Using the *Core Elements of Antibiotic Stewardship for Health Departments* to Expand State and Local Health Department Stewardship Activities

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Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention (CDC)

NACCHO's Healthcare Infection Prevention and Control Summit-Chicago, IL
May 8, 2024

Objectives

- Describe the public health-supported stewardship implementation strategies listed in the Core Elements of Antibiotic Stewardship for Health Departments.
- Analyze examples from health departments in **Chicago, Lake County** and **Illinois** to illustrate the application and effectiveness of *Core Elements* in combating antimicrobial resistance.
- Discuss **resources** state and local health departments need to support their antibiotic stewardship programs.

Project Firstline is a national collaborative led by the U.S. Centers for Disease Control and Prevention (CDC) to provide infection control training and education to frontline healthcare workers and public health personnel. National Association of County and City Health Officials (NACCHO) is proud to partner with Project Firstline to host the NACCHO Healthcare Infection Prevention and Control Summit (Summit), as supported through CDC Grant # 6NU38OT000306-03-05. CDC is an agency within the Department of Health and Human Services (HHS). This presentation is being hosted as part of the Summit; the contents of this presentation and Summit do not necessarily represent the policies of CDC or HHS and should not be considered an endorsement by the Federal Government.

Five core strategies to combat the threat of antibiotic resistant infections

Antibiotic use and access:

- Improve **appropriate** use
- Reduce **unnecessary** use
- Ensure **improved access**

Infection prevention and control: Prevent infections and reduce the spread of germs

Tracking and data: Share data and improve data collection

Antibiotic use and access: Improve appropriate use of antibiotics, reduce unnecessary use (called antibiotic stewardship), and ensure improved access to antibiotics

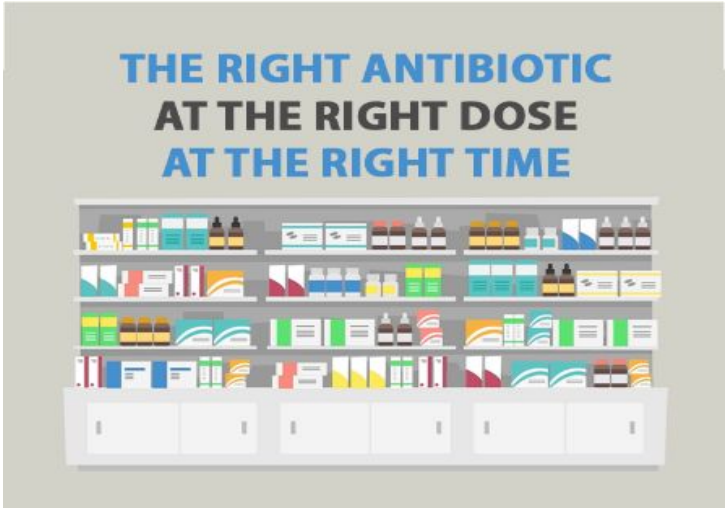
Vaccines, therapeutics, and diagnostics: Invest in development and improved access to vaccines, therapeutics, and diagnostics for better prevention, treatment, and detection

Environment and sanitation: Keep antibiotics and antibiotic-resistant threats from entering the environment through actions like improving sanitation and improving access to safe water

Antibiotic Resistance Threats in the United States, 2019 (cdc.gov)

Antibiotic Stewardship

- Antibiotic stewardship is a set of commitments and actions designed to **optimize** the treatment of infections while **reducing** adverse events associated with antibiotic use.



CDC's Office of Antibiotic Stewardship

Melinda Neuhauser
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ID-Pharmacy

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State Support &
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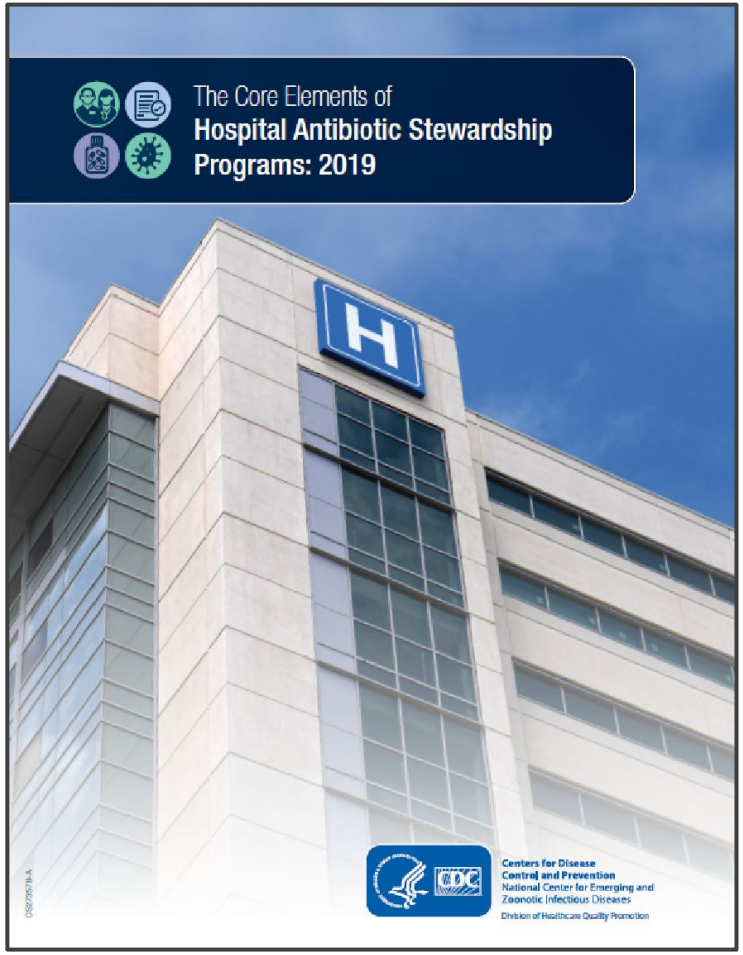
LTC & Outpatient Data Analysis
CTR w Chenega/ChESS

- Surveillance of antibiotic use and stewardship activities
- Developing guidance, leveraging policies and supporting healthcare and public health partners
- Developing and disseminating stewardship education to healthcare professionals and the public.



Core Elements of Hospital Antibiotic Stewardship Programs

Hospital Leadership Commitment
Dedicate necessary human, financial, and information technology resources.

Accountability
Appoint a leader or co-leaders, such as a physician and pharmacist, responsible for program management and outcomes.

Pharmacy Expertise (previously "Drug Expertise"):
Appoint a pharmacist, ideally as the co-leader of the stewardship program, to help lead implementation efforts to improve antibiotic use.

Action
Implement interventions, such as prospective audit and feedback or preauthorization, to improve antibiotic use.

Tracking
Monitor antibiotic prescribing, impact of interventions, and other important outcomes, like *C. difficile* infections and resistance patterns.

Reporting
Regularly report information on antibiotic use and resistance to prescribers, pharmacists, nurses, and hospital leadership.

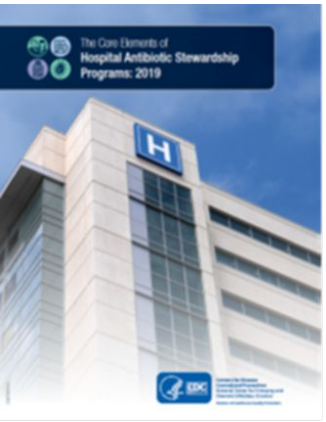
Education
Educate prescribers, pharmacists, nurses, and patients about adverse reactions from antibiotics, antibiotic resistance, and optimal prescribing.

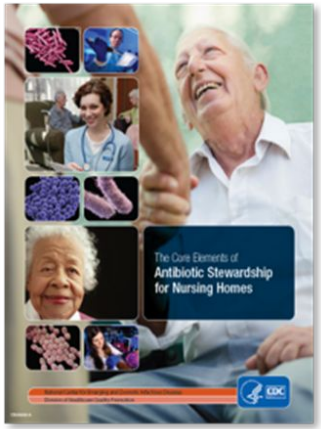
[Core Elements of Hospital Antibiotic Stewardship Programs | Antibiotic Use | CDC]

The Implementation of the Core Elements of Antimicrobial Stewardship

Core Elements of Antibiotic Stewardship

- CDC released the Core Elements of Antibiotic Stewardship for healthcare settings outlining structural and procedural components that are associated with successful antibiotic stewardship programs.





https://www.cdc.gov/antibiotic-use/core-elements/index.html

Epidemiology and Laboratory Capacity (ELC) Cooperative Agreement

- Health departments are crucial to the nation's ability to monitor, prevent and respond to infectious diseases and outbreaks.

- Since 2009, CDC has funded **64 state and local health department HAI/AR programs** through the ELC Cooperative Agreement to support epidemiology, laboratory and health information system capacity building.
    - Limited funding for some health departments for antibiotic stewardship before 2009

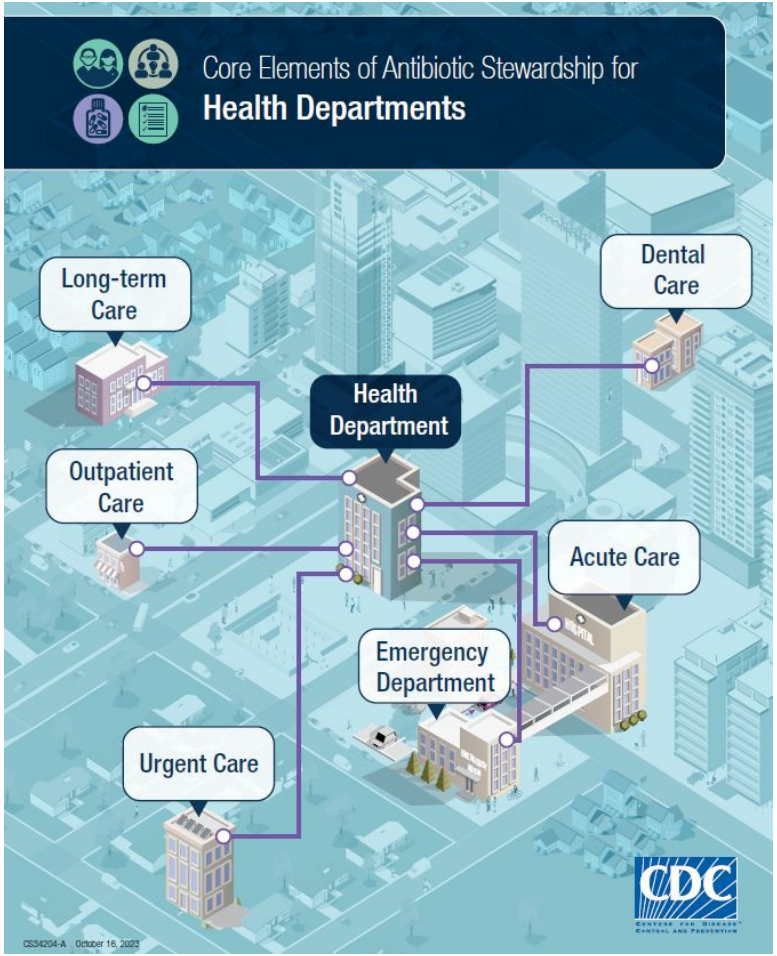
Expansion of public health stewardship activities

- A portion of COVID-19 supplemental funding included a focus on **expanding stewardship activities** through:
  - Hiring and maintaining staff to expand access to stewardship expertise
  - Rapid hiring stewardship leads/co-leads with variable stewardship experience in public health

- Adapt the *Core Elements* framework to a health-department specific guidance
  - Identify stewardship activities that are most feasible, impactful and sustainable

Identifying key strategies for health department stewardship activities

- Core Elements of Antibiotic Stewardship for Health Departments framework development
  - Review of published literature on health department-led stewardship activities
- Health departments submit yearly **performance measures**
  - Number and type of staff leading and supporting stewardship activities
  - Description of antibiotic stewardship activities implemented
- Review of performance measures of planned and implemented stewardship activities submitted by state and local health departments



Leadership Commitment
Dedicate human and financial resources for state and local health department antibiotic stewardship programs.

Accountability
Designate a leader or co-leaders, such as physician and pharmacist, responsible for the health department antibiotic stewardship program.

Stewardship Expertise
Ensure that the antibiotic stewardship program leader or co-leaders have expertise and experience implementing stewardship activities.

Action
Support the implementation of antibiotic stewardship activities by leveraging local partners or stewardship collaboratives.

Tracking
Monitor stewardship activities and antibiotic use data to inform and assess stewardship actions across the spectrum of health care.

Reporting
Report data on stewardship activities and antibiotic use to health department leadership, local partners, stewardship collaboratives, healthcare professionals and the public.

Education
Provide antibiotic stewardship education to healthcare professionals and the public to optimize antibiotic use.

Core Elements of Antibiotic Stewardship for Health Departments | Antibiotic Use | CDC

- *Core elements* definitions
- Example strategies
- Implementation resources

Core Elements of Antibiotic Stewardship for Health Departments | Antibiotic Use | CDC

Leadership, Accountability and Expertise

Leadership Commitment

- Engaging with **senior health department leadership** to establish stewardship as a priority and to secure dedicated human and financial resources;
  - Have regular meetings and reporting structure
  - Integrate stewardship with other health department programs
  - Ensure support for training and education of program leaders and staff

Accountability

- Accountability ensures having **designated leadership (or co-leadership)** who are accountable for the development, implementation, evaluation, and reporting of stewardship activities.
  - Individuals with skills and experience supporting stewardship activities in part-time or full-time capacity
    - Infectious diseases and clinical stewardship implementation
    - Epidemiology
    - Data analysis and information technology
    - Health communication and education
    - Project support and grant management

Stewardship Expertise

- Antibiotic stewardship leader/co-leaders should have expertise and experience in the implementation of stewardship activities.
  - Leader/co-leaders with training and experience in infectious diseases and/or stewardship
  - Access to local or remote stewardship experts
  - External multidisciplinary advisory group

Expansion of Stewardship Expertise, August 2022-July 2023

- 49 (77%) jurisdictions reported identifying stewardship lead/co-lead
  - 23 (47%) pharmacists
  - 5 (37%) physicians
  - 24 (19%) with infectious diseases training

Preliminary analysis; may be subject to change

10% of all stewardship staff work at a Local Health Department, 2022*

- **All Health Departments**
  - **354** unique persons working on stewardship
    - Range: 1-22
    - Average: 6.4 persons per jurisdiction
    - Full-time: 24%

- **Local Health Departments**
  - **36** unique persons working on stewardship
    - Range: 4-8
    - Average: 6 persons per jurisdiction
    - Full-time: 20%

*Local health departments receiving ELC funding are: Chicago, District of Columbia, Houston, LA county, NY City, and Philadelphia.

Action, Tracking and Reporting, Education

Action

- Support implementation of stewardship activities by leveraging local partners or collaboratives
  - Leverage data on stewardship activities and antibiotic use
  - Support the development and implementation of guidance and policies
  - Prioritize settings with limited access to stewardship expertise, provide technical assistance

Tracking & Reporting

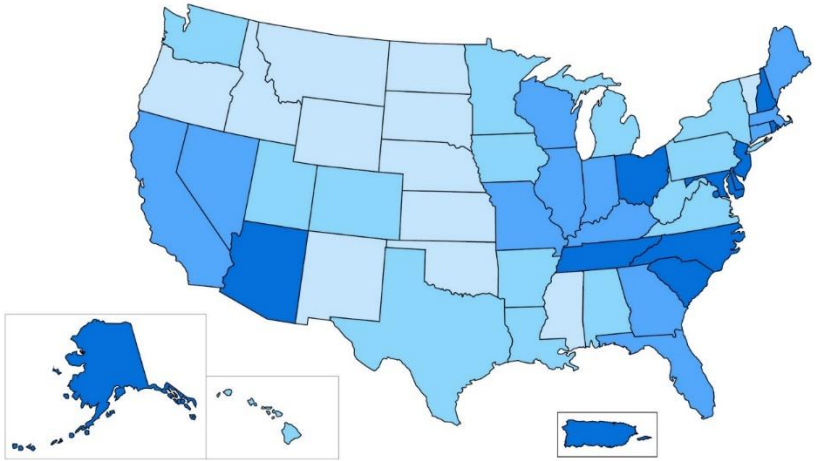
- Monitor and report **stewardship activities** and **antibiotic use** data to inform and assess stewardship actions across the spectrum of healthcare.

- Example Strategies:
  - Tracking data on stewardship activities and Core Elements uptake
  - Tracking antibiotic use data

- These data can be reported to health department leadership, partners, collaboratives, healthcare professionals and the public.

Antibiotic Resistance & Patient Safety Portal

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE



Explore and Visualize Data on Antibiotic Use and Stewardship

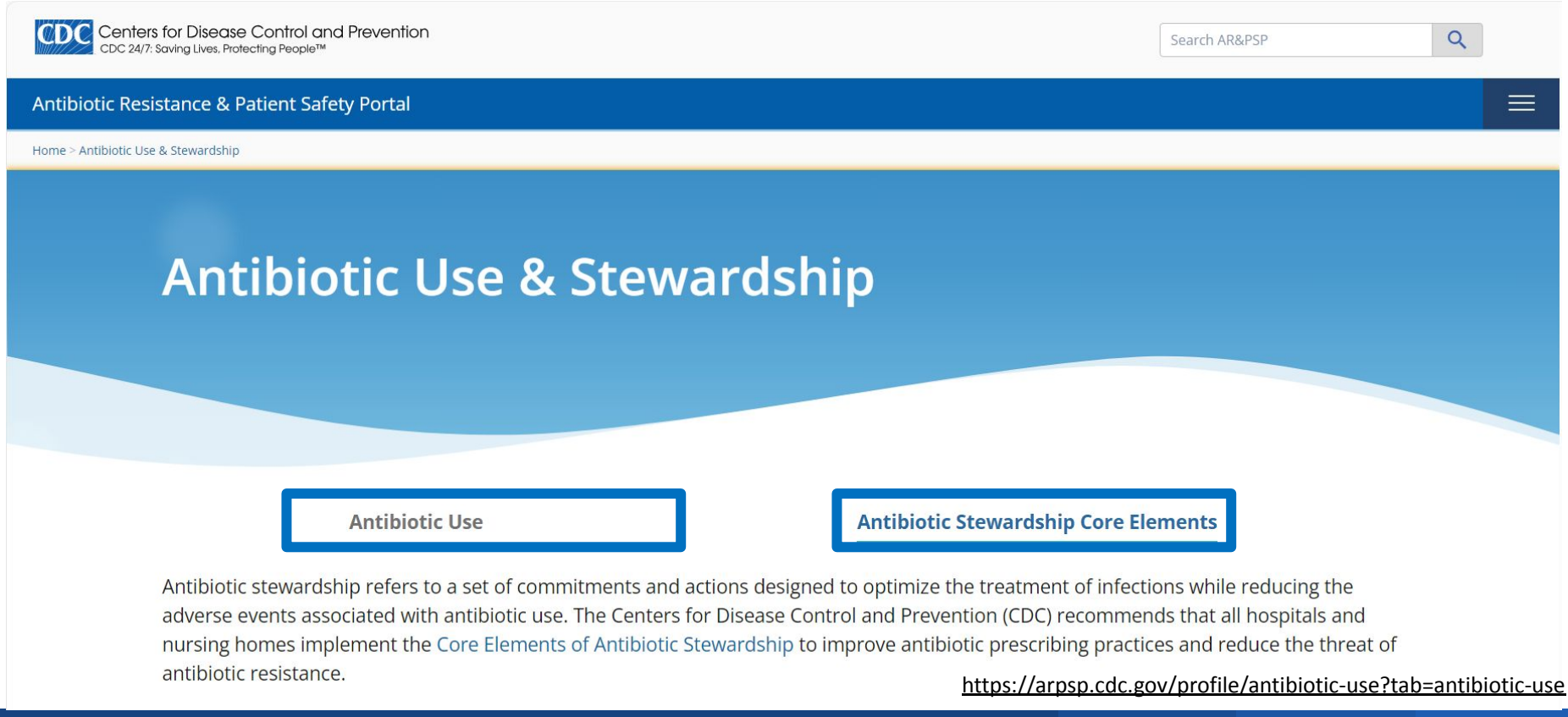
For more information, visit www.cdc.gov/antibiotic-use or call 1-800-CDC-INFO.

CDC

CS335177-A

[Antibiotic Use and Stewardship Antibiotic Resistance and Patient Safety Portal (ARPSP) website]

Antibiotic Stewardship Core Elements



https://arpsp.cdc.gov/profile/antibiotic-use?tab=antibiotic-use

Education

- Provide antibiotic stewardship education to healthcare professionals and the public to optimize antibiotic use.
  - Outreach to healthcare professionals in rural settings where there may be limited educational resources available.

Promoting Local Engagement in Antibiotic Stewardship Efforts (PLEASE): Use Your Data for Continuous Improvement

Continuous improvement opportunity identified

April 2023 Minnesota Department of Health (MDH) report[1] revealed need to address LTC facility stewardship implementation barriers:

1. Resident/family pressure
2. Lack of awareness & commitment from HCPs

Data spurred local coalition's commitment to act.

LTC Infection Prevention Coalition of Hennepin County*
*Convened by Hennepin County Public Health (HCPH)

Resources & partnerships generously shared

NACCHO funded HCPH to implement the CDC LHD Strategy for HAI/AR to strengthen HCPH's prevention capacity through June 2024.

Coalition engaged subject matter experts (SME) to develop an eight-part antibiotic & urine culture stewardship curriculum for LTC HCPs, including nurses, IPs, clinicians, consulting pharmacists & QAPI committee members.

Project deemed eligible for CME credit by MMA

Capacity-building goals developed & activities planned & initiated

Desired behavior: Clinical guideline-concordant diagnostic & prescribing behaviors
Desired outcome: Prevent antimicrobial resistance (AR) & HAIs caused by AR pathogens

SME-led virtual curriculum:
1) Interactive webinar series; 2) data use collaborative workshops; 3) Q&A panel

Interdisciplinary SMEs:
Sarah Kabbani, MD, MSc
Director, CDC Office of Antibiotic Stewardship
Steven J. Schweon, RN, MPH, MSN, CIC, LTC-CIP, CPHQ, FSHEA, FAPIC
Infection Preventionist, Steven J. Schweon LLC
Galina Shteyman, PharmD, RPH, BCPS, BCIDP
Antimicrobial Stewardship Consultant Pharmacist
HAI/AR Section | MDH

Data collection & evaluation in progress

Coalition members shared event invitations via multiple distribution lists throughout MN, WI, MI.

Cumulative participation for first three events = **325**

Overall impact pending; responses to evaluation question, 'As a result of this activity, what changes do you intend to make in your resident care practices?':

"Work more confidently with the providers to manage abx"

"Better tracking & surveying of abx usage & UTI diagnostic testing"

"Pharmacy consultant review"

[1] Antibiotic Use & Stewardship in Minnesota (MN): 2023 Update on Progress & Opportunities

Abbreviations: AR= antibiotic resistance; CME= continuing medical education; HAI= healthcare-associated infection; HCP= healthcare personnel; IP= infection preventionist; LHD= local health department; LTC= long-term care; MMA= Minnesota Medical Association; NACCHO= National Association of County & City Health Officials; QAPI= quality assurance/performance improvement

Patient Resources and Education

Español (Spanish) | Print

CDC offers a number of materials and tools to help you learn about antibiotic resistance and appropriate prescribing and use for common infections. Permission is not needed to print, copy, or distribute any materials. Permission is needed if you plan to adjust content or add your brand to CDC materials. Contact antibioticuse@cdc.gov for more details. To order print materials, visit CDC-INFO on Demand – Publications and sort the "Programs" dropdown menu by selecting "Antibiotic Use." Then click the "Search" button to view all available publications

Print Materials

Treatment for Common Illnesses

Video and Audio

Web Images and Graphics

Featured Resource

Viruses or Bacteria—What's Got You Sick? [PDF – 1 Page]

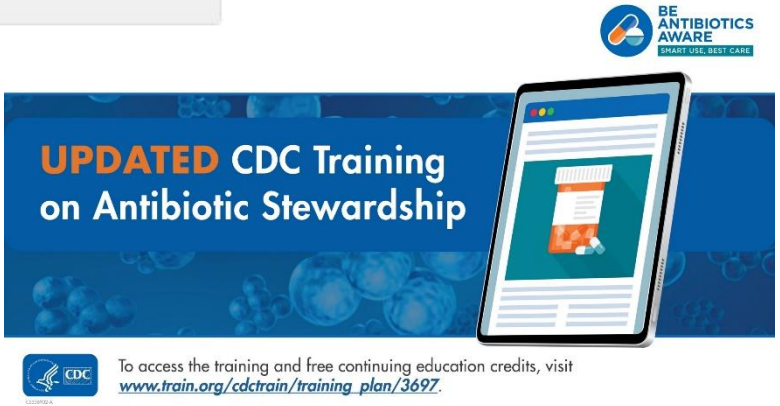
Patient Resources and Education | Antibiotic Use | CDC

Healthcare Professional Resources and Training

Print

Educational resources, continuing education (CE) and training opportunities, and resources for state and local health departments on antibiotic stewardship.

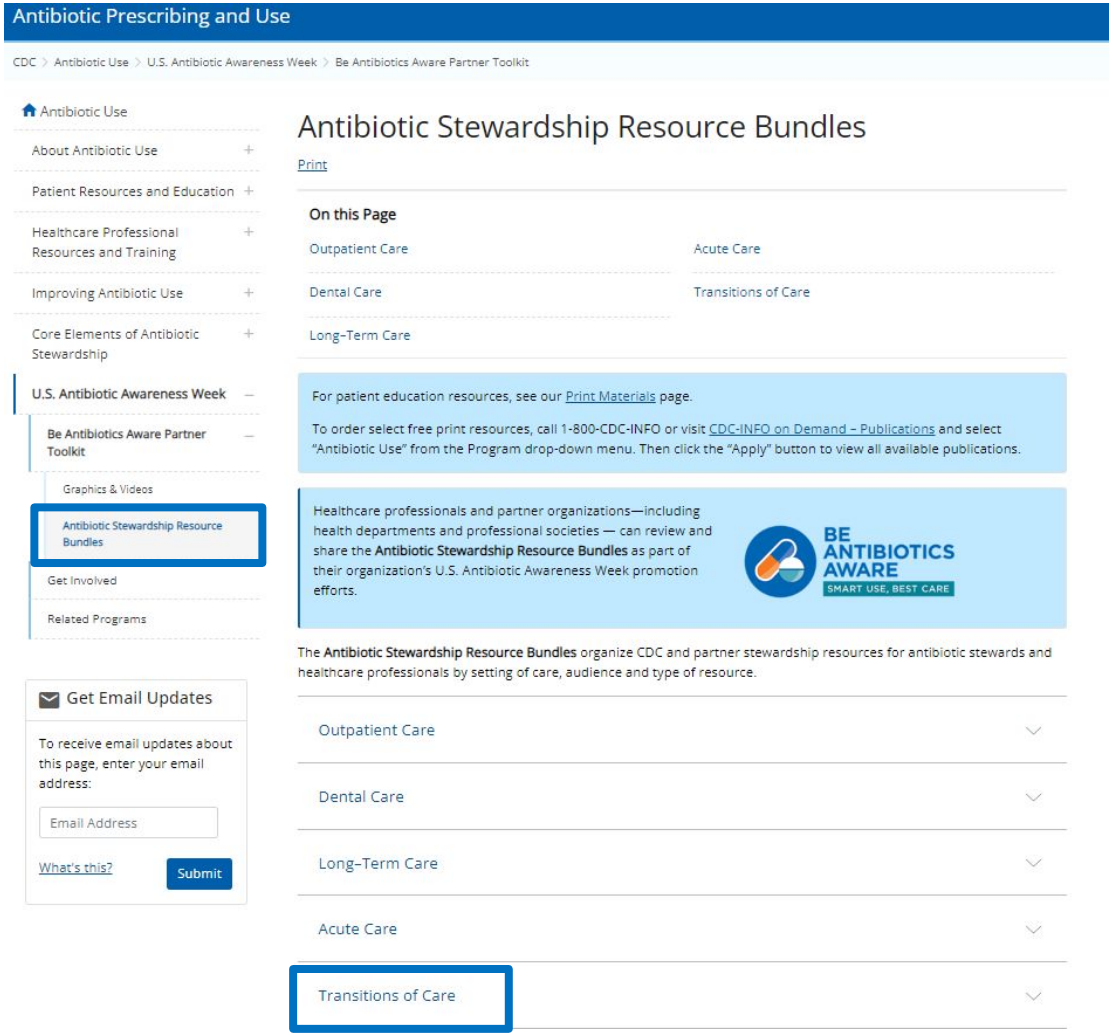
- Educational Resources for Healthcare Professionals
- CE and Training
- Treatment Recommendations for Common Illnesses and Penicillin Allergy



[Healthcare Professional Resources and Training | Antibiotic Use | CDC](https://www.train.org/cdctrain/training_plan/3697)
https://www.train.org/cdctrain/training_plan/3697

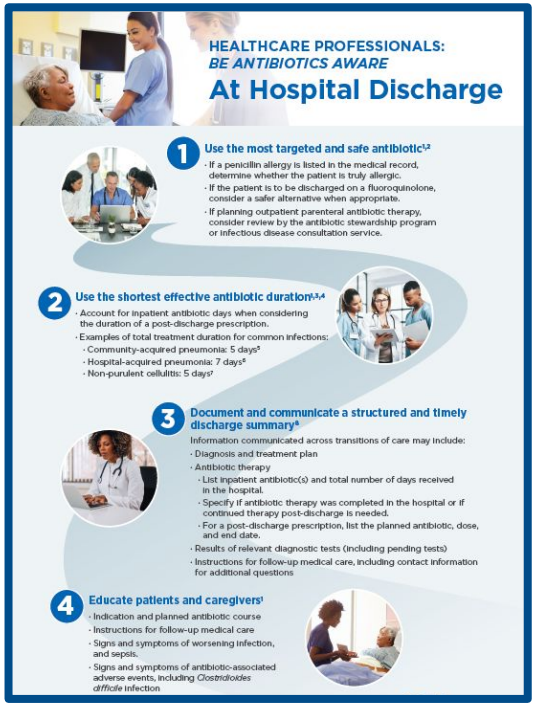
CDC training with over 8 hours of free CE credits

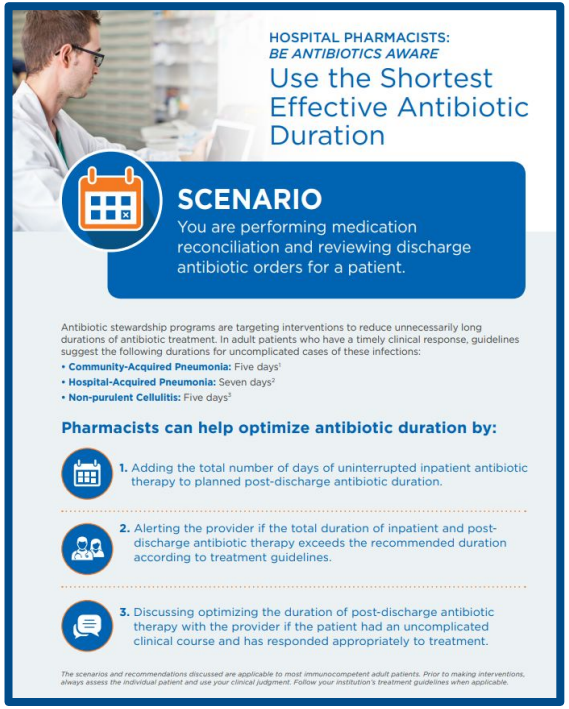
Antibiotic Stewardship Bundles

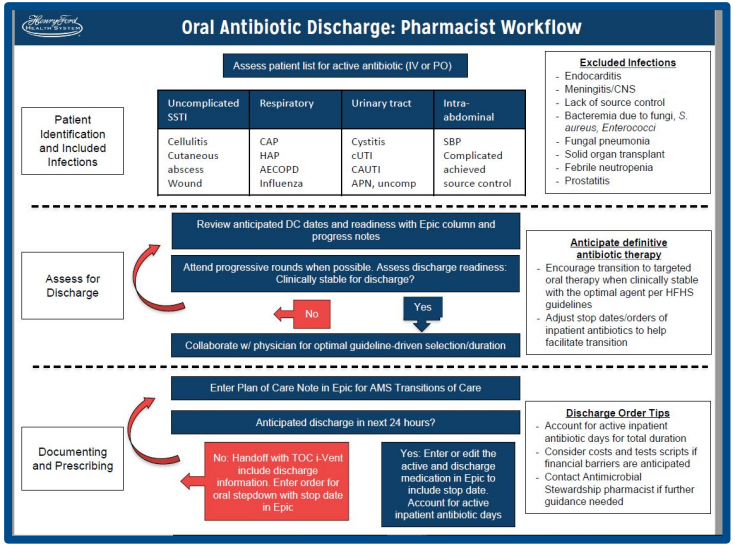


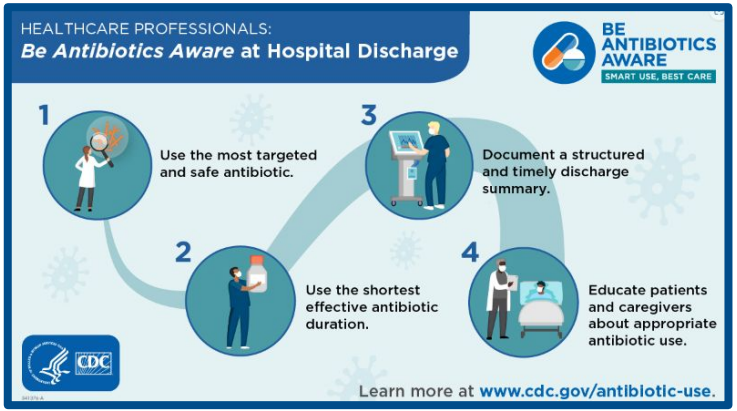
[Handouts and Posters | Be Antibiotics Aware Partner Toolkit | Antibiotic Use | CDC]

Transition of Care Bundle









https://www.cdc.gov/antibiotic-use/week/toolkit/handouts.html

U.S. Antibiotic Awareness Week

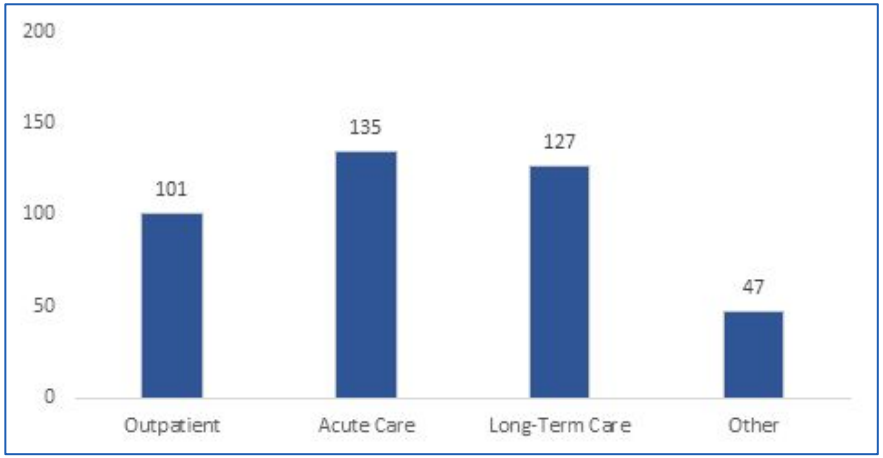
- Annual one-week observance that gives participating organizations an opportunity to raise awareness of the importance of appropriate antibiotic use to combat the threat of antimicrobial resistance.

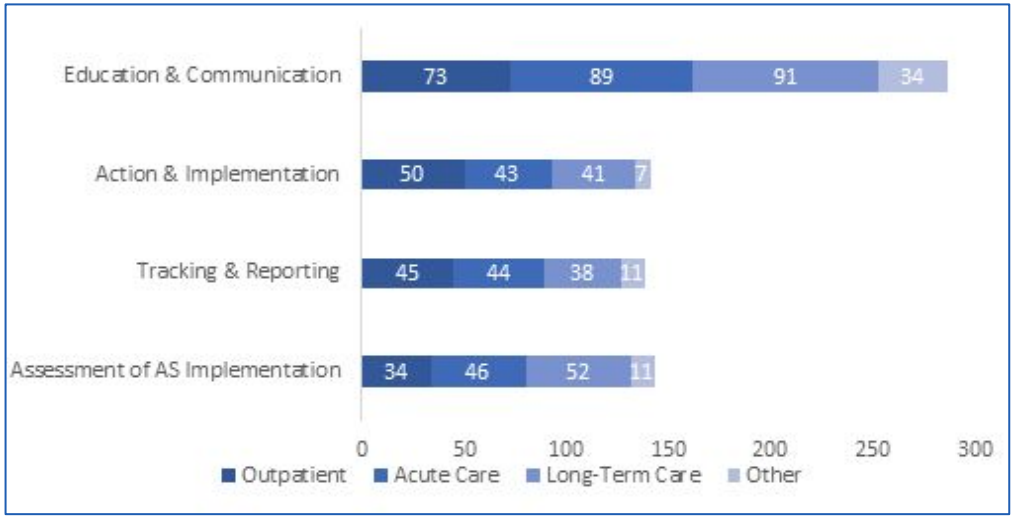
- *Be Antibiotics Aware*, a CDC educational effort, complements U.S. Antibiotic Awareness Week by providing partners with up-to-date information to help improve human antibiotic prescribing and use in the United States.

Be Antibiotics Aware Partner Toolkit | Antibiotic Use | CDC

Antibiotic Stewardship Activities

August 1, 2021–July 31, 2022, N=259 activities (mean=9)





*Activities are not mutually exclusive; some activities may involve multiple setting types and/or multiple activity categories. Their sum exceeds the number of total activities. Other settings include dialysis facilities, telehealth, dental clinics, OneHealth collaboratives, ambulatory surgical centers.

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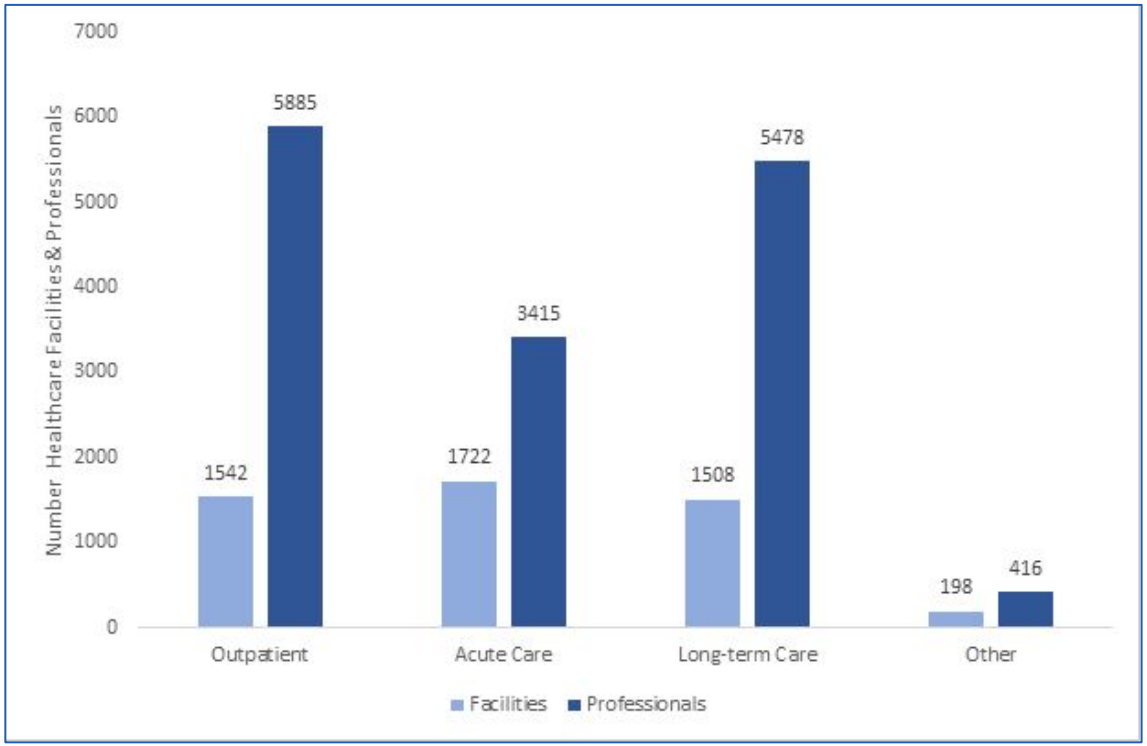
Engagement of Healthcare Facilities and Healthcare Professionals-August 1, 2021–July 31, 2022



*Lighter shaded bars represent facilities; darker shaded bars represent professionals.

The Implementation of the *Core Elements of Antibiotic Stewardship* at the City, State and County Level

CDPH
Chicago Department of Public Health

Antimicrobial Stewardship Perspectives from a City Health Department

Star (Estrella) Cervantes, PharmD, BCPS, AAHIVP
Antimicrobial Stewardship Pharmacist
The Chicago Department of Public Health (CDPH)

Objectives

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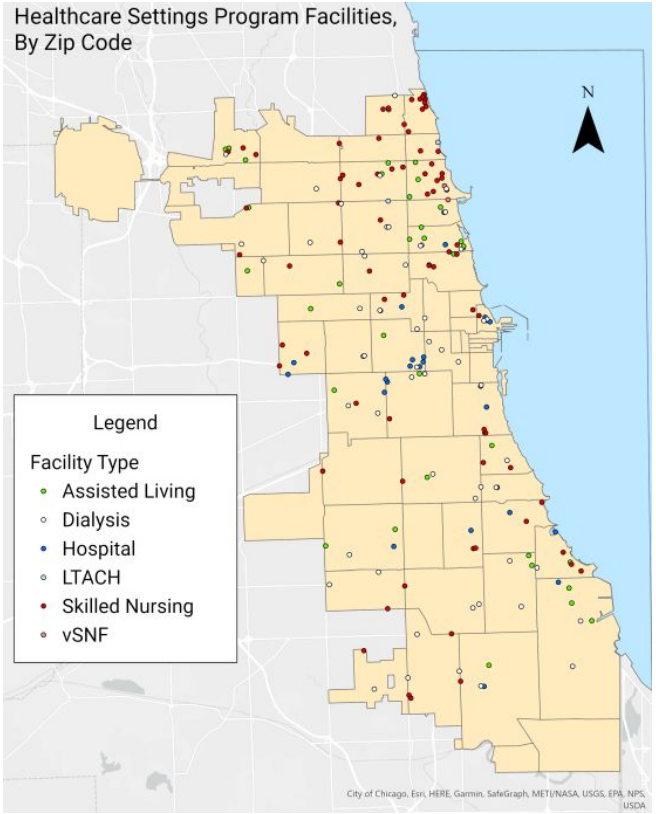
Chicago Health Care Landscape

- 33 Acute Care Hospitals (ACHs)
  - 3 Long-Term ACHs (LTACHs)
- 79 Skilled Nursing Facilities (SNFs)
  - 4 Ventilator-Capable SNFs (vSNFs)
- 67 Dialysis Centers
- 35 Assisted Living Facilities
- Clinics
  - 103 Federally Qualified Health Centers (FQHCs)
- 390 Pharmacies

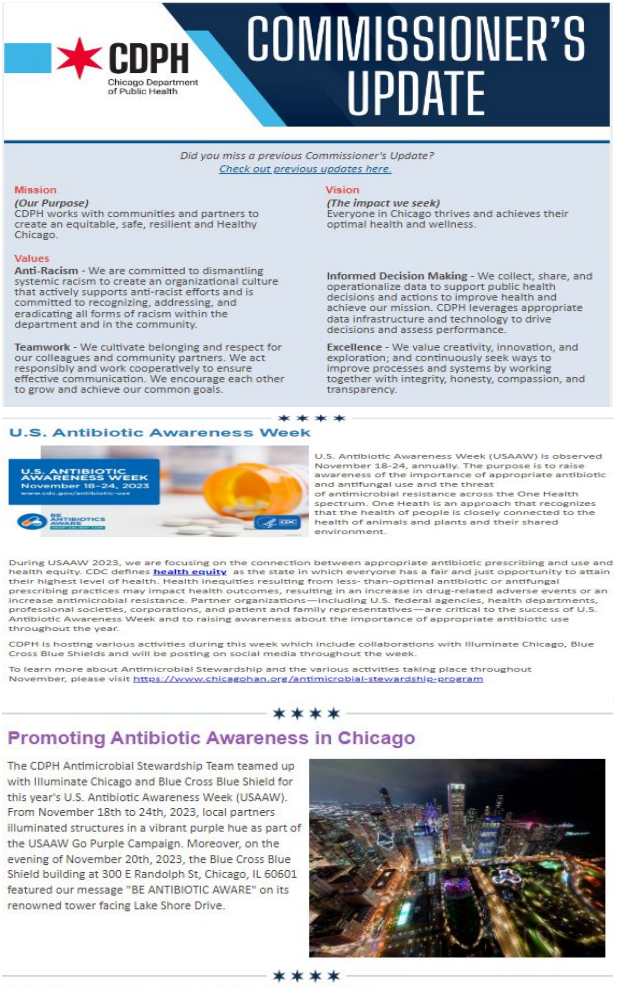


Health Care Associated Infections & Antimicrobial Resistance (HAI/AR) Team

HAI/AR Medical Directors	• Infectious Disease Physician • Infectious Disease / Clinical Microbiology Physician
Antimicrobial Stewardship (AS) Program	• AS Pharmacist • AS Epidemiologist II & III • AS Public Health Administrator
Infection Preventionist	• Acute Care, Outpatient, and Other Settings (ACHOO) • Skilled Nursing Facility and Assisted Living/Supportive (SNFAL) • Long Term Acute Care Hospitals (LTACH) and Ventilator Capable SNF (vSNF)
One Health Program	• Doctor of Veterinary Medicine (2)
HAI/AR Program	• HAI/AR Coordinator • HAI Epidemiologist • AR Testing Lead

Leadership Commitment

- CDPH medical directors serve as advocates for support, funding and visibility of AS program
- Collaborate to write grants and milestones
- Antimicrobial Stewardship Pharmacist meets twice a month with HAI/AR Medical Directors
- Feature stewardship initiatives and activities on weekly “Commissioners Updates” and “All-Hands Webinar”



CDPH
Chicago Department of Public Health

COMMISSIONER'S UPDATE

Did you miss a previous Commissioner's Update?
Check out previous updates here.

Mission
(Our Purpose)
CDPH works with communities and partners to create an equitable, safe, resilient and Healthy Chicago.

Vision
(The impact we seek)
Everyone in Chicago thrives and achieves their optimal health and wellness.

Values

Anti-Racism - We are committed to dismantling systemic racism to create an organizational culture that actively supports anti-racist efforts and is committed to recognizing, addressing, and eradicating all forms of racism within the department and in the community.

Informed Decision Making - We collect, share, and operationalize data to support public health decisions and actions to improve health and achieve our mission. CDPH leverages appropriate data infrastructure and technology to drive decisions and assess performance.

Teamwork - We cultivate belonging and respect for our colleagues and community partners. We act responsibly and work cooperatively to ensure effective communication. We encourage each other to grow and achieve our common goals.

Excellence - We value creativity, innovation, and exploration; and continuously seek ways to improve processes and systems by working together with integrity, honesty, compassion, and transparency.

U.S. Antibiotic Awareness Week

U.S. Antibiotic Awareness Week (USAAW) is observed November 18-24, annually. The purpose is to raise awareness of the importance of appropriate antibiotic and antifungal use and the threat of antimicrobial resistance across the One Health spectrum. One Heath is an approach that recognizes that the health of people is closely connected to the health of animals and plants and their shared environment.

During USAAW 2023, we are focusing on the connection between appropriate antibiotic prescribing and use and health equity. CDC defines health equity as the state in which everyone has a fair and just opportunity to attain their highest level of health. Health inequities resulting from less- than-optimal antibiotic or antifungal prescribing practices may impact health outcomes, resulting in an increase in drug-related adverse events or an increase antimicrobial resistance. Partner organizations—including U.S. federal agencies, health departments, professional societies, corporations, and patient and family representatives—are critical to the success of U.S. Antibiotic Awareness Week and to raising awareness about the importance of appropriate antibiotic use throughout the year.

CDPH is hosting various activities during this week which include collaborations with Illuminate Chicago, Blue Cross Blue Shields and will be posting on social media throughout the week.

To learn more about Antimicrobial Stewardship and the various activities taking place throughout November, please visit https://www.chicagohan.org/antimicrobial-stewardship-program

Promoting Antibiotic Awareness in Chicago

The CDPH Antimicrobial Stewardship Team teamed up with Illuminate Chicago and Blue Cross Blue Shield for this year's U.S. Antibiotic Awareness Week (USAAW). From November 18th to 24th, 2023, local partners illuminated structures in a vibrant purple hue as part of the USAAW Go Purple Campaign. Moreover, on the evening of November 20th, 2023, the Blue Cross Blue Shield building at 300 E Randolph St, Chicago, IL 60601 featured our message "BE ANTIBIOTIC AWARE" on its renowned tower facing Lake Shore Drive.

Accountability & Expertise

HAI/AR Medical Directors	One Health Medical Directors	Antimicrobial Stewardship Pharmacist	Epidemiologist	Public Health Administrators	Others
▪ Stephanie Black ▪ Do Young Kim	▪ Michelle Funk ▪ Janna Kerins	▪ Star (Estrella) Cervantes	▪ Clarissa Najera ▪ Linda Li	▪ Jazmine Wright	▪ Student Interns ▪ Pharmacy Students

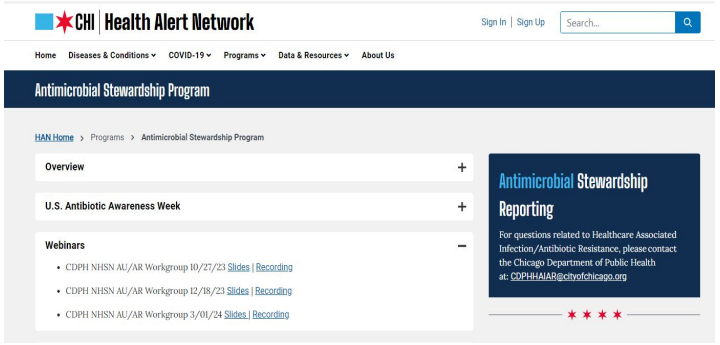
Action

NHSN ANTIBIOTIC USE / RESISTANCE (AU/AR) ACUTE CARE WORKGROUP

INFECTION CONTROL ASSESSMENT AND RESPONSE (ICAR) TOOL FOR ANTIMICROBIAL

LONG TERM ACUTE CARE HOSPITAL BASELINE ANTIBIOTIC USE SURVEY

NHSN AU/AR Acute Care Workgroup



NHSN AU/AR Workgroup

- Assist acute care facilities in Chicago
- Bi-monthly virtual meetings
- Includes pharmacist, physicians, infection preventionist, IT

CDPH Workgroup Goals

- Provide education to facilities on the AU/AR module reporting mandate in 2024
- Provide a space for facilities to discuss barriers and challenges
- Develop AU/AR quarterly data report for facilities to track benchmark measures
- Provide technical support

https://www.chicagohan.org/antimicrobial-stewardship-program

Infection Control Assessment and Response Tool: Antimicrobial Stewardship

Send

- ICAR form is sent to Antimicrobial Stewardship leads to facility

Analyze

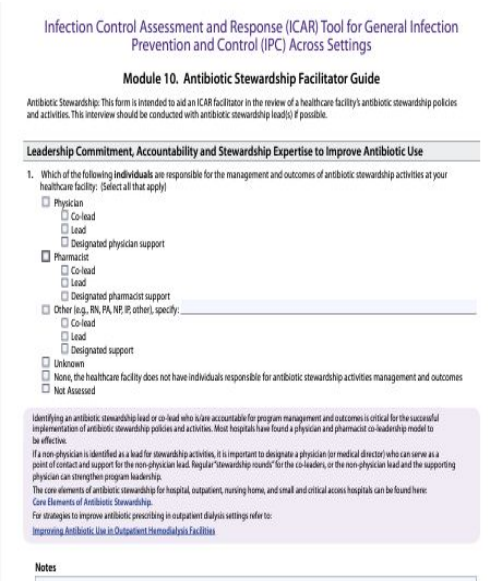
- ICAR responses are analyzed by CDPH Antimicrobial Stewardship lead and Antimicrobial Stewardship Epi
- AS team will reach out to facility to clarify any questions and request protocols/guidelines

Establish

- AS team creates customized feedback and identify areas of opportunity at the facility

Site Visit

- AS team review's written recommendations with facility based on results via site visit in person or virtually



Infection Control Assessment and Response (ICAR) Tool for General Infection Prevention and Control (IPC) Across Settings

Module 10. Antibiotic Stewardship Facilitator Guide

Antibiotic Stewardship: This form is intended to aid an ICAR facilitator in the review of a healthcare facility's antibiotic stewardship policies and activities. This interview should be conducted with antibiotic stewardship lead(s) if possible.

Leadership Commitment, Accountability and Stewardship Expertise to Improve Antibiotic Use

1. Which of the following **individuals** are responsible for the management and outcomes of antibiotic stewardship activities at your healthcare facility: (Select all that apply)

- ☐ Physician
  - ☐ Co-lead
  - ☐ Lead
  - ☐ Designated physician support
- ☐ Pharmacist
  - ☐ Co-lead
  - ☐ Lead
  - ☐ Designated pharmacist support
- ☐ Other (e.g., RN, PA, NP, IP, other), specify: _____
  - ☐ Co-lead
  - ☐ Lead
  - ☐ Designated support
- ☐ Unknown
- ☐ None, the healthcare facility does not have individuals responsible for antibiotic stewardship activities management and outcomes
- ☐ Not Assessed

Identifying an antibiotic stewardship lead or co-lead who is/are accountable for program management and outcomes is critical for the successful implementation of antibiotic stewardship policies and activities. Most hospitals have found a physician and pharmacist co-leadership model to be effective.

If a non-physician is identified as a lead for stewardship activities, it is important to designate a physician (or medical director) who can serve as a point of contact and support for the non-physician lead. Regular "stewardship rounds" for the co-leaders, or the non-physician lead and the supporting physician can strengthen program leadership.

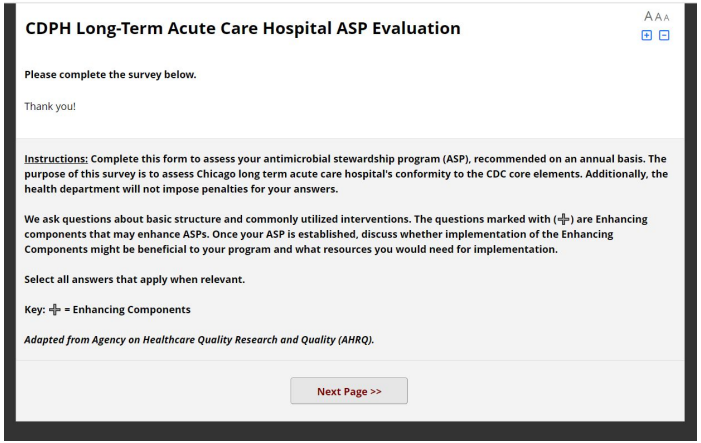
The core elements of antibiotic stewardship for hospital, outpatient, nursing home, and small and critical access hospitals can be found here: Core Elements of Antibiotic Stewardship.

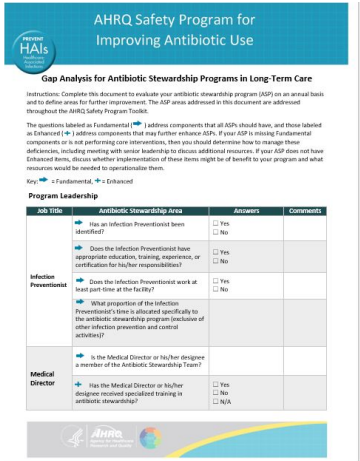
For strategies to improve antibiotic prescribing in outpatient dialysis settings refer to: Improving Antibiotic Use in Outpatient Hemodialysis Facilities

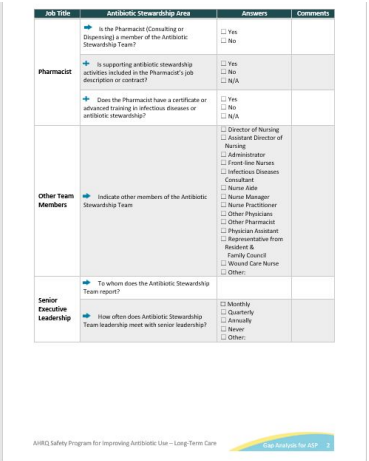
Notes

LTACH Antibiotic Use Survey

- Created a Redcap survey distributed to LTACH's in Chicago
- Survey was adapted from AHRQ Improving Antibiotic Use analysis
- Responses were reviewed with facility to address gaps and needs
  - Examples of Findings:
    - Lack of AS funding (FTE Pharmacist)
    - New EHR
      - Difficulty tracking and reporting
- Next Steps:
  - Point prevalence survey of antimicrobial use







Agency for Healthcare Research and Quality

Tracking and Reporting

NHSN
Acute Care Annual Survey Gap Analysis

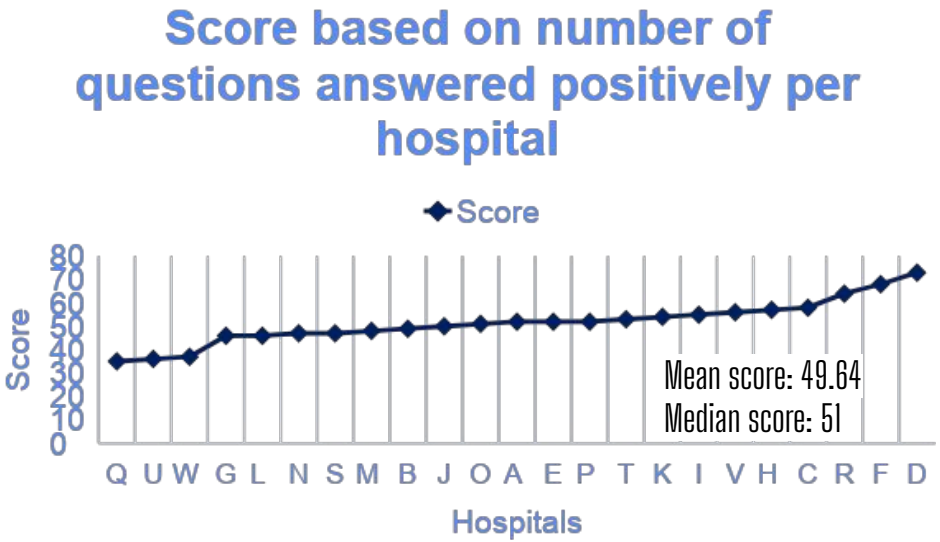
NHSN AUR
Comparative Standardized Antimicrobial Administration Ratio (SAAR) Analysis

CHARM
Collaboration To Harmonize Antimicrobial Registry Measures

IQVIA
Antimicrobial Outpatient Prescriber Data

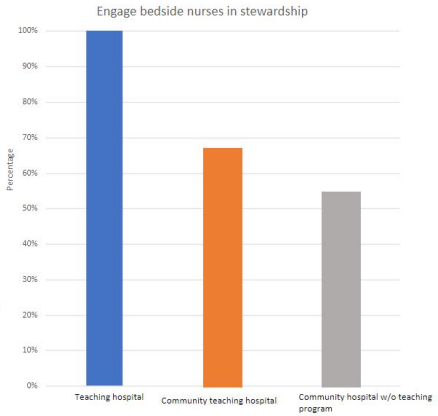
NHSN Acute Care Annual Survey Gap Analysis

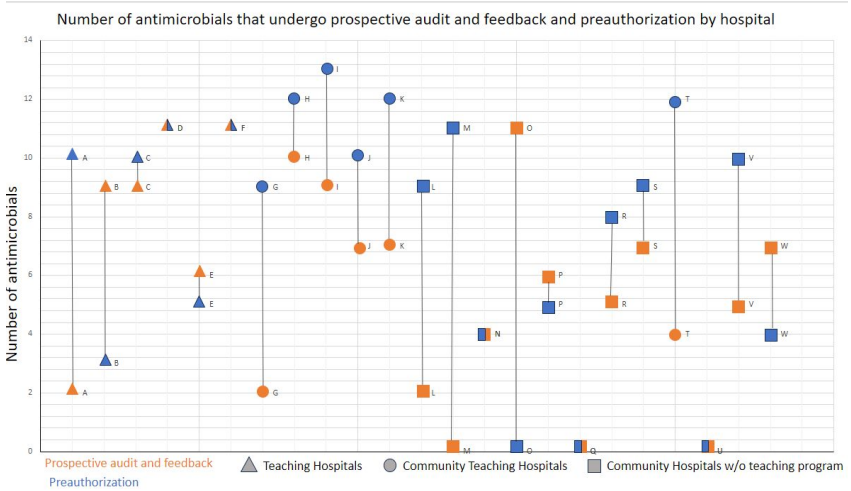
- 23 acute care hospitals completed the NHSN Annual survey 2022
- Scores were calculated based on response per question (1 point per response) total possible points 81.
- Only AS questions from the survey were analyzed
- Our Findings:
  - All Hospitals
    - Report information on antibiotic use, resistance, and stewardship to hospital staff, at least annually
    - Educate patients on antibiotic side effects though education by pharmacists are least common
    - Integrate antibiotic stewardship activities into quality improvement and/or patient safety initiatives.
  - Many community hospitals do not have facility specific treatment recommendations for skin and soft tissue infection



Nurse Involvement

- Nurses receive training on appropriate criteria for sending urine and/or respiratory cultures
  - Teaching 4/6; Community Teaching 1/6; Community 4/11
- Nurses initiate discussions with the treating team on switching from intravenous to oral antibiotics
  - Teaching 2/6; Community Teaching 2/6; Community 3/11
- Nurses initiate antibiotic time-out discussions with the treating team
  - Only 1 Community hospital w/o teaching program
- Nurses track antibiotic duration of therapy
  - Only 1 Community hospital w/o teaching program



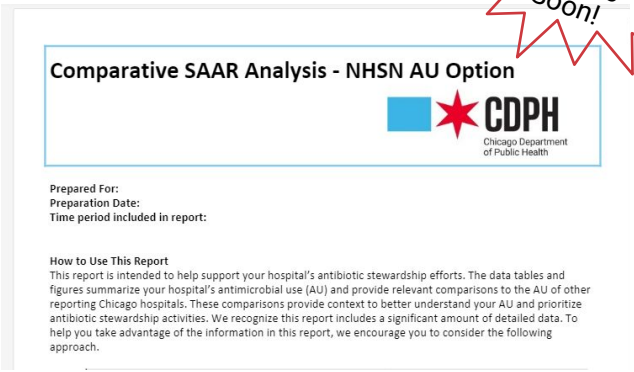


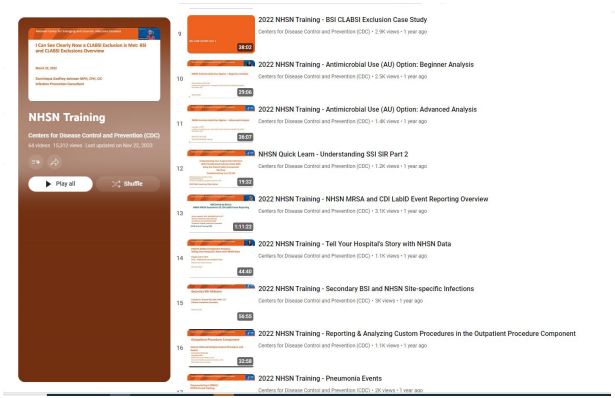
Possible Future Directions

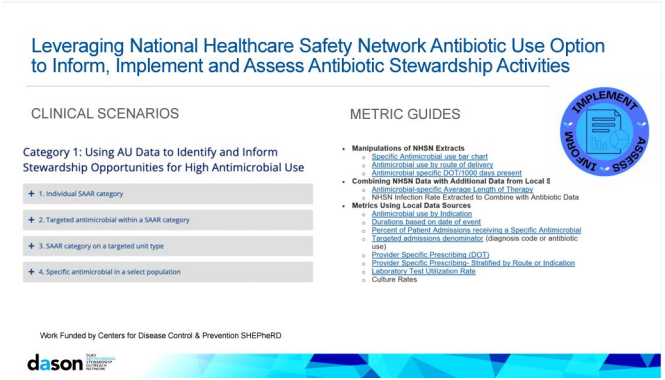
- Engaging nurses in AMS
- Improving prospective audit and feedback and preauthorization
- Create mentorship program between lower performing and higher performing hospitals in same category/with similar resources

NHSN Antibiotic Use and Resistance

- **Upcoming**: CDPH Comparative SAAR Analysis
- CDC NHSN AUR training videos
- Duke Antimicrobial Stewardship Outreach Network (DASON)
  - Clinical Scenarios
  - Quick guides
  - "Stew-tube" videos
  - Facility templates



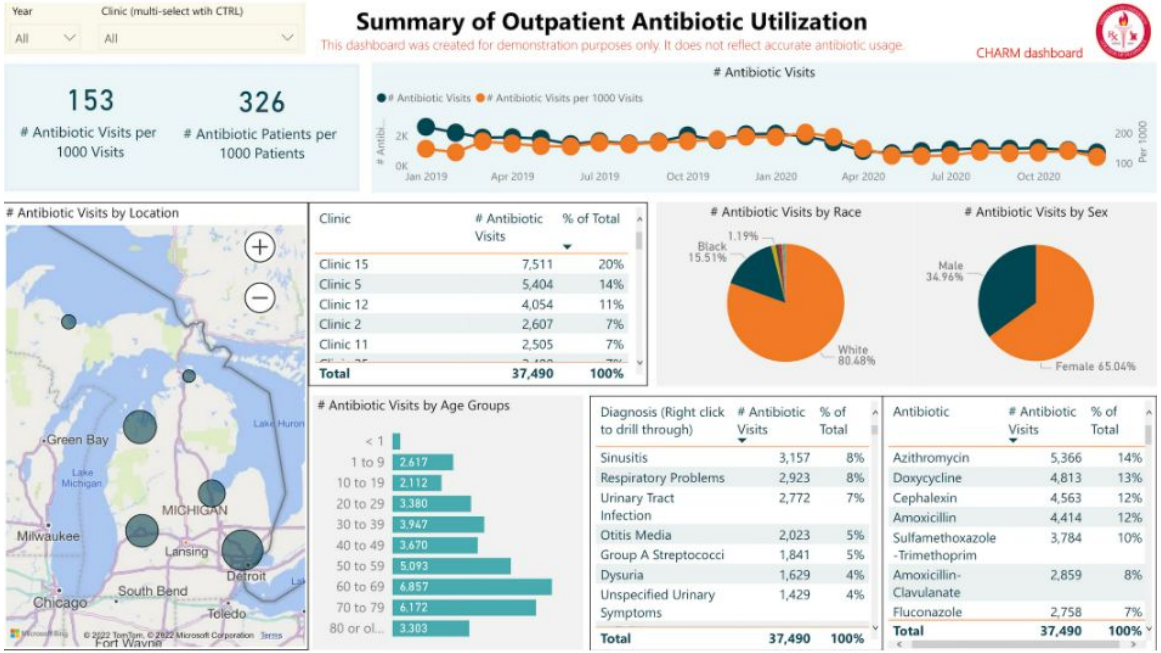




https://dason.medicine.duke.edu/research-publications/leveraging-national-health-safety-network-antibiotic-use-data-inform
https://www.cdc.gov/nhsn/training/patient-safety-component/aur.html

COLLABORATION TO HARMONIZE ANTIMICROBIAL REGISTRY MEASURES (CHARM)

- Created by Ferris State University
- CHARM utilizes existing data from institution's electronic medical records (EMR) to quantify and assess antimicrobial prescribing practices
- Data analysis produced in a dashboard format
  - Promoting awareness
  - Supporting research
  - Disseminating best practices surrounding antibiotic utilization



IQVIA Antimicrobial Prescription Data

LRx and Dx data for antimicrobial prescription in the City of Chicago from retail pharmacies, mailed prescriptions, and long-term care facilities

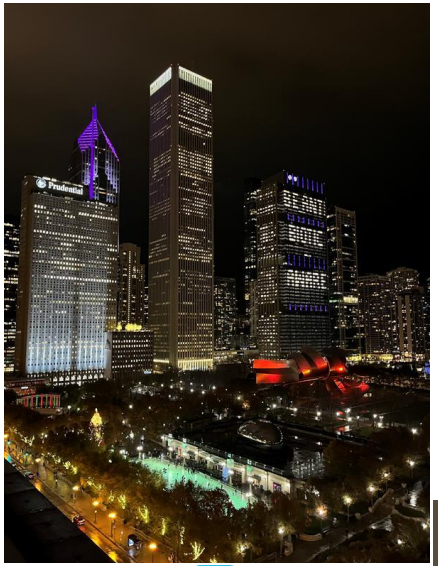
Obtained 3.7 million prescription claims from 2019 to 2022

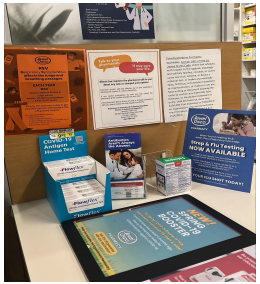
Goals

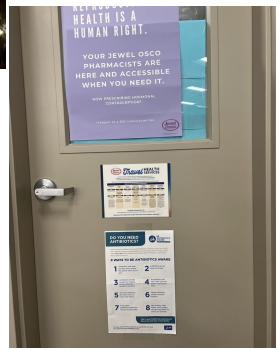
- Find trends in outpatient antibiotic prescribing in Chicago including appropriateness
- Identify gaps in antibiotic prescribing with the focus on health equity

Education

- U.S. Antibiotic Awareness Week - November
  - Delivered CDC “Be Antibiotic Aware” posters and tri-folds to major Chicago Pharmacies
  - Participated in social media storm (X, Linked In, Instagram)
  - Displayed signage on Blue Cross Blue Shields Tower facing renowned Lake Shore Drive
  - Partnered with Light Up Chicago to display purple lighting throughout Chicago buildings
- Chicago AS Workgroups
  - NHSN AU/AR
  - Chicago Stewards To Antimicrobial Resistance (S.T.A.R)
- Antimicrobial Stewardship office hours on roundtables
- **Upcoming**:
  - Healthy Chicago Podcast
  - Chicago One Health Conference November 19th 2024

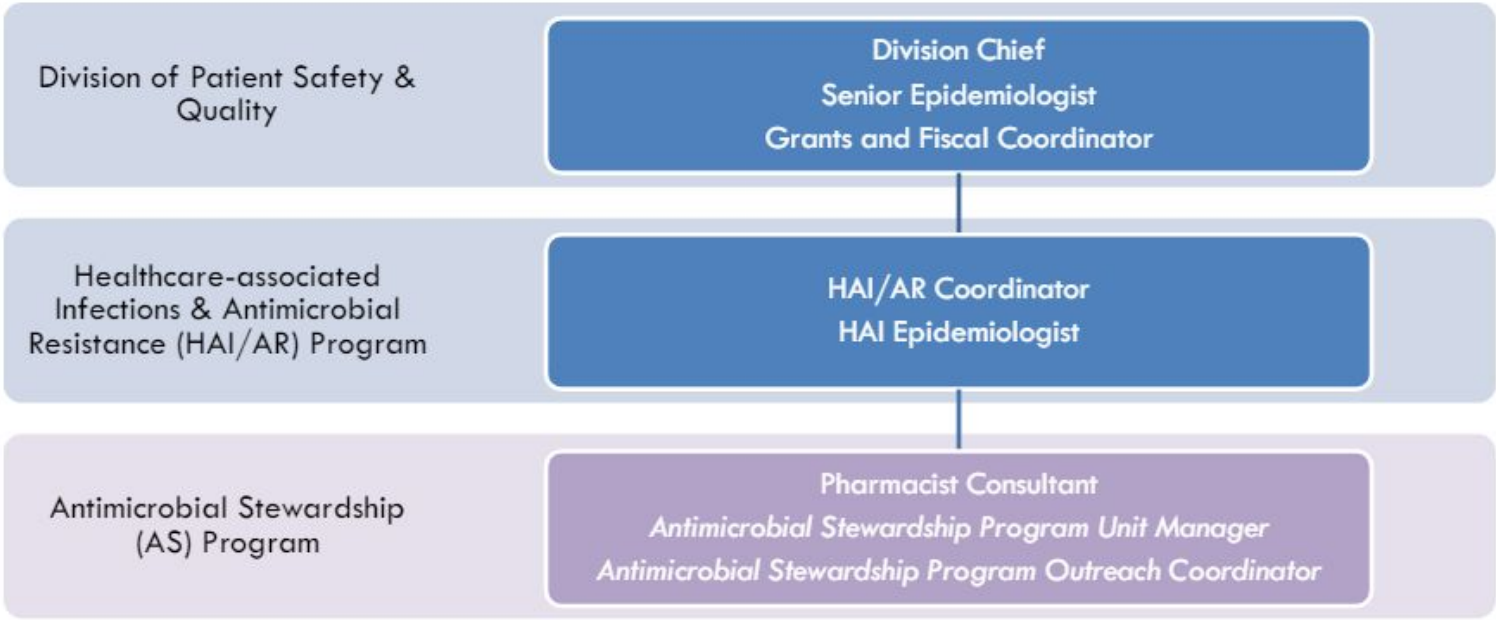




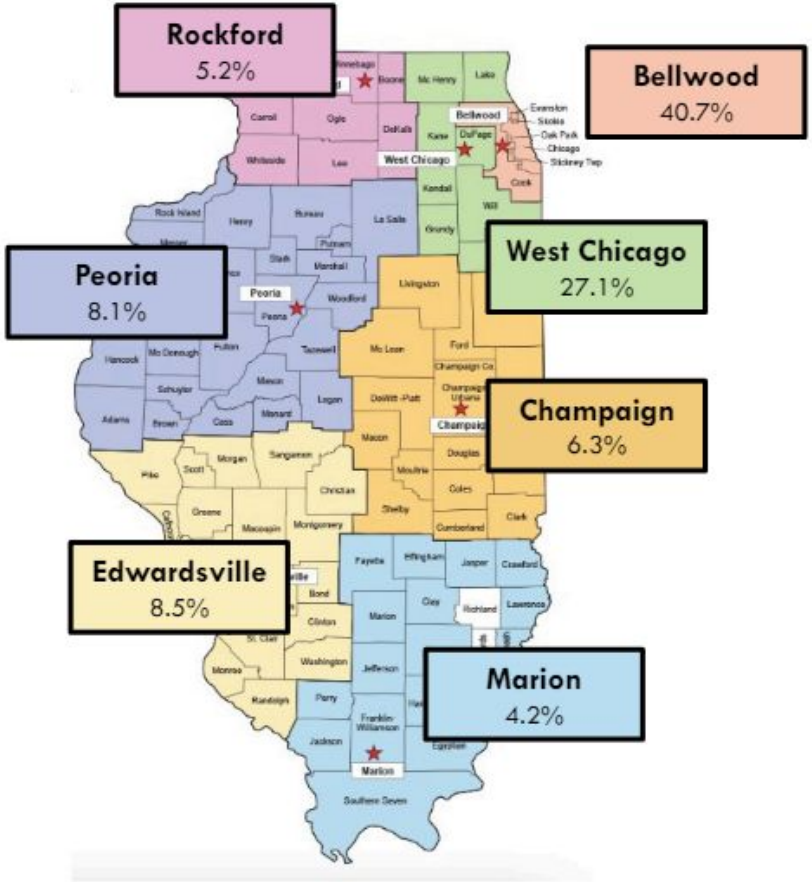


State Health Department

IDPH Antimicrobial Stewardship Program



Jamie.Jacob@illinois.gov



IDPH Health Regions

% of Total
Illinois Population

Local Health Department Engagement

HAI/AR Advisory Council Members

AS Workgroup Members

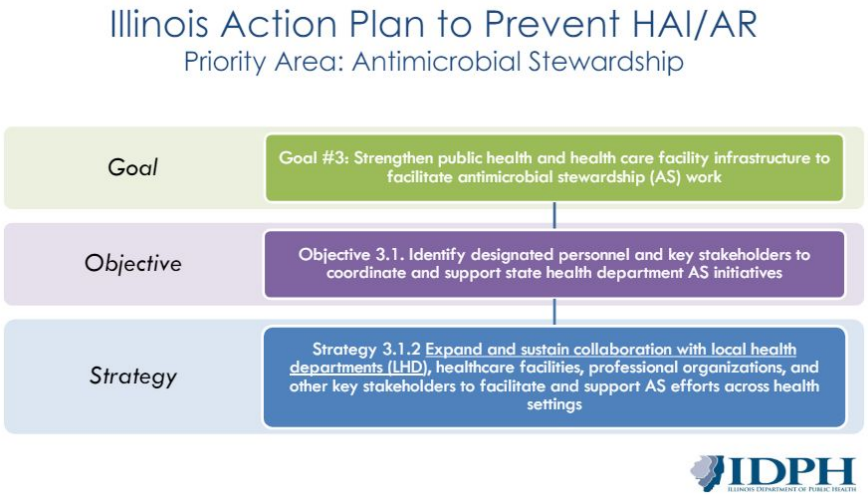
Illinois Summit on AS Planning Committee Members

Illinois Action Plan to Prevent HAI/AR Contributors

1:1 Meetings with IDPH and LHD AS Leads

Action

- Illinois Action Plan to Prevent HAI/AR
  - Priority Area: Antimicrobial Stewardship
- IDPH AS Champion Call
- Implementation of the Core Elements of Outpatient Antibiotic Stewardship in a cohort of immediate care centers
  - Includes tracking of antibiotic prescribing and use, engaging prescribers in academic detailing, and developing educational resources for participating facilities and patients
- **Upcoming**:
  - 1:1 consultations for long-term care facilities in Central and Southern Illinois
    - In areas with limited access to AS expertise or for facilities seeking personalized guidance in implementing or improving their ASP



Tracking and Reporting

- Established DUA with CDC for access to NHSN AUR data from reporting Illinois facilities and NHSN Annual Hospital Survey; Section on Antibiotic Stewardship:
  - IDPH will analyze this data annually to monitor trends, identify opportunities for AS programs and funding, facilitate benchmarking, and assess the effectiveness of AS work
- Plan to procure proprietary antibiotic prescribing data (e.g., IQVIA Xponent and LRxDx data) to assess local antibiotic prescribing trends and identify prescribers and targeted regions for AS intervention
- Plan to partner with an academic partner to generate site-specific data dashboards for a cohort of Illinois health-system affiliated outpatient facilities
  - The academic partner will extract, summarize, and analyze antimicrobial prescribing and use data from institutional electronic medical records to quantify and assess local antimicrobial prescribing practices
- **Upcoming:** Launch of acute care tiered honor roll to publicly recognize healthcare facilities that meet specified criteria for antimicrobial stewardship and encourage uptake of the Priorities for Core Element Implementation

Education

- U.S. Antibiotic Awareness Week
  - Gubernatorial proclamation, social media messaging, and a series of educational webinars
  - “Spotlight on Antimicrobial Stewardship” to recognize stewardship champions in health care facilities, local health departments, and organizations across Illinois
- Partnering Acute and Long-Term Care to Advance Antimicrobial Stewardship Efforts (PALASE) Collaborative
  - Hospital-nursing home partnership aimed to strengthen cross-setting partnerships and establish successful and sustainable ASPs in long-term care settings

STATE OF ILLINOIS

EXECUTIVE DEPARTMENT

Proclamation

WHEREAS, the Illinois Department of Public Health seeks to promote the health of the people of our state through the prevention and control of disease and injury; and,

WHEREAS, antimicrobial resistance is one of the most urgent threats to the public's health, causing more than 2.8 million infections and more than 35,000 deaths annually; and,

WHEREAS, antimicrobial stewardship is the effort to optimize how antibiotics are used; and,

WHEREAS, the appropriate use of antibiotics is a vital solution to address the threat of antimicrobial resistance; and,

WHEREAS, the Illinois Department of Public Health is partnering with the Centers for Disease Control and Prevention and essential stakeholders to educate health professionals and the general public on antimicrobial resistance and appropriate antibiotic use;

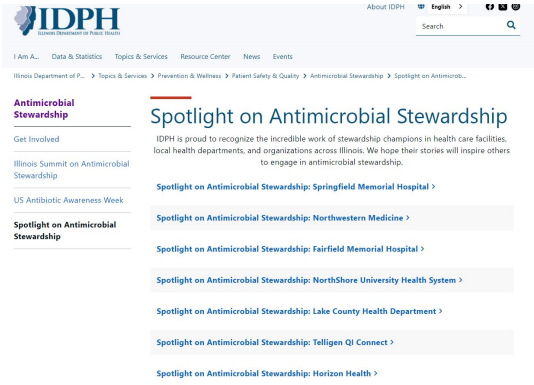
THEREFORE, I, JB Pritzker, Governor of the State of Illinois, do hereby proclaim November 18 - 24, 2023, as **Antibiotic Awareness Week** in Illinois.

In Witness Whereof, I have hereunto set my hand and caused the Great Seal of the State of Illinois to be affixed.

Done at the Capitol in the City of Springfield, the EIGHTH day of NOVEMBER in the Year of Our Lord, two thousand and TWENTY-THREE and of the State of Illinois, two hundred and FIFTH

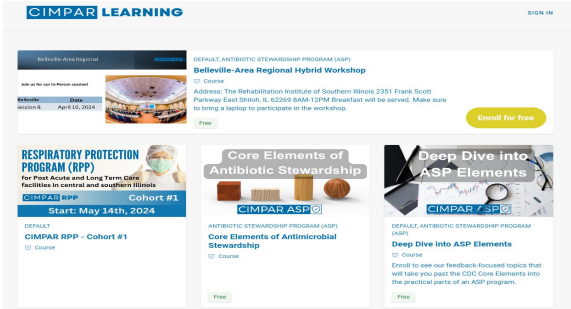
SECRETARY OF STATE

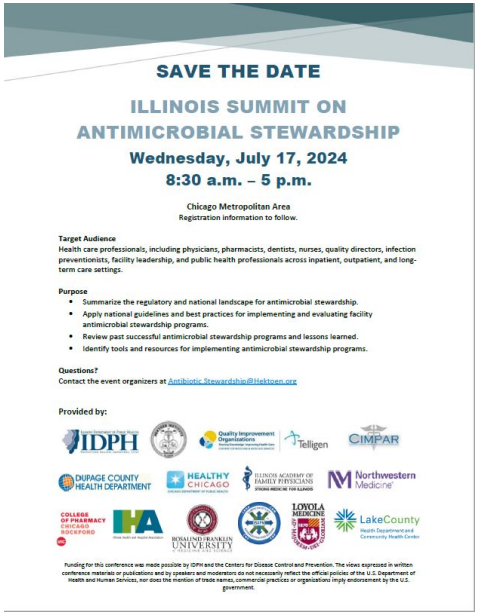
GOVERNOR



Education

- Virtual educational sessions and regional workshops
  - Focused on the Core Elements of AS for Nursing Homes
- Illinois Summit on Antimicrobial Stewardship
  - A yearly all-day forum which brings together healthcare professionals from various settings to share best practices and lessons learned around antimicrobial stewardship through plenary sessions, poster presentations, and roundtable exercises
  - Attendees participate in cross-cutting and setting-specific tracks, including advanced acute care, beginner acute care, outpatient, and long-term care
  - **Save the Date: July 17th 2024**





https://elearning.cimpar.com/users/sign_up

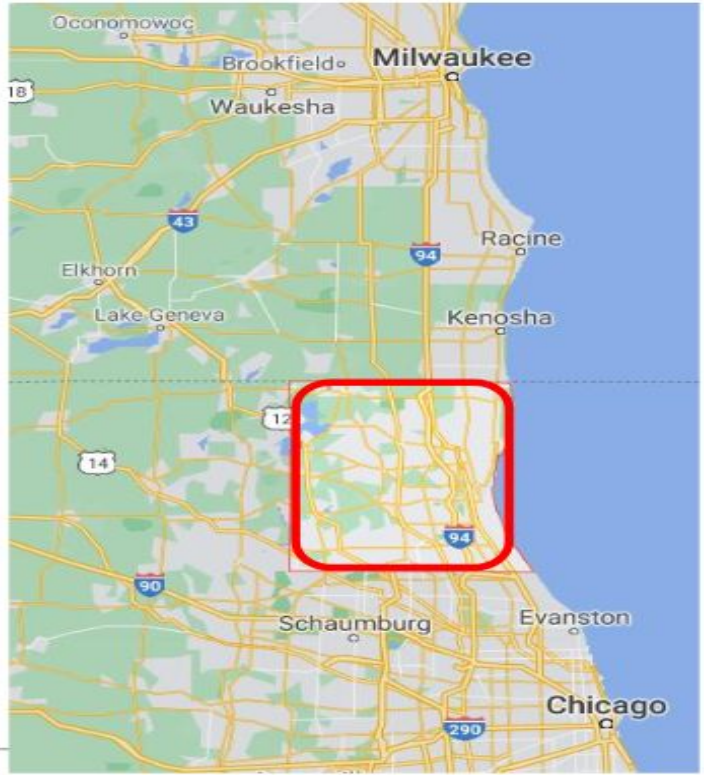
Local Health Department

About Lake County Health Department

Location: Far northeast corner of Illinois
Population: ~700,000 people

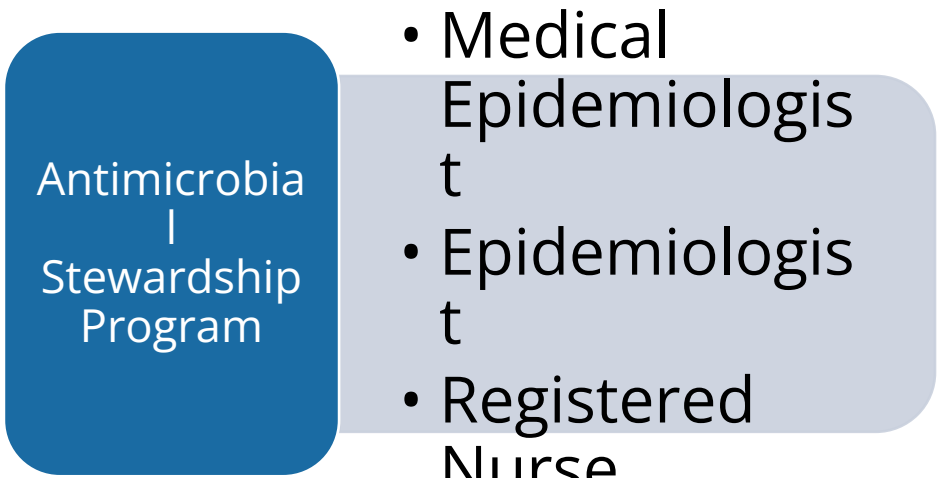
Long-term care facilities:
- 140 Properties
- 24 Skilled Nursing Facilities (SNFs)
  - 0 Long term Acute Care Hospitals (LTACH)
  - 2 SNFs with ventilator supported care (vSNF)

Lake County Health Department (LCHD), Waukegan, Illinois
- 800+ employees
- Including Federally Qualified Health Centers and Behavioral Health Programs, Environmental Health, etc.



LakeCounty
Health Department and Community Health Center

Leadership, Accountability, Expertise



- Antimicrobial Stewardship Workgroup meets quarterly
  - Members include select infection preventionists from acute and long-term care and the pharmacists of acute care hospital system.
- **Upcoming**:
  - Involving infectious disease physicians and long-term care medical directors in stewardship efforts

Lake County Health Department

Action

- Yearly County-Wide Antibiogram
- Identify health inequity indicators associated with MDROs
- **Upcoming:**
  - Develop the 2022 and 2024 antibiogram datasets
  - Identifying a utilization metric for the county-wide antibiogram

Tracking & Reporting

- Enhancing the Tableau Dashboard that monitors MDROs in Lake County utilizing multiple data sources
- Currently using NHSN reported data to monitor MDROs and HAIs
- **Upcoming**:
  - Tracking trends of antimicrobial resistance from 2022 to 2024 and work with subject matter experts to develop recommendations if concerning trends are noted
  - Utilizing IDPH hospital discharge data to enhance demographic data on Lake County residents with MDROs

Education

- **Upcoming**: Providing educational information on how to use an antibiogram

https://health.lakecountyil.gov/

How To Get Involved

1

Reach out to your Health Department Antimicrobial Stewardship Team

2

Sign up to receive emails from Illinois SIREN and Chicago Health Alert Network (HAN)

3

Follow us on Social Media!

https://www.siren.illinois.gov/
https://www.chicagohan.org/sign-up

CDPH
Chicago Department of Public Health

Estrella.Cervantes@CityofChicago.Org

Chicago.gov/Health

HealthyChicago@cityofchicago.org

@ChicagoPublicHealth

@ChiPublicHealth

Takeaways

- Antibiotic stewardship is core strategy to combat antimicrobial resistance.
- State and local health department antibiotic stewardship programs play an important role in guiding antibiotic stewardship efforts in various healthcare settings and promoting appropriate antibiotic use for patients in their communities.
- Smaller local health departments can select specific implementation strategies and participate in local or national collaboratives based on their priorities and available resources.

Thank you

Project Firstline is a national collaborative led by the U.S. Centers for Disease Control and Prevention (CDC) to provide infection control training and education to frontline healthcare workers and public health personnel. National Association of County and City Health Officials (NACCHO) is proud to partner with Project Firstline to host the NACCHO Healthcare Infection Prevention and Control Summit (Summit), as supported through CDC Grant # 6NU38OT000306-03-05. CDC is an agency within the Department of Health and Human Services (HHS). This presentation is being hosted as part of the Summit; the contents of this presentation and Summit do not necessarily represent the policies of CDC or HHS and should not be considered an endorsement by the Federal Government.

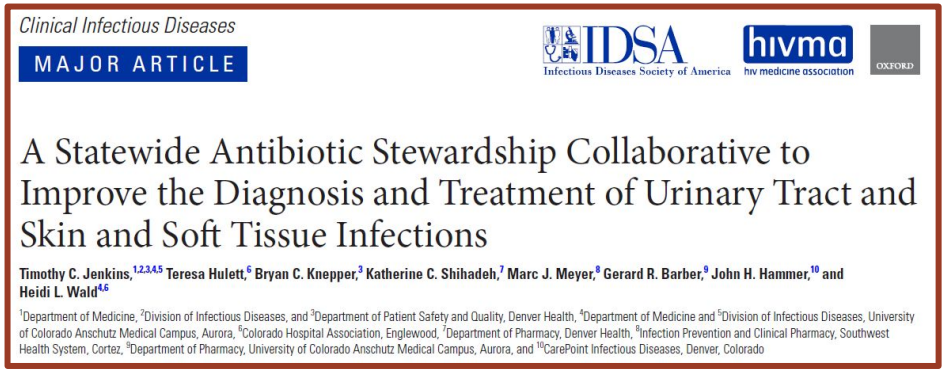
For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

Extra Slides

Local Health Departments (LHD) Community of Practice

- Co-facilitated by LHD Antibiotic Stewardship Pharmacist
- 5 out of 6 ELC-funded LHDs attended
- Topics:
  - Size and makeup of stewardship team
  - Plans for additional staff and expertise
  - Coordination with state HD
  - Implementing the Core Elements for HDs at the city/county level
  - Project sharing across HDs

Action-Examples of Collaboratives



Clinical Infectious Diseases

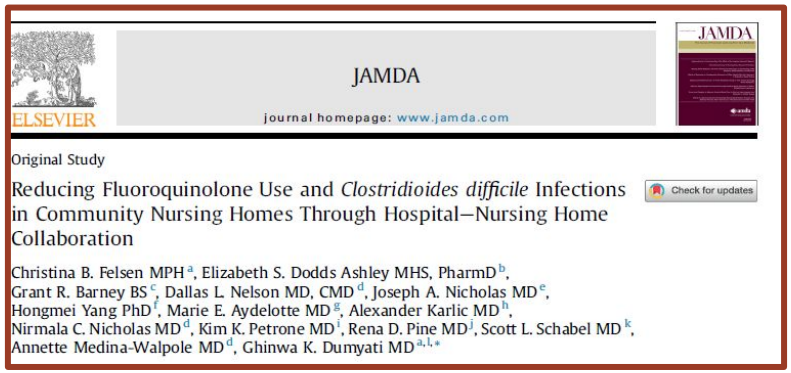
MAJOR ARTICLE

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

A Statewide Antibiotic Stewardship Collaborative to Improve the Diagnosis and Treatment of Urinary Tract and Skin and Soft Tissue Infections

Timothy C. Jenkins,[1,2,3,4,5] Teresa Hulett,[6] Bryan C. Knepper,[3] Katherine C. Shihadeh,[7] Marc J. Meyer,[8] Gerard R. Barber,[9] John H. Hammer,[10] and Heidi L. Wald[4,6]

[1]Department of Medicine, [2]Division of Infectious Diseases, and [3]Department of Patient Safety and Quality, Denver Health, [4]Department of Medicine and [5]Division of Infectious Diseases, University of Colorado Anschutz Medical Campus, Aurora, [6]Colorado Hospital Association, Englewood, [7]Department of Pharmacy, Denver Health, [8]Infection Prevention and Clinical Pharmacy, Southwest Health System, Cortez, [9]Department of Pharmacy, University of Colorado Anschutz Medical Campus, Aurora, and [10]CarePoint Infectious Diseases, Denver, Colorado



ELSEVIER

JAMDA

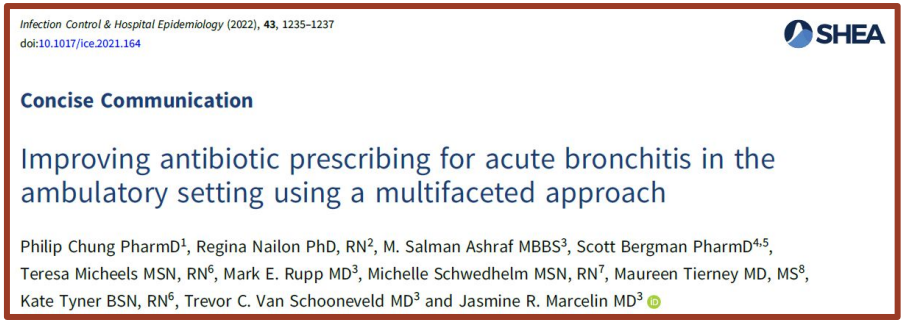
journal homepage: www.jamda.com

Original Study

Reducing Fluoroquinolone Use and *Clostridioides difficile* Infections in Community Nursing Homes Through Hospital–Nursing Home Collaboration

Check for updates

Christina B. Felsen MPH[a], Elizabeth S. Dodds Ashley MHS, PharmD[b], Grant R. Barney BS[c], Dallas L. Nelson MD, CMD[d], Joseph A. Nicholas MD[e], Hongmei Yang PhD[f], Marie E. Aydelotte MD[g], Alexander Karlic MD[h], Nirmala C. Nicholas MD[d], Kim K. Petrone MD[i], Rena D. Pine MD[j], Scott L. Schabel MD[k], Annette Medina-Walpole MD[d], Ghinwa K. Dumyati MD[a,l,*]



Infection Control & Hospital Epidemiology (2022), **43**, 1235–1237
doi:10.1017/ice.2021.164

SHEA

Concise Communication

Improving antibiotic prescribing for acute bronchitis in the ambulatory setting using a multifaceted approach

Philip Chung PharmD[1], Regina Nailon PhD, RN[2], M. Salman Ashraf MBBS[3], Scott Bergman PharmD[4,5], Teresa Micheels MSN, RN[6], Mark E. Rupp MD[3], Michelle Schwedhelm MSN, RN[7], Maureen Tierney MD, MS[8], Kate Tyner BSN, RN[6], Trevor C. Van Schooneveld MD[3] and Jasmine R. Marcelin MD[3]