

# National Update on Antibiotic Stewardship

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# Disclosures

- No financial disclosures
- The findings and conclusions in this presentation are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

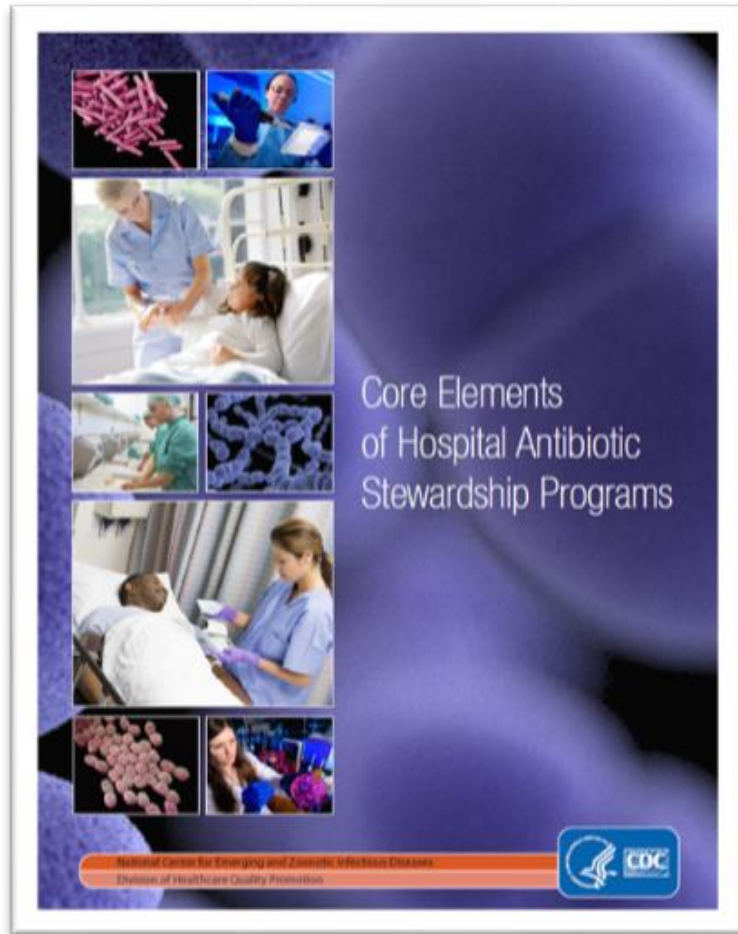
# What's New for 2018 - Topics for Today

- Brief updates pertaining to hospital, nursing home and outpatient setting
- CDC Antimicrobial Resistance (AMR) Challenge
- CDC Training on Antibiotic Stewardship

# Major Policy Developments for Antibiotic Stewardship: No Longer “Whether” but “How” in Hospitals

- The US has set a national goal for all hospitals to have stewardship programs by 2020.
- The Joint Commission issued a standard requiring all accredited hospitals to have stewardship programs
  - Enforcement began in January of 2017.
- Implementation of the CDC Core Elements is now a Core/Required Element of Medicare Beneficiary Quality Improvement Program (MB-QIP) for critical access hospitals (2018-2021).

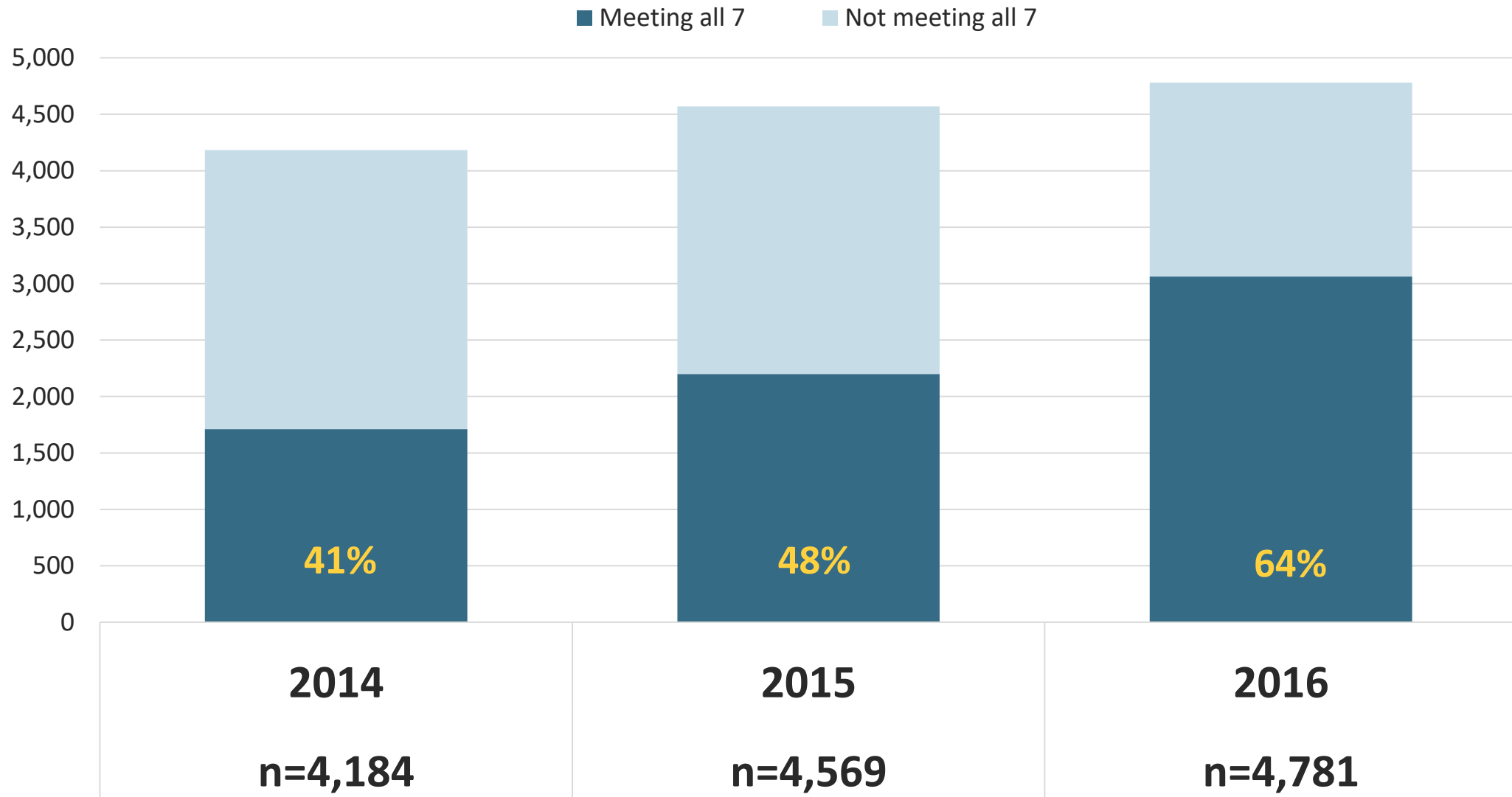
# Core Elements of Hospital Antibiotic Stewardship Programs



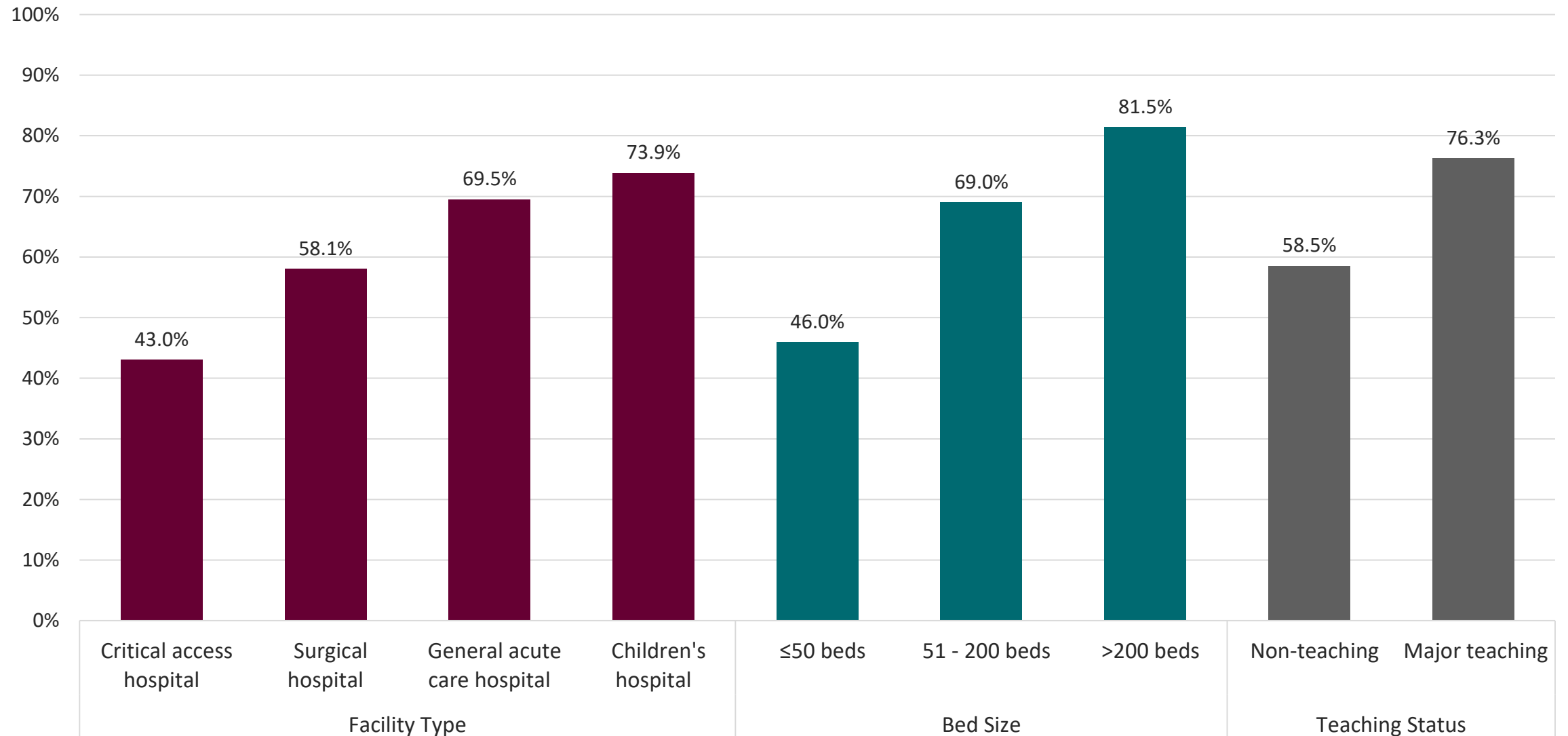
- Leadership Commitment
- Accountability
- Drug expertise
- Action to improve use
- Tracking
- Reporting
- Education

# Number of facilities responding to NHSN Annual Hospital Surveys 2014-2016:

## Number and percentage meeting all 7 Core Elements



# Percentage of U.S. acute care hospitals reporting uptake of all 7 CDC Core Elements, by facility demographic, National Healthcare Safety Network, 2016 (N=4,781)



# Implementing Core Elements in Small and Critical Access Hospitals- New Guidance



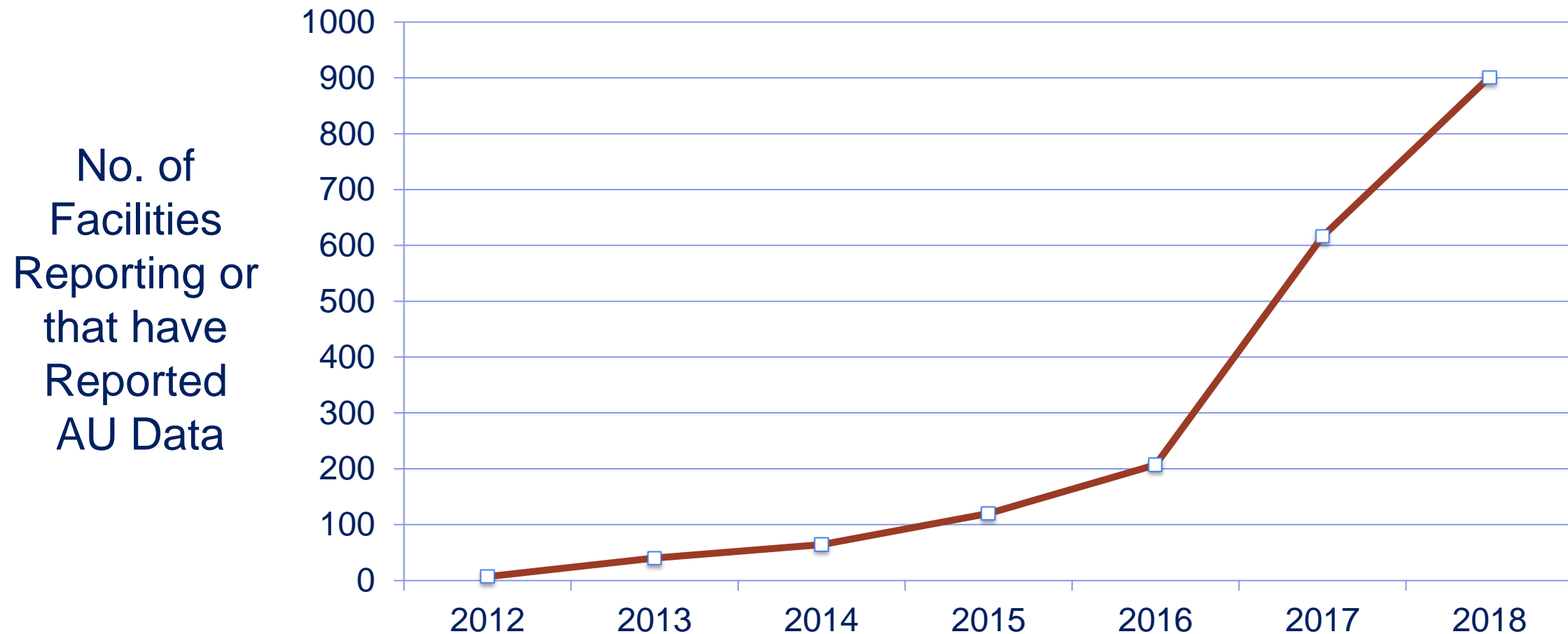
- Developed in collaboration with: Federal Office of Rural Health Policy, The American Hospital Association, The Pew Charitable Trusts



# Next Steps....Revising the NHSN Annual Hospital Stewardship Survey

- Expand beyond reporting core elements
  - Assess what hospitals are doing to improve antibiotic use.
  - Received input broadly from the stewardship community.
- New questions will be launched in the 2018 NHSN survey (January 2019).
- Eventually, we should try to link survey data with use, *C. difficile* and resistance data to try and identify possible best practices.

# Yearly Submission into the NHSN Antimicrobial Use Option\*



\*As of July 1, 2018

# CDC National Healthcare Safety Network (NHSN) Antimicrobial Use (AU) Option

- Purpose:
  - Provide a mechanism for facilities to report and analyze antimicrobial usage as part of antimicrobial stewardship efforts at their facility
- Voluntary reporting
  - Not part of CMS Quality Reporting Programs
  - \*Included as one option for Public Health Registry reporting for Meaningful Use Stage 3
  - Missouri state requirement (SB 579)

\*MU 3 Final Rule: <https://www.federalregister.gov/articles/2015/10/16/2015-25595/medicare-and-medicaid-programs-electronic-health-record-incentive-program-stage-3-and-modifications>

\*NHSN MU3 page: <https://www.cdc.gov/nhsn/cdaportal/meaningfuluse.html>

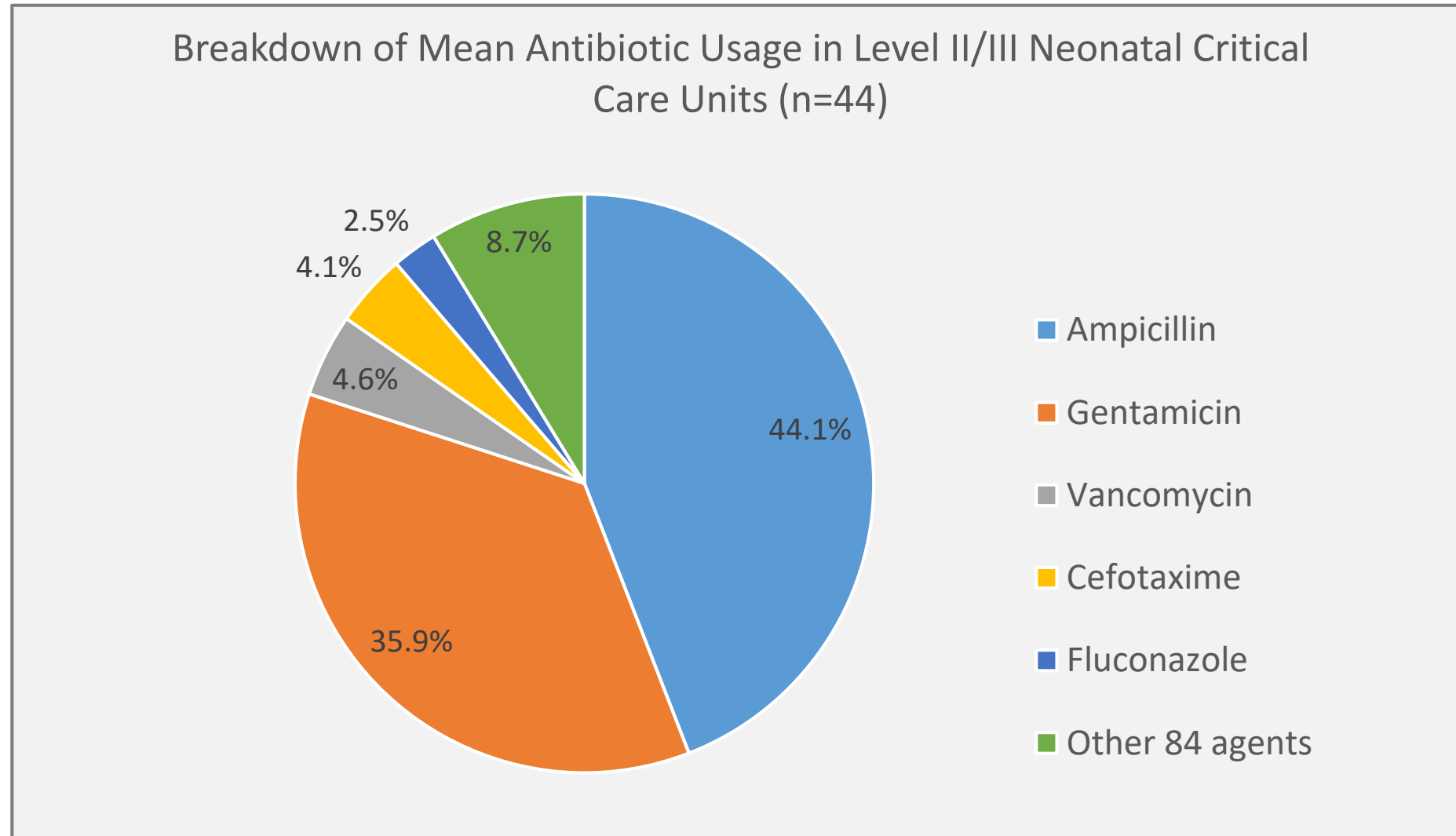
# Standardized Antimicrobial Administration Ratio (SAAR)

- SAAR is a standardized metric of antibiotic use available to facilities reporting to the AU option in NHSN
  - Adult and Pediatric Medical, Med/Surg, and Surgical ICUs and Wards
  - Specific antibiotic categories
- Endorsed by The National Quality Forum in 2016
- Observed to Predicted Ratio (similar to SIR)
  - Observed is days of therapy reported
  - Predicted is days of therapy predicted by our regression models

# Update SAAR with 2017 AU Data

- Modeling adult and pediatric locations separately for the 2017 updated SAAR
- Updated and added new SAAR categories
- Factors for models
  - **Facility Level:** Hospital bedsize, ICU bedsize, hospital teaching status
  - **Location Level:** Location bedsize, ICU status, unit types: medical, medical/surgical, and surgical units
- Launch with upcoming NHSN release (tentatively Dec 2018)

# Antibiotic Use in Neonatal Intensive Care Units



# Antibiotic SAARs for Newborn Stewardship

- Working with experts in neonatology and infectious diseases through Vermont Oxford Network to develop potential new SAAR categories and NHSN survey questions.
- Proposed SAAR Categories for potential launch in Dec 2019
  - Single agent categories, e.g., ampicillin, vancomycin, cefotaxime, and fluconazole
  - Grouping, e.g., broad spectrum agents, aminoglycosides
- Expand NHSN Survey Questions for potential launch in early 2019

# Major Policy Development for Antibiotic Stewardship in Nursing Homes

- CMS issued a final rule **requiring** nursing homes to have antibiotic stewardship integrated within pharmacy and infection prevention and control programs (IPC).
  - Interpretive guidelines based on the Core Elements.
- Quality Innovation Network and Quality Improvement Organizations (QIN-QIOs) have enrolled outpatient facilities and nursing homes to implement the Core Elements.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 405, 431, 447, 482, 483, 485, 488, and 489

[CMS-3260-F]

RIN 0938-AR61

Medicare and Medicaid Programs;  
Reform of Requirements for Long-Term Care Facilities

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

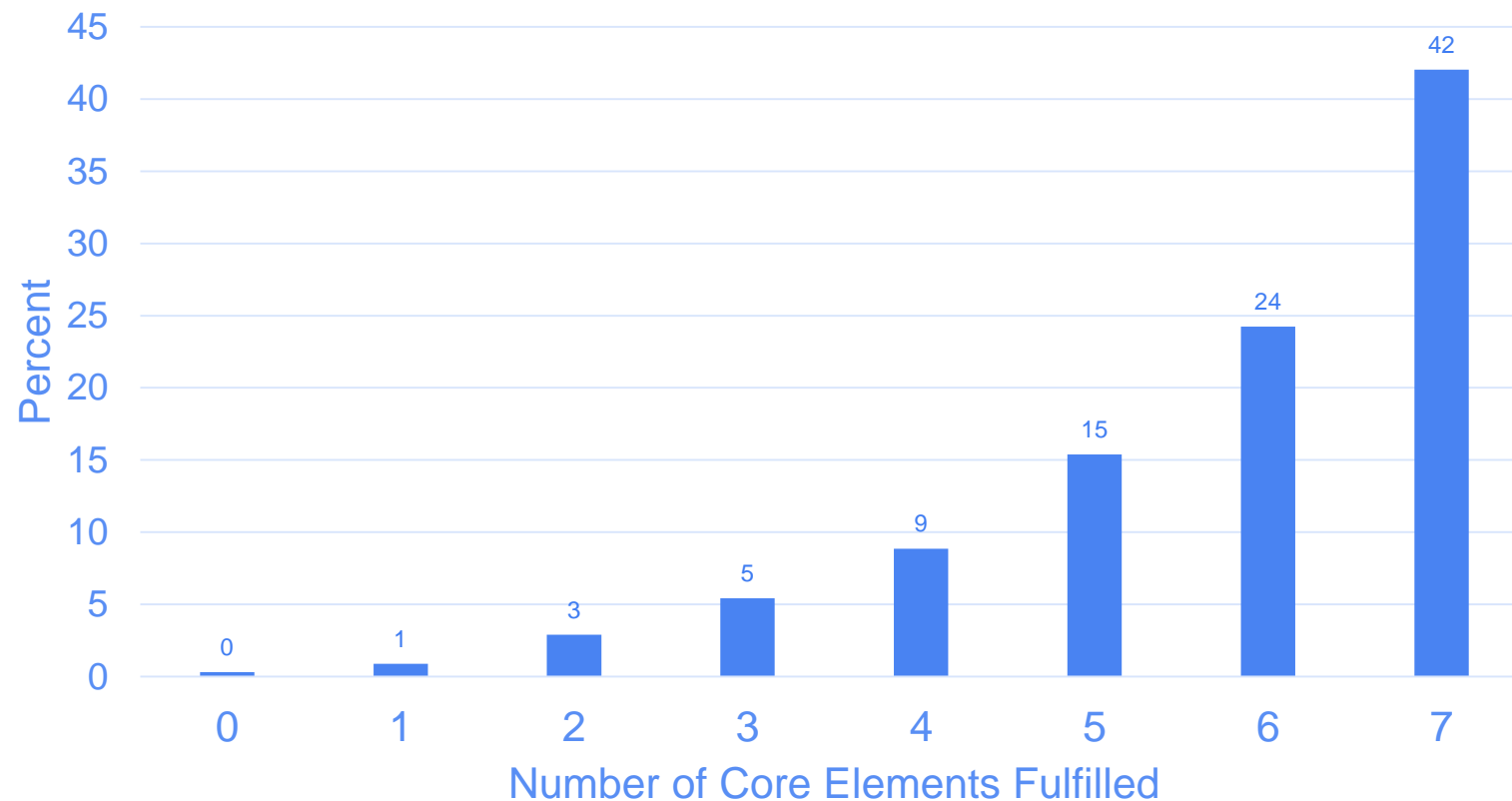
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**SUMMARY:** This final rule will revise the requirements that Long-Term Care facilities must meet to participate in the Medicare and Medicaid programs. These changes are necessary to reflect the substantial advances that have been made over the past several years in the theory and practice of service delivery and safety. These revisions are also an integral part of our efforts to achieve broad-based improvements both in the quality of health care furnished through federal programs, and in patient safety, while at the same time reducing procedural burdens on providers.

**DATES:** *Effective date:* These regulations are effective on November 28, 2016.



# Percent of U.S. Nursing Homes Reporting Implementation of All CDC Core Elements on 2016 Annual NHSN Survey\*



\*Preliminary results courtesy of Danielle Palms, adapted from presentation at SHEA Spring Conference 2017; St. Louis, MO. Abstract 9026  
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# Plans to Improve Antibiotic Prescribing in Nursing Homes

- Describe antibiotic use at the national, state and facility level
  - Assessing antibiotic use at the national, state and facility level
  - Assessment of infections and antibiotic use in NHs through a multistate recruitment of 200 NHs within the CDC's Emerging Infections Program
- Collaboration with vendors:
  - LTC pharmacy dispensing data available for almost all NHs and can support facility benchmarking
  - Electronic health records provide patient-level data but not all facilities have EHRs

# Antibiotic Expenditures for Humans in the United States by Treatment Setting 2010-15: Total \$56 billion

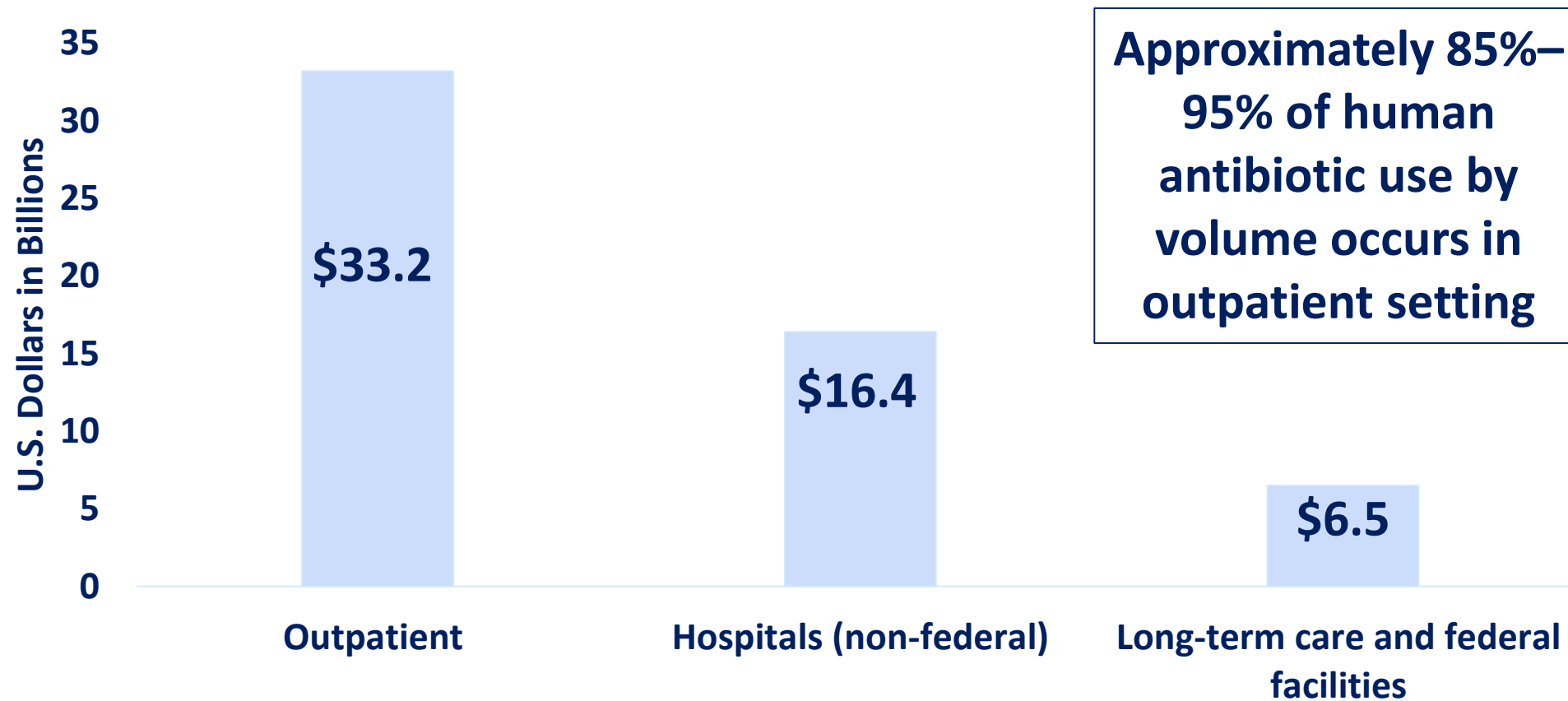
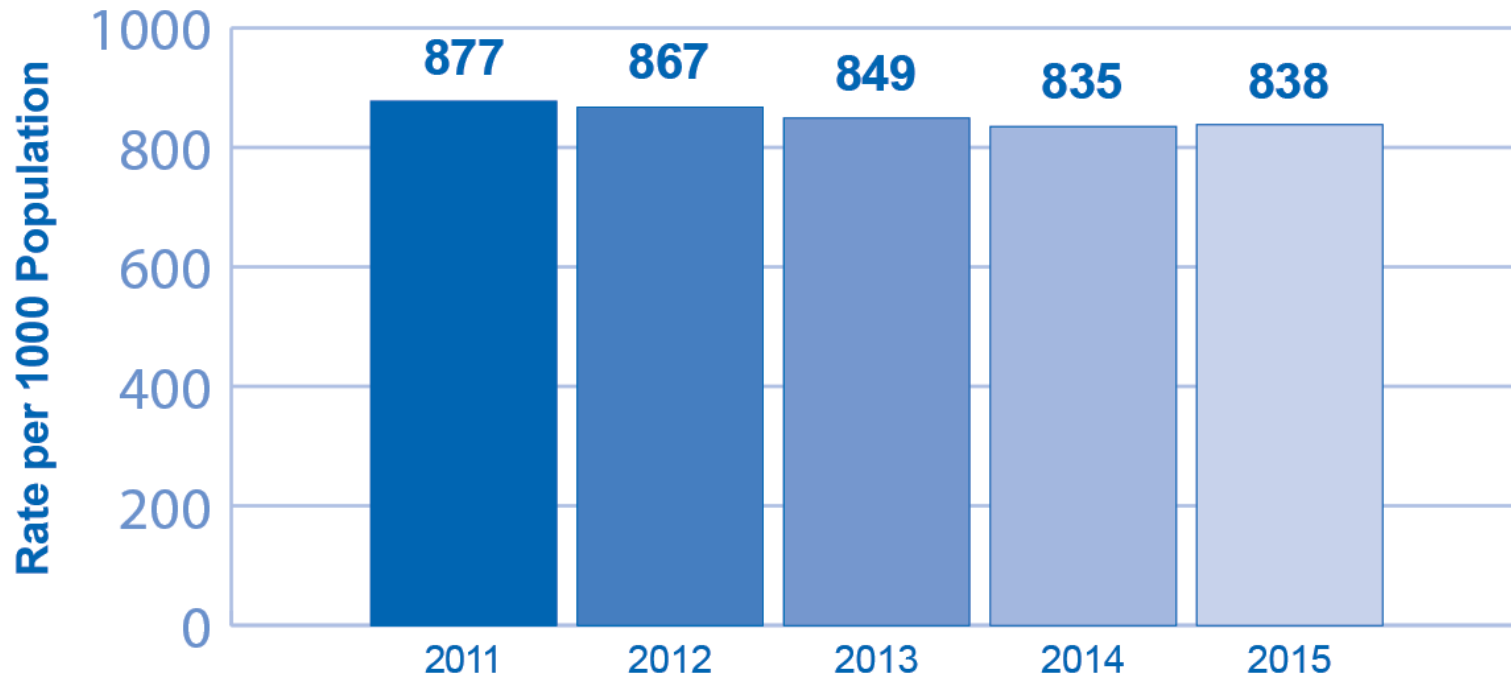


Figure created from data from: Suda et al. *Clin Infect Dis.* 2017; cix773.  
Duffy et al. *J Clin Pharm Ther.* 2018; 43(1): 59-64.

# Are We Reducing Inappropriate Antibiotic Use?

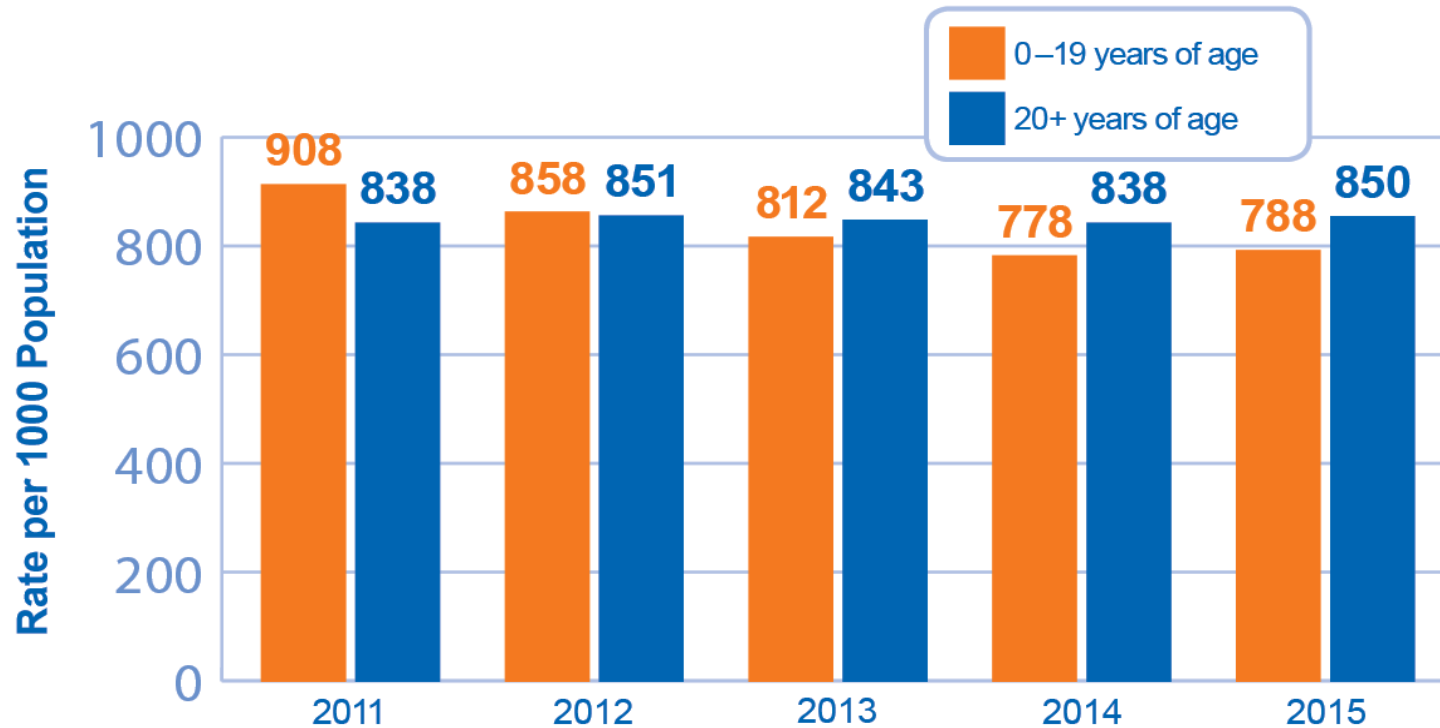
## Antibiotics Dispensed in U.S. Outpatient Pharmacies



- Outpatient antibiotic prescribing rates have decreased by 4% 2011–2015

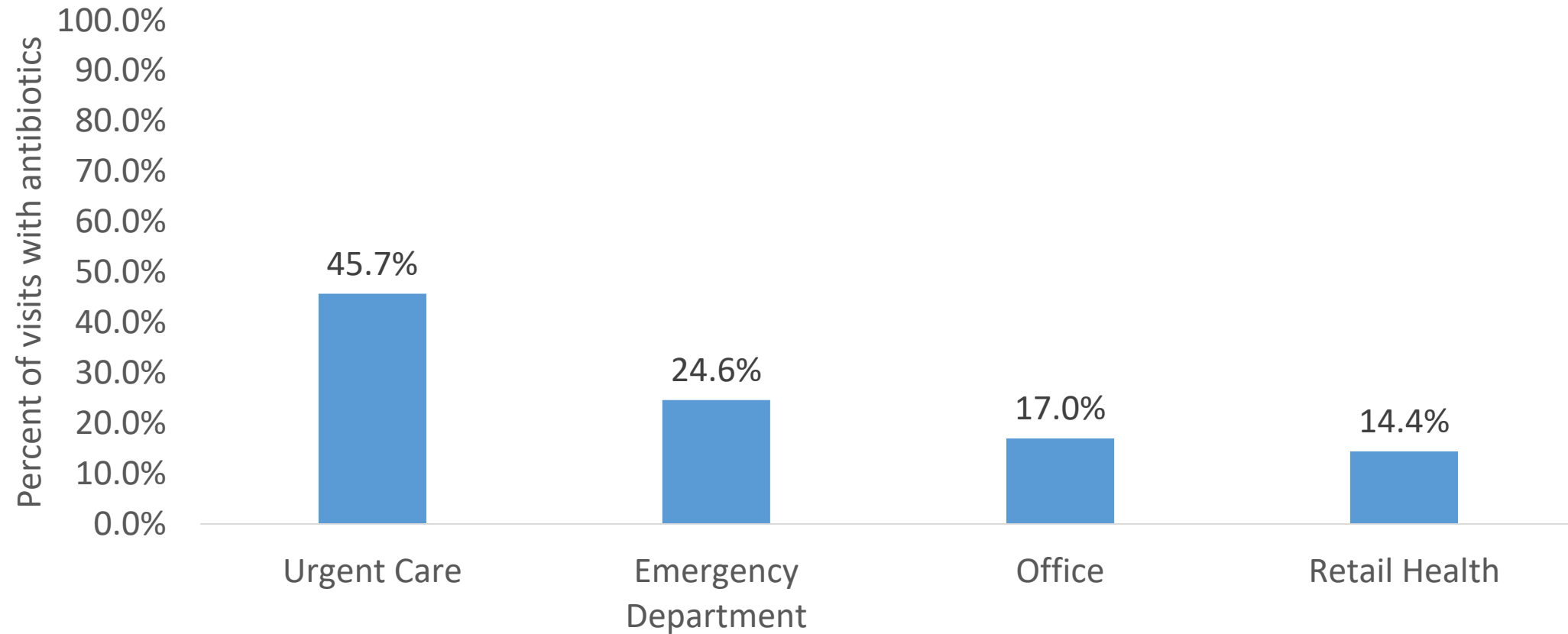
# Are We Reducing Inappropriate Antibiotic Use?

Antibiotics Dispensed in U.S. Outpatient Pharmacies



- Outpatient antibiotic prescribing rates to children decreased by 13%
- Outpatient antibiotic prescribing rates to adults have been stable

# Antibiotic prescribing for antibiotic-inappropriate acute respiratory illnesses (ARIs)\* by outpatient setting — MarketScan, 2014



\*Antibiotic-inappropriate ARIs include: Viral URI, bronchitis, bronchiolitis; influenza; nonsuppurative otitis media; viral pneumonia; asthma/allergy; Palms D, Hicks L, Hersh AL, et al. *JAMA Int Med*. E-Publish Ahead of print July 16, 2018.

# Stewardship Education Resources- FREE CME!

- CDC Training on Antibiotic Stewardship, up to 8 hours of free CE, 4 section throughout 2018. Open to all clinicians, pharmacists, physician assistants, nurses, certified health educators, and public health practitioners with an MPH.
  - <https://www.train.org/cdctrain/course/1075730>

## CDC Training on Antibiotic Stewardship: Section 1

[← Back](#)

To access this content, you first need to [create an account](#). If you already have an account, [please login](#).



Blended Learning Series

ID 1075730

Skill level: Intermediate

★★★★☆ 4.69 [\(542 Ratings\)](#)

### Course Description Information

This interactive web-based activity is the first of four sections designed to help use to combat antibiotic resistance and improve healthcare quality and patient safety. It includes information about antibiotic resistance and threats and a detailed explanation of antibiotic stewardship. Additionally, this course will discuss risks and benefits of the microbiome, adverse drug events, and *Clostridium difficile* infections. La



## New CDC Training on Antibiotic Stewardship

### Objectives:

- Optimize antibiotic prescribing and use to protect patients and combat the threat of antibiotic resistance.
- Inform healthcare professionals about proper antibiotic use.
- Encourage open discussion among physicians and patients.

### 8 hours of free CE:

- Multiple online modules offered in 4 sections to be released throughout 2018.\*
- Open to all clinicians, pharmacists, physician assistants, nurses, certified health educators, and public health practitioners with an MPH.
- Fulfills Improvement Activities Patient Safety and Practice Assessment (PSPA)\_23 and PSPA\_24 under the Centers for Medicare & Medicaid Services Merit-Based Incentive Programs, or MIPS.

### Register:

<https://www.train.org/cdctrain/course/1075730>



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention



\*Additional modules coming Spring & Fall 2018

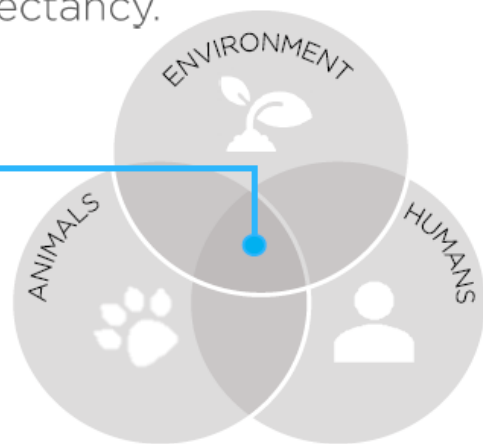
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# THE AMR CHALLENGE

Will you fight or fuel antimicrobial resistance?

## Antimicrobial Resistance (AMR) is a **One Health** problem.

AMR is one of the greatest global health issues of our time, and is threatening our progress in healthcare, food security, and life expectancy.



The U.S. Government is launching a new yearlong initiative to bolster global efforts across sectors and around the world to step up, partner, and each play our part in the **fight against AMR**.



**COMMIT TO ACTION**  
**DELIVER RESULTS**  
**COMBAT AMR**

## How will you lead?

Across five commitment areas, commit to action and results that combat antimicrobial resistance.

### **Tracking and Data**

Develop specific strategies to prevent infections

### **Infection Prevention and Control**

Reduce the spread of resistant germs

### **Antibiotic Use**

Reduce excess, improve access

### **Sanitation and Environment**

Reduce environmental exposure to antibiotics and resistance

### **Vaccines, Therapeutics, Diagnostics**

Stay ahead of emerging threats

**THE #AMRCHALLENGE**  
SEPT. 2018-SEPT. 2019



# U.S. ANTIBIOTIC AWARENESS WEEK

November 12-18, 2018

[www.cdc.gov/antibiotic-use](http://www.cdc.gov/antibiotic-use)



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For more information, contact CDC  
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TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

