An Update on National Stewardship Activities in Acute Care

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Where Do We Want to Be?

- Every hospitalized patient gets optimal antibiotic treatment.
  - Antibiotics only when they are needed.
  - At the right time
  - At the right dose
  - For the right duration
- Every hospital in America has an active antibiotic stewardship program to accomplish that goal.

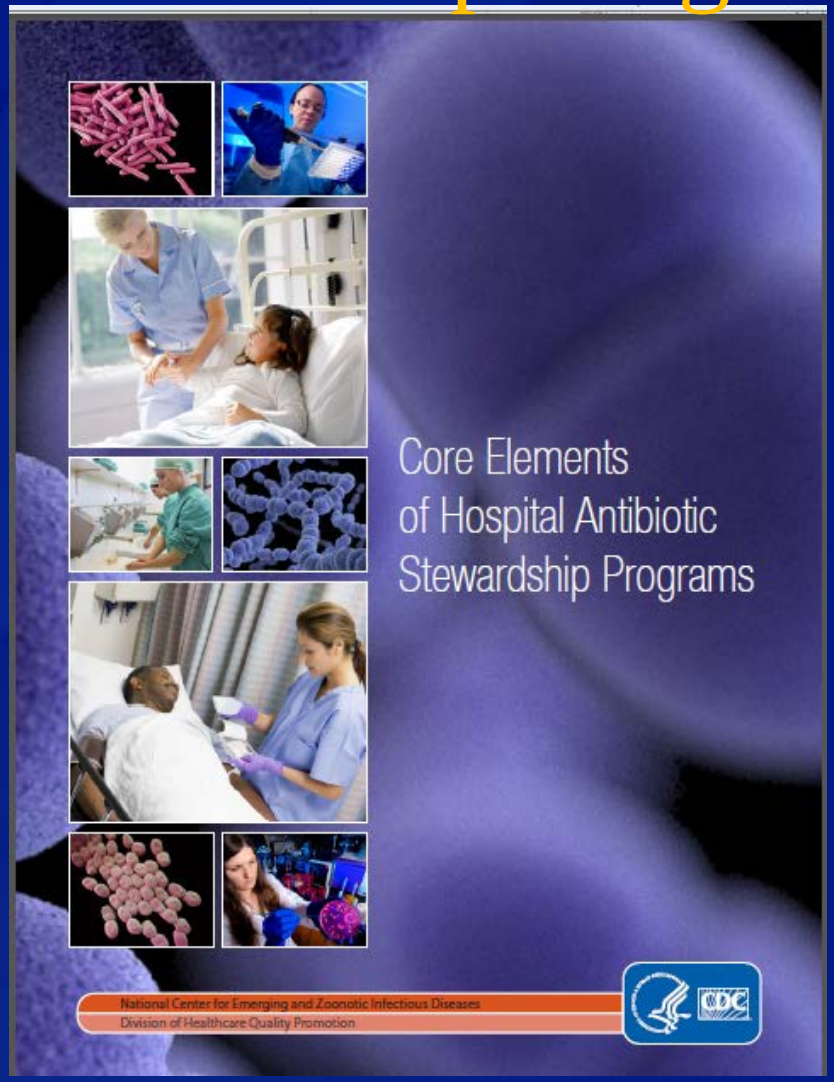
How Do We Get There?

- Lessons learned from preventing healthcare associated infections.
- Well defined interventions with education on implementing them.
- A strong, national measurement system.
- A national emphasis on solving the problem- including national goals.
- New policies to spur action.
- Research

Turning This Into A National Program for Antibiotic Stewardship

- Education and Training- on interventions and implementation
- Measurement
  - Total antibiotic use and appropriate use
  - Prevalence of stewardship programs
- National goals
- National policies
- Research to expand implementation and develop new interventions.

Core Elements for Antibiotic Stewardship Programs



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

Developing the Core Elements

- Built on successful experiences in hospitals that implemented stewardship programs and efforts.
- Based on general principles of quality improvement efforts- what has made those work?
- Based on input from various experts and stakeholders.

Core Elements for Antibiotic Stewardship Programs

- Leadership commitment from administration
- Single leader responsible for outcomes
- Single pharmacy leader
- Antibiotic use tracking
- Regular reporting on antibiotic use and resistance
- Educating providers on use and resistance
- Specific improvement interventions
- http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html

Antibiotic Measurement Challenges in Hospitals

- Data not available from any single source.
- Amount purchased is what is available from large suppliers
  - Does not correlate well with what is used and when.
- We need to know:
  - What's given- hard
  - Why it's given- harder
  - If it was given correctly- hardest

Antibiotic Measurement Challenges in Hospitals

- Hospitals want to benchmark their use to drive improvement.
  - Benchmarking has proven to be a powerful improvement tool for healthcare associated infections.
- Requires:
  - Common definitions
  - Acceptable risk adjustment
  - Collection of a large volume of data

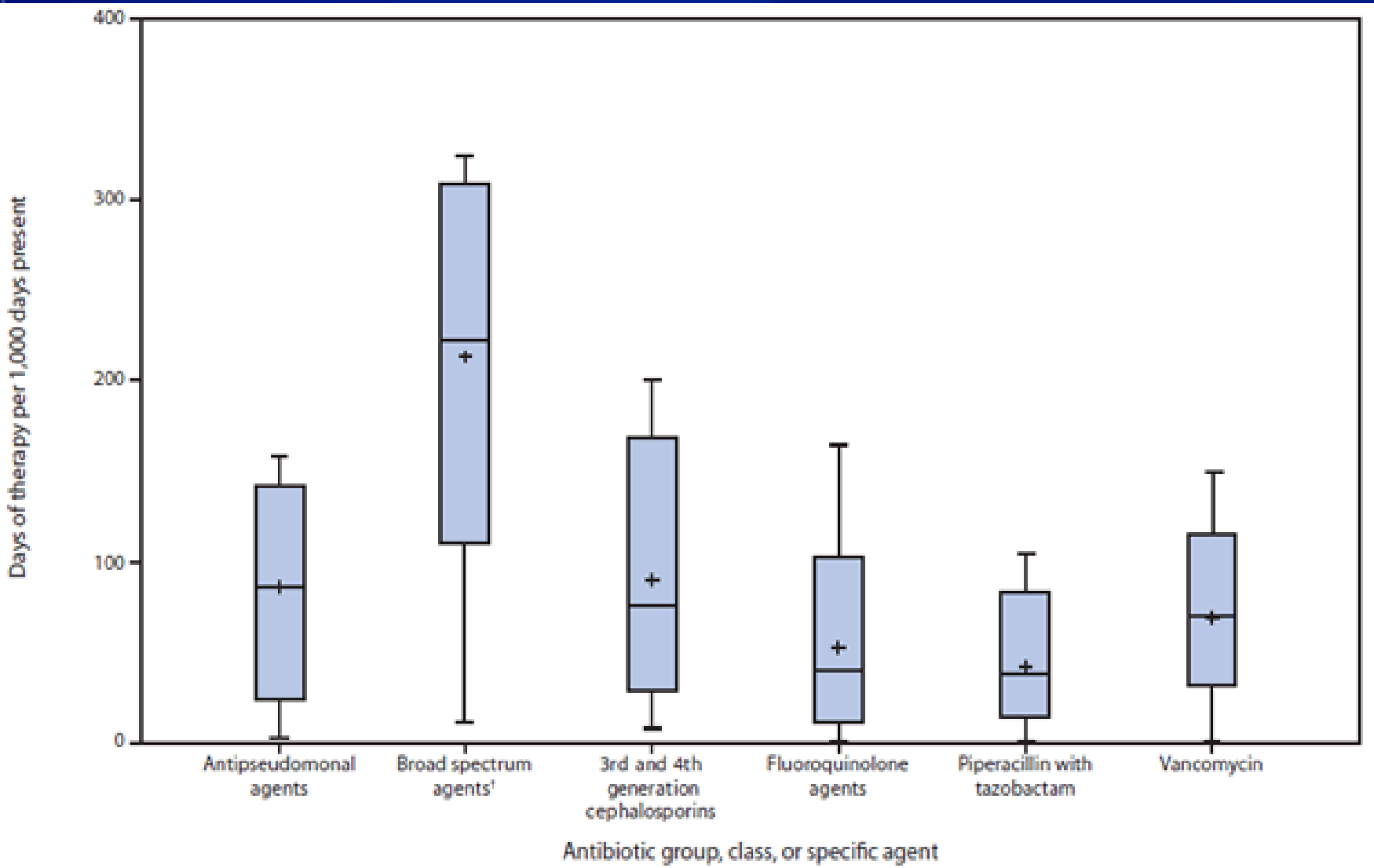
Measuring In-patient Antibiotic Use- Current CDC Approach

- Broad (ideally national) assessments of aggregate use.
  - Emerging Infections Program point prevalence survey
  - Proprietary data from drug distributors.
- Facility specific assessments of antibiotic administration data
  - National Healthcare Safety Network Antibiotic Use option
- Detailed assessments of appropriate antibiotic use.
  - Emerging Infections Program antibiotic use assessment

NHSN Antibiotic Use Module

- Fully electronic module that allows hospitals to track antibiotic use.
  - Manual submission of data is not feasible.
- Collects doses administered per 1000 patient days on specific units and hospital wide.
  - More 100 hospitals currently enrolled.
- Working with enrolled hospitals to determine:
  - What factors contribute to variations in antibiotic use?
  - How can we best benchmark antibiotic use to develop national measures?

Antibiotic Use in NHSN Hospitals



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Standardized Antibiotic Administration Ratio (SAAR)

- CDC's 1st attempt at developing a quality improvement measure for antibiotic use.
- SAAR expresses observed antibiotic use compared to predicted use.
- CDC worked with many partners (physicians, pharmacists from many types of hospitals) to develop the SAAR measure to try and make it most useful for stewardship.

Key Points on the SAAR Measure

- Expected use is defined by the average use of facilities reporting data.
  - "Expected" is probably still not "optimal"
- Each SAAR is risk adjusted based on facility characteristics (e.g. number of ICU beds), but not patient characteristics.
- The SAAR measure is currently being reviewed by the National Quality Forum.

Measuring Appropriate Use

- We all agree that the ultimate goal of stewardship is to improve appropriate use of antibiotics.
- The National Strategy for Combating Antibiotic Resistant Bacteria has a 2020 goal to:
  - Reduce inappropriate inpatient human antibiotic use for monitored agents and conditions by 20% from 2014 levels.
- How can we measure this?

Assessing Appropriate Use

- CDC collaborated with various partners to create some assessment tools for appropriate use.
  - Available on Get Smart for Healthcare website!
- Tools were a foundation for efforts to assess appropriate use as part of the Emerging Infections Program national Healthcare Associated Infection and Antibiotic Use Point Prevalence Survey.

Assessment of Treatment of Urinary Tract Infections in 36 Hospitals

Treatment	No.	(%)
Patients treated for UTI present on admission, without indwelling catheter	**111**	**—**
Urine culture was not ordered, although standard practice before treatment	18	(16.2)
Urine culture was positive, but no documented symptoms were present	23	(20.7)
Urine culture was negative, and no documented symptoms were present	3	(2.7)
No. of patients with potential for improvement in prescribing	**44**	**(39.6)**

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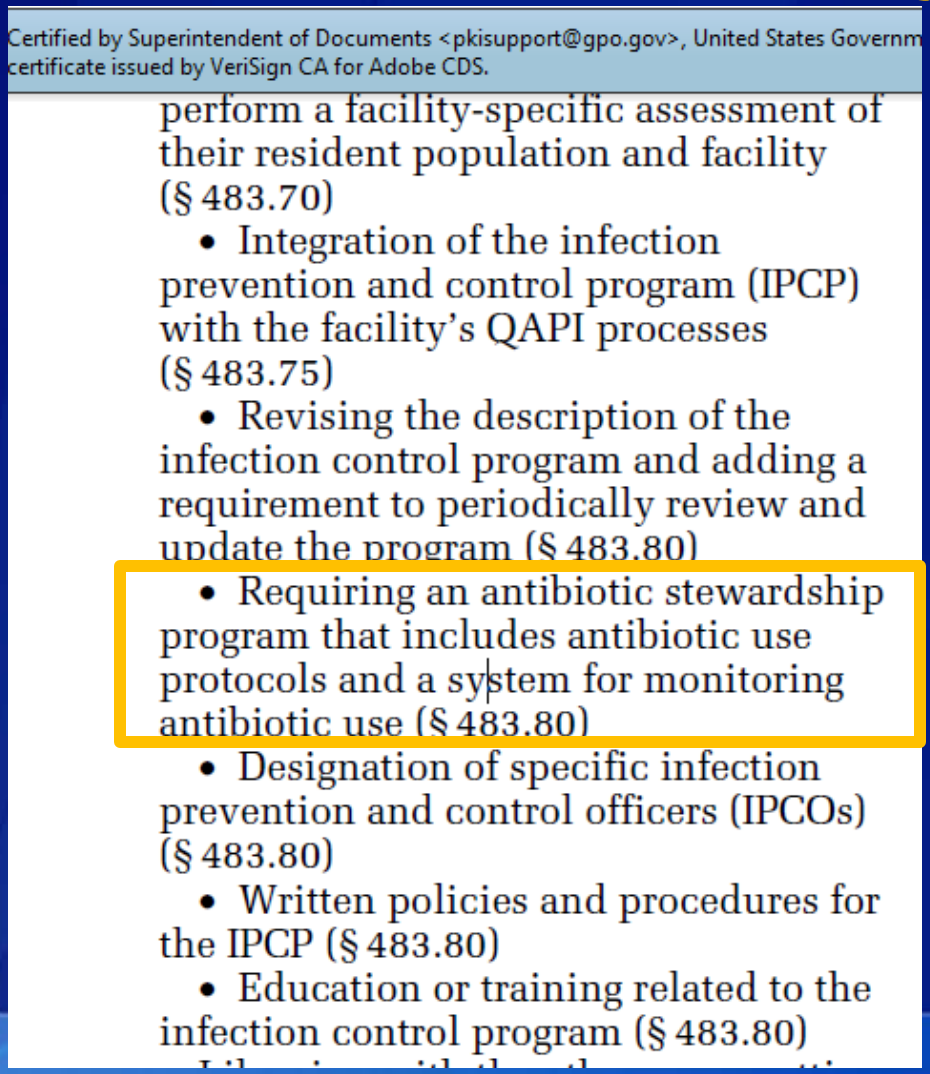
Next Steps for Hospital Antibiotic Use Measurement

- We are working to combine overall assessment of use through the standardized antibiotic administration ratio with assessments of appropriate use to help hospitals determine if high use is also inappropriate use.
- We are exploring ways to do this electronically.

Policy Actions

- Many experts, including advisers to the President, have called for the government to require hospitals and nursing homes to have antibiotic stewardship programs.
- Center for Medicare and Medicaid Services (CMS) does have this power through the Conditions of Participation, which establish criteria hospitals must meet to get money from CMS.
- Private groups that accredit hospitals can also do this.

CMS 2015 Proposed Rule for Long Term Care Facility Requirements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perform a facility-specific assessment of their resident population and facility (§ 483.70)

- Integration of the infection prevention and control program (IPCP) with the facility's QAPI processes (§ 483.75)
- Revising the description of the infection control program and adding a requirement to periodically review and update the program (§ 483.80)
- Requiring an antibiotic stewardship program that includes antibiotic use protocols and a system for monitoring antibiotic use (§ 483.80)
- Designation of specific infection prevention and control officers (IPCOs) (§ 483.80)
- Written policies and procedures for the IPCP (§ 483.80)
- Education or training related to the infection control program (§ 483.80)

- The stewardship program would be part of the facility's infection prevention and control program.
- CDC has developed "Core Elements for Antibiotic Stewardship Programs in Long Term Care" to help with implementation.

Key Lessons Learned from the Hospital Experience

- It will take a multi-faceted approach.
  - Education alone or regulation alone won't get us where we want to be.
- Measurement is very important, but data has to be actionable.
  - Just telling people they use too much won't work.
- The challenges are too complex for any group to address alone.
  - Collaboration is not just desirable, it's essential.