster

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

Type Facility or Provider Name Here.

is committed to being antibiotics aware!

Your health is important to us. As your dental provider, I promise to provide you with the best care possible. I am dedicated to avoid prescribing antibiotics when they are likely to do more harm than good.

Insert individual or group picture here by right clicking on this box and choosing "Change Picture"

You have a role to play in antibiotic stewardship, too!

Learn more by visiting:
www.cdc.com/antibiotic-use

Insert logo here by right clicking on this box and choosing "Change Picture"

Example of ideal location

Poster is in clear view.

Example of less desirable location

Cords obstructing view of the poster.

https://www.cdc.gov/antibiotic-use/stewardship-report/outpatient.html#anchor_1501874806

CDC Core Element 2: Action for Policy and Practice

Take Action: Self-Assess by Using the CDC Checklist for Clinicians

COMMITMENT

1. Can you demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety related to antibiotics? ❑ Yes ❑ No

If yes, indicate which of the following are in place (select all that apply)

❑ Write and display public commitments in support of antibiotic stewardship.

ACTION

2. Have you implemented at least one practice to improve antibiotic prescribing? ❑ Yes ❑ No

If yes, indicate which practices which you use. (Select all that apply.)

❑ Use evidence-based diagnostic criteria and treatment recommendations.

❑ Use delayed prescribing practices or watchful waiting, when appropriate.

TRACKING AND REPORTING

3. Do you monitor at least one aspect of antibiotic prescribing? ❑ Yes ❑ No

If yes, indicate which of the following are being tracked. (Select all that apply.)

❑ Self-evaluate antibiotic prescribing practices.

❑ Participate in continuing medical education and quality improvement activities to track and improve antibiotic prescribing.

https://www.cdc.gov/antibiotic-use/community/improving-prescribing/core-elements/core-outpatient-stewardship.html

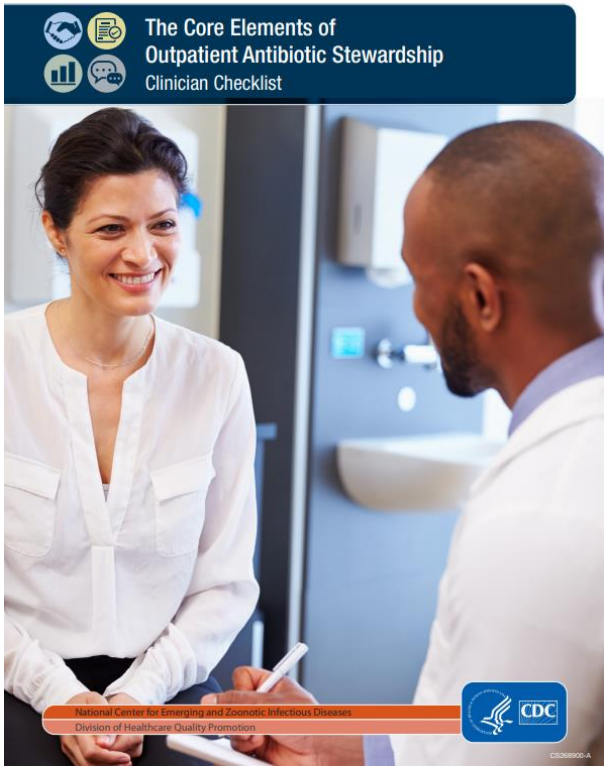
CDC Checklists: Clinicians Continued*

EDUCATION AND EXPERTISE

4. **Do you provide education to patients and seek out continuing education on antibiotic prescribing?** ❑ Yes ❑ No

If yes, indicate how you provide antibiotic stewardship education. (Select all that apply.)

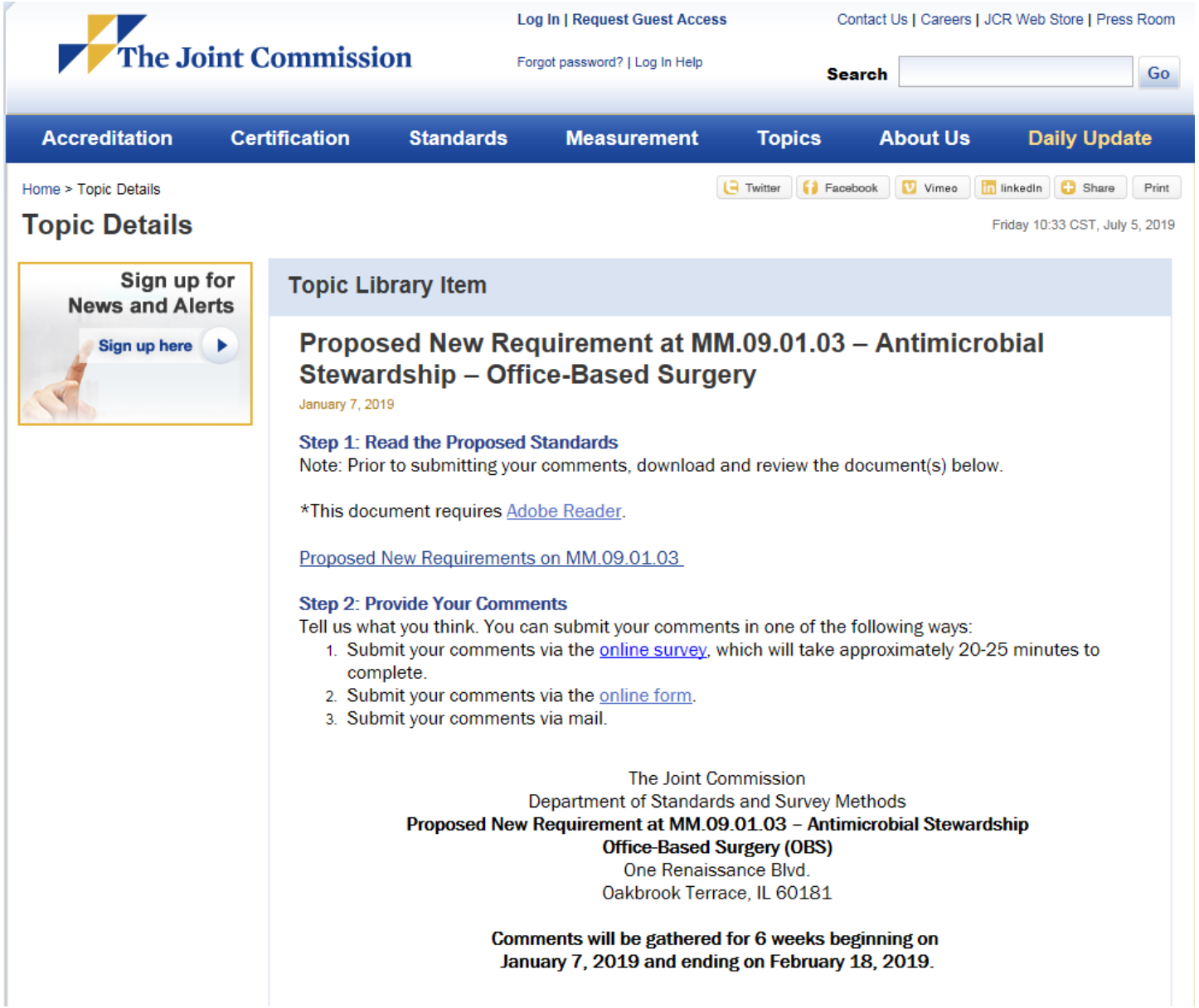
- ❑ Use effective communications strategies to educate patients about when antibiotics are and are not needed.
- ❑ Educate about the potential harms of antibiotic treatment.
- ❑ Provide patient education materials



***Both Clinician and Facility Checklists are available on the CDC site to evaluate progress of developing Outpatient ASPs**

https://www.cdc.gov/antibiotic-use/community/pdfs/16_268900-A_CoreElementsOutpatient_check_1_508.pdf

New Joint Commission Standards



The Joint Commission

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Topic Details

Friday 10:33 CST, July 5, 2019

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Topic Library Item

Proposed New Requirement at MM.09.01.03 – Antimicrobial Stewardship – Office-Based Surgery

January 7, 2019

Step 1: Read the Proposed Standards

Note: Prior to submitting your comments, download and review the document(s) below.

*This document requires Adobe Reader.

Proposed New Requirements on MM.09.01.03

Step 2: Provide Your Comments

Tell us what you think. You can submit your comments in one of the following ways:

1. Submit your comments via the online survey, which will take approximately 20-25 minutes to complete.
2. Submit your comments via the online form.
3. Submit your comments via mail.

The Joint Commission
Department of Standards and Survey Methods
Proposed New Requirement at MM.09.01.03 – Antimicrobial Stewardship
Office-Based Surgery (OBS)
One Renaissance Blvd.
Oakbrook Terrace, IL 60181

Comments will be gathered for 6 weeks beginning on January 7, 2019 and ending on February 18, 2019.

https://jointcommission.az1.qualtrics.com/WRQualtricsControlPanel/File.php?F=F_eJ88Q1VIj0hLKjr

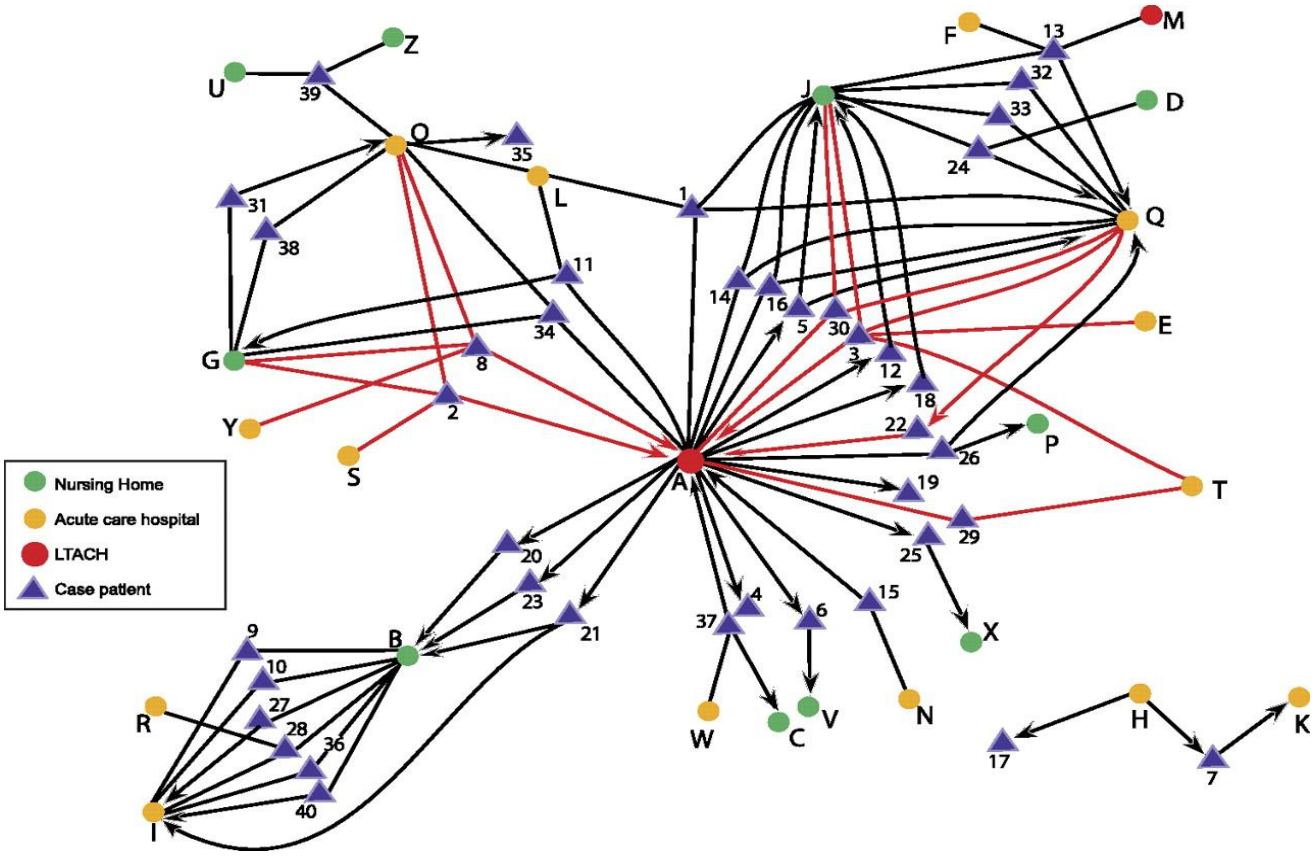
Summary of New TJC Standards

1. Identify an individual(s) responsible for the outpatient antimicrobial stewardship program (ASP)
2. Set at least one measureable annual goal for the organization to improve antibiotic use
3. Use approved protocols and evidence-based practice guidelines to optimize patient care
4. Provide stewardship education to all clinical staff
5. Counsel patients appropriately explaining why or why not an antibiotic is prescribed
6. Track and report data pertaining to ASP goals(s) to leadership and supply this feedback to providers

CDC Core Element 3:
Tracking & Reporting

Healthcare Facilities are Interconnected

Exposure network graph shows extensive transfer of *Klebsiella pneumoniae* bacteria that produces carbapenemases (KPC) throughout 14 acute care hospitals and 12 long-term care facilities in Chicago ~10 years ago



Outpatient Facilities are Interconnected

Outpatient facilities and clinics play a huge role in decreasing the regional spread of multi-drug resistant organisms in all healthcare settings, since they are interconnected with patient care transfers.

https://www.cdc.gov/vitalsigns/stop-spread/infographic.html

Defining Resistance Patterns in Chicago

- An antibiogram is a summary of antimicrobial susceptibility results for various bacteria and antibiotics
- Content can inform empiric prescribing of antibiotics
- Reported as % susceptible

	AMP	A/C	CFZ	CAX	CPE	P/T	MER	GM	LVX	T/S	NFT
E. coli	54	87	92	94	99	99	99	92	62	73	96
Enterobacter	R	-	-	69	95	83	99	96	93	84	31
Klebsiella	R	93	94	96	97	95	97	98	95	88	51
Proteus	77	98	90	99	99	99	99	84	58	61	R

Gram negative organisms: Escherichia coli (N=6434), Enterobacter cloacae (N=484), Klebsiella pneumonia (N=2181), and Proteus mirabilis (N=3206)
Antibiotics: AMP = ampicillin, A/C = amoxicillin/clavulanate, CFZ = cefazolin, CAX = ceftriaxone, CPE = cefepime, P/T = piperacillin/tazobactam, MER = meropenem, GM = gentamicin, LVX = levofloxacin, T/S = trimethoprim/sulfamethoxazole, NFT = nitrofurantoin
- = no data ; R = intrinsically resistant
Data source = NICL Laboratories (aggregative data from several Chicago LTCFs)

*Data supplied by NICL Laboratories

Core CDC Publication in Outpatient Antibiotic Stewardship

Research

Original Investigation

Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011

Katherine E. Fleming-Dutra, MD; Adam L. Hersh, MD, PhD; Daniel J. Shapiro; Monina Bartoces, PhD; Eva A. Enns, PhD; Thomas M. File Jr, MD; Jonathan A. Finkelstein, MD, MPH; Jeffrey S. Gerber, MD, PhD; David Y. Hyun, MD; Jeffrey A. Linder, MD, MPH; Ruth Lynfield, MD; David J. Margolis, MD, PhD; Larissa S. May, MD, MSPH; Daniel Merenstein, MD; Joshua P. Metlay, MD, PhD; Jason G. Newland, MD, MEd; Jay F. Piccirillo, MD; Rebecca M. Roberts, MS; Guillermo V. Sanchez, MPH, PA-C; Katie J. Suda, PharmD, MS; Ann Thomas, MD, MPH; Teri Moser Woo, PhD; Rachel M. Zetts; Lauri A. Hicks, DO

Overall Conclusion:
The potential reduction in annual antibiotic prescriptions for adults 20 to 64 years old is estimated by CDC to be ~50%, and overall 70% for all acute respiratory conditions.

Table 4. Mean Annual Antibiotic Prescribing Rates in 2010-2011 US NAMCS/NHAMCS vs Estimated Appropriate Antibiotic Prescribing Annual Rates per 1000 Population by Age Group and Diagnosis

	Rates per 1000 Population		Potential Reduction in Annual Antibiotic Prescription Rates, %
	2010-2011 Weighted Mean Annual Rate of Antibiotic Prescriptions (95% CI)	Estimated Appropriate Annual Rate of Antibiotic Prescriptions[a]	
20-64 y			
All acute respiratory conditions[b]	150 (129 to 170)	45[c]	−70
Sinusitis	55 (45 to 64)	27	−51

file:///C:/Users/418123/Downloads/Fleming-Dutra%202016.%20Prevalence%20of%20Inappropriate%20Antibiotic%20Prescriptions....pdf

Recent Literature in Outpatient AS

Antimicrobial Stewardship: Analysis of Provider Management of Drug-Bug Mismatch in Multi-Drug Resistant Organisms in a Large Medical Group (Advocate Aurora Health)

METHODS

- Large multi-specialty medical group with 450 sites of care that identified MDROs
- Culture results were from 3 month in 2018, and electronic health record (EHR) reviewed for potential drug-bug mismatches

RESULTS

- 47/179 MDRO cases (26%) had a drug-bug mismatch
- In 41 out of the 47 cases (87%), the provider recognized the drug-bug mismatch within 24 hours and changed to effective antimicrobial therapy
- 47 drug-bug mismatches identified, and 30 (64%) were MRSA in various wound cultures [remaining 17 (36%) were ESBL-producing *E. coli* or *K. pneumoniae*

Heisner K and Skelton L. AJIC. June 2019; 47(6):S15. DOI: https://doi.org/10.1016/j.ajic.2019.04.012

Measuring with Quality Metrics:

HEDIS = Healthcare Effectiveness Data and Information Set
MACRA = The Medicare Access and CHIP Reauthorization Act of 2015

HEDIS

and

MACRA

NCQA

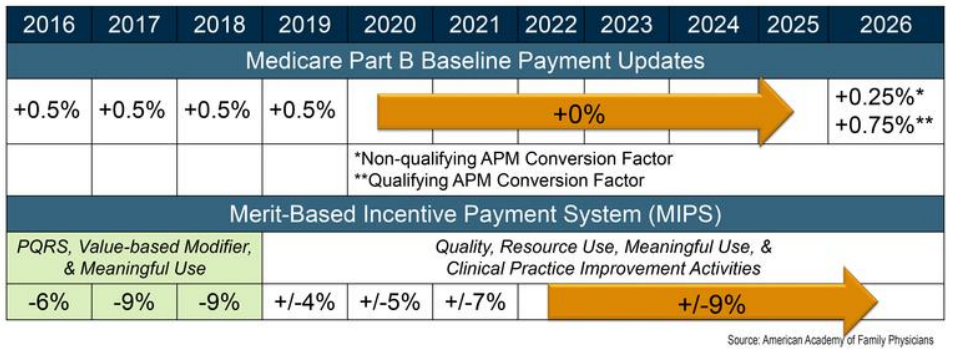
Event Information: The Future of HEDIS

Registration is required to join this event. If you have not registered, please do so now.

Event status: Not started (Register)

Date and time: Friday, July 12, 2019 2:30 pm
Eastern Daylight Time (New York, GMT-04:00)
Change time zone

Duration: 1 hour



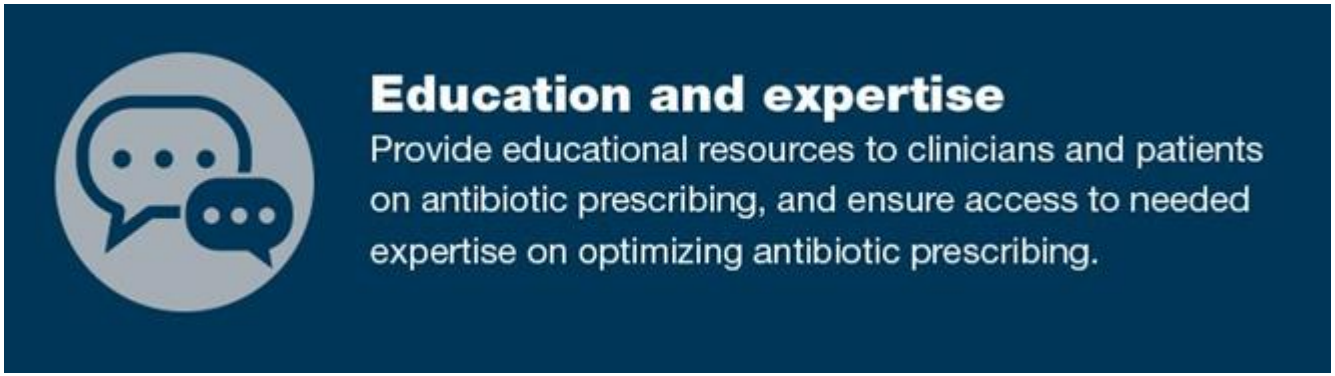
https://www.cms.gov/medicare/quality-initiatives-patient-assessment-instruments/value-based-programs/macra-mips-and-apms/macra-mips-and-apms.html
https://blog.ncqa.org/ncqa-hosts-hedis-future-webinar/

Health Plan Performance (%) on Selected HEDIS Measures, 2009-2012

Year	Number of participating health plans	Mean %	Median %	Minimum %	Maximum%
Appropriate Testing for Children with Pharyngitis					
2009	371	75.7	77.2	37.8	95.2
2010	392	76.9	77.8	41.0	96.4
2011	347	78.0	78.7	39.1	96.1
2012	375	79.9	81.1	2.23	96.6
Appropriate Treatment for Children with Upper Respiratory Infection					
2009	372	84.0	85.3	47.0	99.1
2010	393	83.6	85.0	31.1	97.8
2011	350	85.0	86.2	44.5	98.5
2012	376	83.4	84.7	44.7	99.4
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis					
2009	375	25.4	23.5	9.9	90.5
2010	394	23.2	21.7	12.8	87.7
2011	349	22.1	20.7	8.5	75.0
2012	375	22.7	20.7	7.4	71.6

*Slide borrowed from Scott Bergman and Arjun Srinivasan with permission

CDC Core Element 4:
Education & Expertise



Examples of Antimicrobial Stewardship Staff Education

What is **Antibiotic Resistance**?

RUSH

- Resistance occurs when bacteria in your body changes making antibiotics no longer effective and harder to kill
- This happens when you are given antibiotics that you do not need. They can also kill all of the good bacteria in your body
- Antibiotic resistance can lead to:

Longer treatments

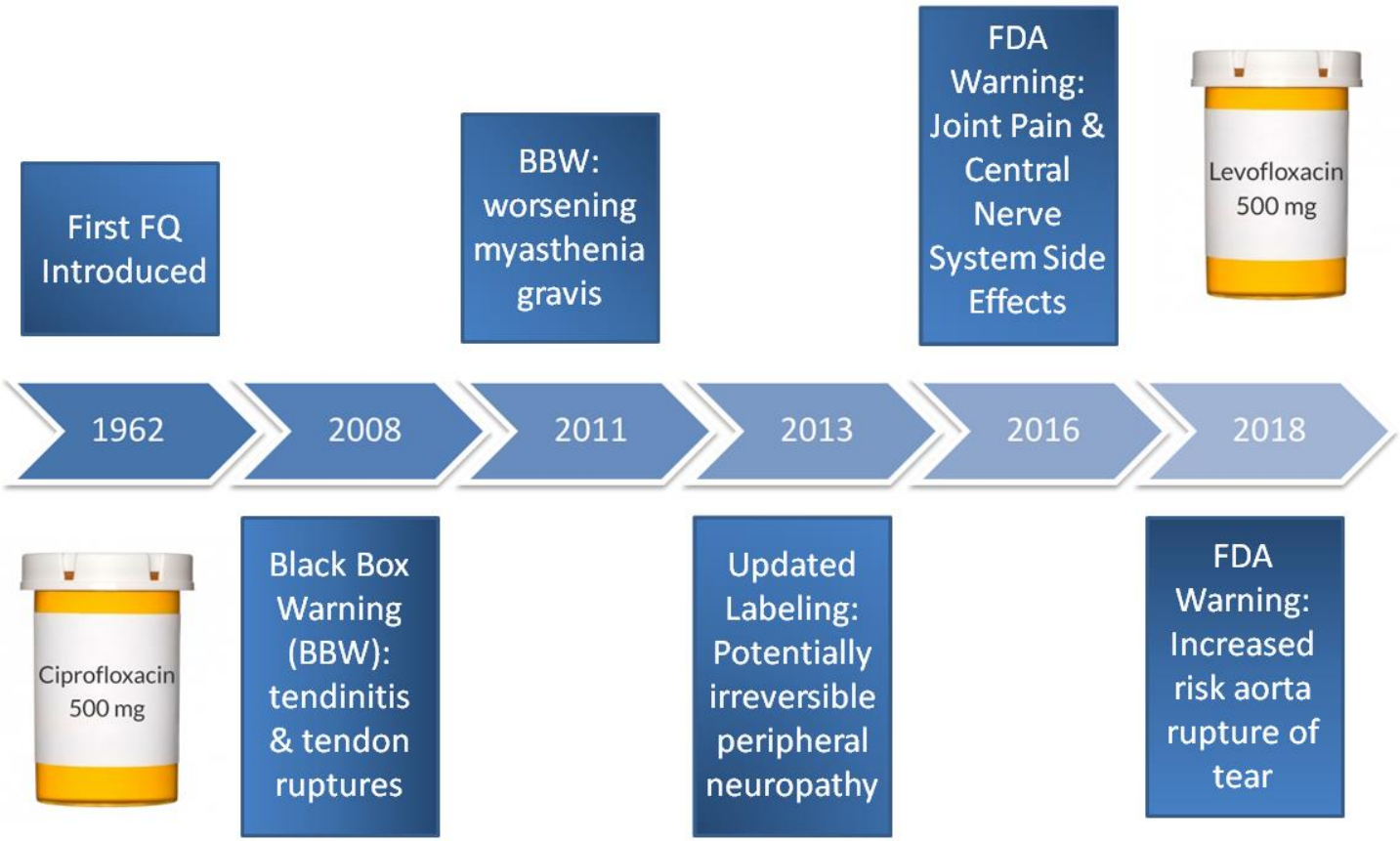
Higher costs

More time in the hospital

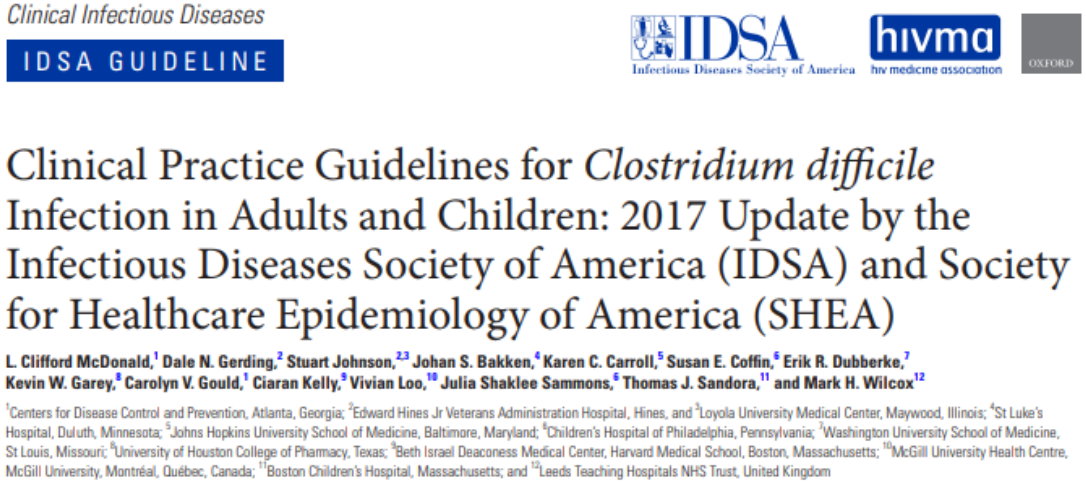
More complications

*Slides complement of Christy Varughese, Hayley Hodgson and Betty Vu at Rush University Medical Center

Fluoroquinolone Toxicity: Example Educational Presentation for Providers



C. Difficile infection prevention: Restricting high-risk antibiotics



Clinical Infectious Diseases

IDSA GUIDELINE

IDSA Infectious Diseases Society of America | hivma hiv medicine association | OXFORD

Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)

L. Clifford McDonald,[1] Dale N. Gerding,[2] Stuart Johnson,[2,3] Johan S. Bakken,[4] Karen C. Carroll,[5] Susan E. Coffin,[6] Erik R. Dubberke,[7] Kevin W. Garey,[8] Carolyn V. Gould,[1] Ciaran Kelly,[9] Vivian Loo,[10] Julia Shaklee Sammons,[6] Thomas J. Sandora,[11] and Mark H. Wilcox[12]

[1]Centers for Disease Control and Prevention, Atlanta, Georgia; [2]Edward Hines Jr Veterans Administration Hospital, Hines, and [3]Loyola University Medical Center, Maywood, Illinois; [4]St Luke's Hospital, Duluth, Minnesota; [5]Johns Hopkins University School of Medicine, Baltimore, Maryland; [6]Children's Hospital of Philadelphia, Pennsylvania; [7]Washington University School of Medicine, St Louis, Missouri; [8]University of Houston College of Pharmacy, Texas; [9]Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts; [10]McGill University Health Centre, McGill University, Montréal, Québec, Canada; [11]Boston Children's Hospital, Massachusetts; and [12]Leeds Teaching Hospitals NHS Trust, United Kingdom

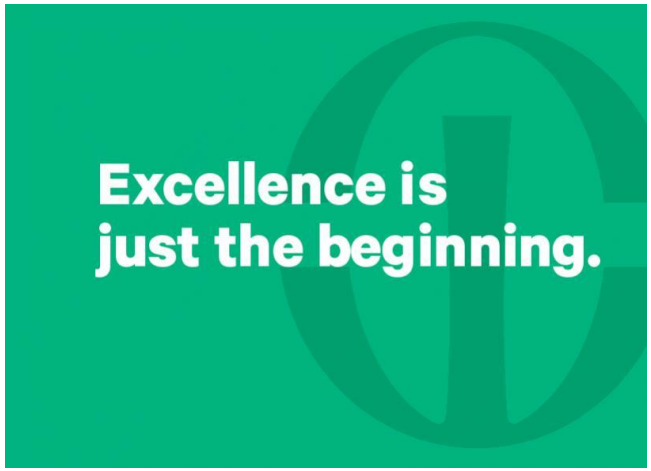
Infectious Disease Society of America Guidelines recommend in new 2018 *C. difficile* prevention & Antimicrobial Stewardship section:

- Antibiotics to be targeted should be based on the local epi and *C. difficile* strains present
- **Restriction of fluoroquinolones, clindamycin, and cephalosporins** (except for surgical antibiotic prophylaxis) should be considered

  (strong recommendation, moderate quality of evidence)

https://www.idsociety.org/globalassets/idsa/practice-guidelines/clinical-practice-guidelines-for-clostridium-difficile.pdf

Examples of Outpatient Antimicrobial Stewardship Program Efforts in the Chicagoland Area



Rush University Medical Center Outpatient Antimicrobial Stewardship:

EXPANSION OF ANTIMICROBIAL STEWARDSHIP PROGRAM TO OUTPATIENT: A FOCUS ON RESPIRATORY & URINARY TRACT INFECTIONS

Benjamin Heikkinen, PharmD; Sarah Won, MD, MPH; Michael Hanak, MD, FAAFP; Patricia Graham, MD; Christy Varughese, PharmD, BCPS; Amy Hanson, PharmD, BCPS AQ-ID

Purpose:

- To assess the rate of fluoroquinolone and macrolide prescribing following implementation of an outpatient antibiotic stewardship program (ASP) consisting of distribution of treatment algorithms and antibiogram.

Methods:

- This was a single-center, retrospective, quasi-experimental study of patients ≥18 who were prescribed an antibiotic for respiratory or urinary tract infections.
- There were 3 pre-intervention groups (2015, 2016, 2017).
- The post-intervention group (December 2017 – January 2018) was compared to the same 2 months of the previous 3 years.

Rush University Medical Group (RUMG): Outpatient Antimicrobial Stewardship

Results/Conclusions:

- Fluoroquinolone and macrolide prescribing, pre- versus post- intervention, both declined by ~10%

Data was presented at Pharmacy, Nutrition and Therapeutics (PN&T) inpatient to show progress of outpatient ASP efforts.

AMITA Outpatient Antimicrobial Treatment Guidelines

- Examples from AMITA/Presence/Adventist/Ascension

*Permission to share from Dr. Sarah Won at Rush University Medical Center

AMITA Outpatient Treatment Guidelines

AMITA Health Adventist Midwest Health
Empiric Outpatient Antimicrobial Treatment Guideline

Peds/Adult	First Line	Alternative	Duration*
Sinusitis 90–98% of rhinosinusitis cases are viral and antibiotics are not guaranteed to help even if the causative agent is bacterial.			
Children	Amoxicillin-Clavulanate 45mg/kg/day (Divided BID)	Clindamycin 30-40 mg/kg/day (Divided TID) PLUS Cefpodoxime 10 mg/kg/day (divided BID) **OR** Cefixime 8 mg/kg/day (divided BID)	10-14 days
Adults	Amoxicillin-Clavulanate 500/125 mg TID 875/125 mg BID	Doxycycline 100 mg BID	5-7 days
Pharyngitis Group A beta-hemolytic streptococcal (GAS) infection is the only common indication for antibiotic therapy for sore throat cases Only 5-10% of adult sore throat cases are caused by GAS			
Children	≤ 27kg: Penicillin V 250mg BID-TID >27kg: Penicillin V 500mg BID-TID or Amoxicillin 50mg/kg daily (max 1,000mg/dose) or 25mg/kg BID (max 500mg/dose)	Cephalexin 40 mg/kg/day divided BID (max 500 mg/dose) Cefadroxil 30 mg/kg once daily (max 1 g) Clindamycin 21 mg/kg/day divided TID (max 300 mg/dose) Clarithromycin 15 mg/kg/day divided BID (max 250 mg/dose)	10 days
Adults	Penicillin V 500mg TID-QID or Amoxicillin 500mg BID	Cephalexin 500mg BID Cefadroxil 1g daily Cefdinir 300mg BID Azithromycin 500mg daily x 3 days	10 days
Acute Otitis Media			
Children	Amoxicillin 80-90 mg/kg/day (divided BID) Amoxicillin-Clavulanate* 90 mg/kg/day (divided BID of 600 mg/5 mL suspension)	Cefdinir 14 mg/kg/day (once daily or divided BID) Cefuroxime 30 mg/kg/day (divided BID) Cefpodoxime 10 mg/kg/day (divided BID)	5-10 days
*Amoxicillin-Clavulanate should only be used in children with amoxicillin use within previous 30 days, concurrent conjunctivitis, or suspected resistant organisms			
Acute Uncomplicated Urinary Tract Infection *Antibiotic therapy is NOT indicated in asymptomatic bacteriuria unless pregnant			
Children	Amoxicillin-Clavulanate 20-40 mg/kg/day (divided TID)	Cefixime 8 mg/kg/day (once daily) Cefpodoxime 10 mg/kg/day (divided BID) Cefprozil 30 mg/kg/day (divided BID)	7-14 days
Adults	Trimethoprim-Sulfamethoxazole 6-12 mg/kg/day TMP (divided BID) Nitrofurantoin 100mg BID x 5days or Cephalexin 500 mg BID x 7 days	Cefuroxime 20-30 mg/kg/day (divided BID) Cephalexin 50-100 mg/kg/day (divided QID) Ceftriaxone 75 mg/kg IM/IV once daily Cefpodoxime 100 mg BID x 3 days Cefdinir 300 mg BID x5 days Bactrim 160/800mg (DS) BID x 3 days	3-7 days
Non-Purulent Cellulitis See more detailed guideline			
Children	Cephalexin 50-75 mg/kg/day divided 3-4 doses/day (max 500mg/dose)	Clindamycin 25-40 mg/kg/day divided into 3 doses/day (max 1800mg/day) Consider higher doses when MRSA suspected or confirmed	10 days
Adults	Cephalexin 500mg QID	Penicillin VK 250-500mg QID Dicloxacillin 250-500mg QID Clindamycin 300-450mg QID	5-7 days
Purulent Cellulitis See more detailed guideline			
Children	Clindamycin 25-40 mg/kg/day divided into 3 doses/day (max 1800mg/day) Consider higher doses when MRSA suspected or confirmed	Bactrim 8-12mg/kg/day divided into 2 doses/day (max 2 DS twice daily)	10 days
Adults	Doxycycline 100mg BID If culture reports MSSA	Bactrim 1-2 DS BID Clindamycin 300-450mg QID	5-7 days
Acute Uncomplicated Bronchitis Evaluation should focus on ruling out pneumonia, which is rare among otherwise healthy adults in the absence of abnormal vital signs (heart rate ≥ 100 beats/min, respiratory rate ≥ 24 breaths/min, or oral temperature≥ 38 °C) and abnormal lung examination findings (focal consolidation, egophony, fremitus). Colored sputum does not indicate bacterial infection. Routine treatment with antibiotics is not recommended, regardless of cough duration per the CDC.			
*Clinical Response should guide duration of therapy when appropriate			

*Permission to share from Brian Maynard, ID PharmD at AMITA/Presence/Adventist/Ascension

Awards for Outpatient Antimicrobial Stewardship

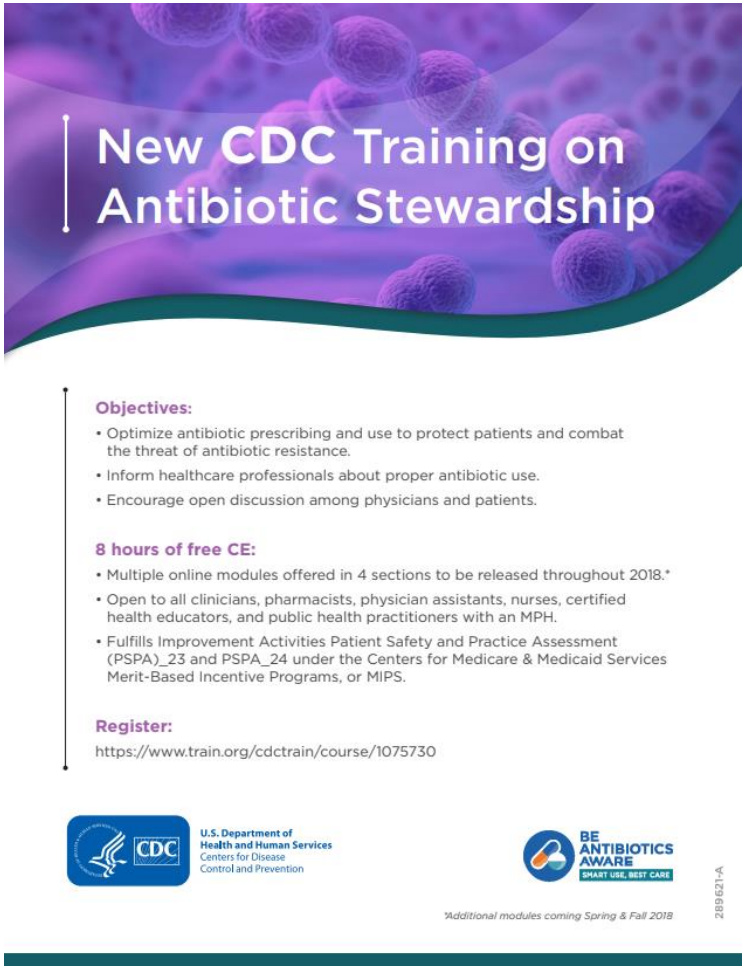
- To date, many focus on inpatient, hospital progress in antimicrobial stewardship programs.
- However, there is a need to better recognize outpatient efforts in this arena.
- Local QIN-QIOs in collaboration with state-wide (IDPH) efforts have advance this field significantly over the past 5 years.
- A new 5-year action plan (2020-2025) is currently being worked on in the White House (PACCARB) to delineate priorities, including the work that needs accomplishing with outpatient antimicrobial stewardship.

ANTIBIOTIC STEWARDSHIP TOOLKIT
FOR PRIMARY CARE PROVIDERS

Outpatient Resources Available Online

Chicago HAN Health Alert Network

Many additional resources included in the Binder being distrubuted to 450 outpatient clinics (250 primary and/or urgent care; 200 dental providers) in July 2019, and re-fresh of materials will occur October/September 2019 for **CDC Antimicrobial Awareness week** November 2019



https://www.chicagohan.org/antimicrobialstewardship

https://www.train.org/cdctrain/course/1075730/compilation

Contact Info for CDPH HAI/AR Team

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CDPH Antimicrobial Stewardship

Click here for more information on Antimicrobial Stewardship!

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HEALTHY CHICAGO
CHICAGO DEPARTMENT OF PUBLIC HEALTH

For questions related to Healthcare Associated Infection/Antibiotic Resistance, please, contact the Chicago Department of Public Health at:
CDPHHAIAR@cityofchicago.org
312-746-4683 (Fax)

Related Links

Chicago Department of Public Health & Illinois Department of Public Health:

Chicago Department of Public Health Healthcare Associated Infections

Illinois Department of Public Health Healthcare Associated Infections & Antimicrobial Resistance Prevention Program

Illinois Department of Public Health - Antimicrobial Stewardship Website

Other Antimicrobial Stewardship Related Links:

Infectious Disease Society of America Practice Guidelines

CDC Core Elements of Antimicrobial Stewardship in Nursing Homes Website

CDC Core Elements of Hospital Antimicrobial Stewardship Programs Website

CDC Core Elements of Outpatient Antimicrobial Stewardship Website

JAMS: The Journal of Antimicrobial Stewardship Website

What Questions Do You Have?

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