Update on CDC Antibiotic Stewardship Activities

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July 14, 2016
Get Smart About Antibiotics Week, November 14–20, 2016

- Annual observance
  - Engage stakeholders around antibiotic stewardship in the outpatient, inpatient and animal health settings
  - Educate healthcare providers and the public about the harmful impact of inappropriately using antibiotics
- Global effort
  - WHO’s World Antibiotic Awareness Week
  - European Union’s Antibiotic Awareness Day (November 18)
- In 2015, 50% increase in partner engagement
CDC’s Core Elements for Antibiotic Stewardship Programs

Coming Soon: Release of Outpatient Core Elements, November 2016

http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html

Proportion of Hospitals Complying with Core Elements by State, 2014

- In 2014, 39.2% of US acute care hospitals reported having antibiotic stewardship programs incorporating all seven CDC Core Elements for Hospital Antibiotic Stewardship Programs.
- Smaller hospitals are having more difficulty implementing the Core Elements:
  - 25% of hospitals <50 beds implementing all Core Elements compared to 55% of hospitals >200 beds.
Partners Promoting Core Elements and Stewardship Incentives

- Starting in 2016, Anthem and Blue Cross/Blue Shield of CA added compliance with the CDC Core Elements to its Quality-In-Sights® Hospital Incentive Program (Q-HIP®)
- The Leapfrog Group is adding questions on the CDC Core Elements to their annual survey
- National Quality Forum Playbook
  - Based on the CDC Core Elements for Hospital Antibiotic Stewardship Programs
  - Specific suggestions for implementing the Core Elements
  - Section on measurement in stewardship
  - Released May 2016

Antibiotic Stewardship in Acute-Care Hospitals: A Practical Playbook from NQF

http://www.qualityforum.org/Publications/2016/05/Antibiotic_Stewardship_Playbook.aspx
Expanding Horizons

- Fund health systems to implement Core Elements across all settings (SHEPheRD IDIQ)
- Expanding support for State Health Departments (Epidemiology and Laboratory Capacity)
- Society for Hospital Medicine launched “Fight the Resistance” campaign
- Meeting with American Nurses Association to find ways to engage nurses in stewardship
- Critical care community exploring opportunities to improve antibiotic use in intensive care units, especially to improve sepsis care
- Partnering with The Pew Charitable Trusts to engage retail and urgent care clinics (first meeting in September) and long-term care facilities
Data for Action
NATIONAL ACTION PLAN FOR COMBATING ANTIBIOTIC-RESISTANT BACTERIA

By 2020, significant outcomes of Goal 1 will include:

- Establishment of antibiotic stewardship programs in all acute care hospitals and improved antibiotic stewardship across all healthcare settings.

- Reduction of inappropriate antibiotic use by 50% in outpatient settings and by 20% in inpatient settings.
Community Antibiotic Prescriptions per 1000 Persons in the US, 2011

- 842 antibiotic prescriptions dispensed per 1000 population in outpatient settings
  - 5 prescriptions for every 6 people
  - 263 million prescriptions dispensed annually in the US

- IMS Health Xponent
  - Sales data from community pharmacies
  - No indication or diagnoses associated with these prescriptions
    - Can’t assess appropriateness

Hicks CID 2015: 60(9):1308-16
What we know about US outpatient antibiotic use

- US uses lots of outpatient antibiotics compared to other countries
- There is a lot of geographic variability within the US
- For respiratory conditions there is a lot of unnecessary use

What we don’t know

- What fraction of all antibiotic use in the outpatient setting is unnecessary?
Annual oral, outpatient antibiotic prescriptions — NAMCS/NHAMCS, 2010–11

- National Ambulatory Medical Care Survey (NAMCS)
  - Sample of visits to non-federal employed office-based physicians

- National Hospital Ambulatory Medical Care Survey (NHAMCS)
  - Sample of visits to emergency and outpatient departments in non-institutional, general and short-stay hospitals

- Included visits from 2010–11 (demographics, diagnoses, medications)
  - 2010–11 data were most recent years in both datasets at the time of the analysis

- 12.6% (95% CI 12.0–13.3) of visits led to antibiotic prescriptions

  154 million (95% CI 140–169) antibiotic prescriptions annually in physician offices, emergency departments and hospital outpatient departments
Annual rate of antibiotics prescriptions per 1000 population by age — US, 2010-11
Annual rate per 1000 population of visits with antibiotics prescribed by region — US, 2010-11

Source: Analysis of NAMCS and NHAMCS data on U.S. antibiotic prescribing, 2010-2011
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Diagnoses leading to antibiotics — United States, 2010–11

- Sinusitis
- Otitis media
- Pharyngitis
- Bronchitis and bronchiolitis
- Upper respiratory infections (URIs)
- Asthma and allergy
- Influenza
- Pneumonia

44% Acute respiratory conditions
56% Other conditions

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Establishing Targets for Reduction in Antibiotic Use

- Antibiotics almost always necessary (Target: No reduction)
  - pneumonia, urinary tract infections, miscellaneous bacterial infections (e.g., chlamydia, gonorrhea, pertussis)

- Antibiotics not necessary (Target: No antibiotics)
  - viral upper respiratory infection (i.e. common cold), bronchitis, bronchiolitis, influenza, non-suppurative otitis media (fluid in the middle ear), viral pneumonia, asthma, allergy

- Antibiotics sometimes necessary (Target: Based upon bacterial prevalence and regional variation in prescribing)
  - pharyngitis, suppurative otitis media, sinusitis
Target annual rate for outpatient antibiotic prescriptions

- Acute respiratory conditions: 221 prescriptions with a -50% decrease.
- Other conditions: 284 prescriptions with a -15% decrease.

2010-11 annual rate of antibiotic prescriptions per 1000 population
Target annual rate of antibiotic prescriptions per 1000 population
47 million unnecessary antibiotic prescriptions per year
Point Prevalence Surveys Assessing Antibiotic Use in Acute Care and Nursing Home Settings

- Pew/CDC expert working group felt that a point prevalence survey was the best way to monitor national progress toward the goal of reducing inappropriate hospital prescribing by 20% by 2020
- Emerging Infection Program sites have completed data collection for the repeat of the antibiotic use point prevalence survey (QuadRx study)
- Will provide descriptive overview of frequency, selection and indication for antibiotic prescribing for hospitalized patients
- Appropriate prescribing
  - Pneumonia
  - Urinary Tract Infections
  - Vancomycin
  - Quinolones
- Point prevalence survey of antibiotic use pilot in nursing homes (9) completed
NHSN Antibiotic Use Option Updates

- 140 facilities submitted at least 1 month of data
  - From 30 states: AZ, CA, CO, CT, FL, IA, ID, IL, IN, KS, KY, MA, MI, MN, MO, NC, ND, NE, NM, NY, OH, OK, OR, RI, SD, TN, TX, UT, VA, WI
  - Bed size:
    - Average = 229
    - Median = 209
    - Min/Max = 11, 919
  - 61% teaching hospitals
    - 56% major teaching
  - 92% facility submission part of health system submission or large academic medical center
  - Using 6 vendors and ‘homegrown’ systems

- Working with additional groups to continue to grow submission:
  - Contracts with Duke Stewardship Network and BD/CareFusion
  - Agreements with HCA and Ascension Healthcare
NHSN Antibiotic Use Option Updates

- Recent Shepherd request for proposals included a project to enroll a group of hospitals in NHSN AU and then to use assess the impact of implementing the CDC Core Elements for Hospital Antibiotic Stewardship Programs.

- Will help address:
  - Do SAAR measures change if hospitals implement more of the core elements?
  - Do SAARs change if hospitals implement the core elements in different ways?
  - Are some core elements and/or implementation approaches more strongly associated with changes in the SAAR?
Accreditation and Regulatory Changes for Hospital Stewardship

- The Joint Commission has issued a final accreditation standard that will require hospitals (and other healthcare settings) to implement stewardship programs.
  - The hospital standard takes effect in early 2017.
  - The hospital standard incorporates the CDC Core Elements.
- CMS has issued a proposed rule for hospital conditions of participation that would require hospitals to have an antibiotic stewardship program.
  - The programs would need to work closely with infection control, but would be distinct from the infection control programs.
  - Public comment closes in mid-August
- CMS recently asked for public comment on the potential of including the SAAR measure in future iterations of the Inpatient Prospective Payment System.
  - Quite a bit of work to be done here.
Questions?

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For more information, contact CDC
1-800-CDC-INFO (232-4636)

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.