

An Update on National Stewardship Activities

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Where Do We Want to Be?

- ❑ Every hospitalized patient gets optimal antibiotic treatment.
- ❑ Every hospital in America has an active antibiotic stewardship program to accomplish that goal.

How Do We Get There?

- ❑ Lessons learned from CLABSI prevention- what made that work?
- ❑ 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.

Education

- ❑ CDC's Get Smart Programs provide education and resources on improving antibiotic use in:
 - ❑ Outpatient settings:
 - Get Smart: Know when antibiotics work
 - <http://www.cdc.gov/getsmart/community/index.html>
 - ❑ In-patient settings
 - Get Smart for Healthcare
 - <http://www.cdc.gov/getsmart/healthcare/index.html>

Examples

Vitalsigns™
March 2014

Making Health Care Safer

Antibiotic Rx in Hospitals: Proceed with Caution

Antibiotics save lives, but poor prescribing practices are putting patients at unnecessary risk for preventable allergic reactions, super-resistant infections, and deadly diarrhea. Errors in prescribing decisions also contribute to antibiotic resistance, making these drugs less likely to work in the future.

To protect patients and preserve the power of antibiotics, hospital CEOs/medical officers can:

- Adopt an antibiotic stewardship program. At a minimum, this checklist:

- Leadership commitment:** Dedicate financial, and IT resources.
- Accountability:** Appoint a single person for program outcomes. Physicians successful in this role.
- Drug expertise:** Appoint a single person to support improved prescribing.
- Act:** Take at least one prescribing step such as requiring reassessment with drug choice, dose, and duration.
- Track:** Monitor prescribing and antibiotic use.
- Report:** Regularly report to staff prescribers, and steps to improve.
- Educate:** Offer education about antibiotic resistance and improving prescribing.

- Work with other health care facilities to reduce antibiotic use, infections, transmission, and resistance.

Want to learn more? Visit www.cdc.gov

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

1 in 2
More than half of all hospital patients receive an antibiotic.

3x
Doctors in some hospitals prescribed 3 times as many antibiotics as doctors in other hospitals.

30%
Reducing the use of high-risk antibiotics by 30% can lower deadly diarrhea infections by 20%.

Core Elements of Hospital Antibiotic Stewardship Programs

American Hospital Association
American Hospital Association's PHYSICIAN LEADERSHIP FORUM

Appropriate Use of Medical Resources

Antimicrobial Stewardship Toolkit

Want to learn more? Visit www.cdc.gov

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

APIC American Professional Society on the Dispensing of Sterile Ophthalmics
ASHP American Society of Hospital Pharmacists
CDC Centers for Disease Control and Prevention
IDSA Infectious Diseases Society of America
SHEA Society for Healthcare Epidemiology of America
SIm Society of Hospital Medicine

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>

Training

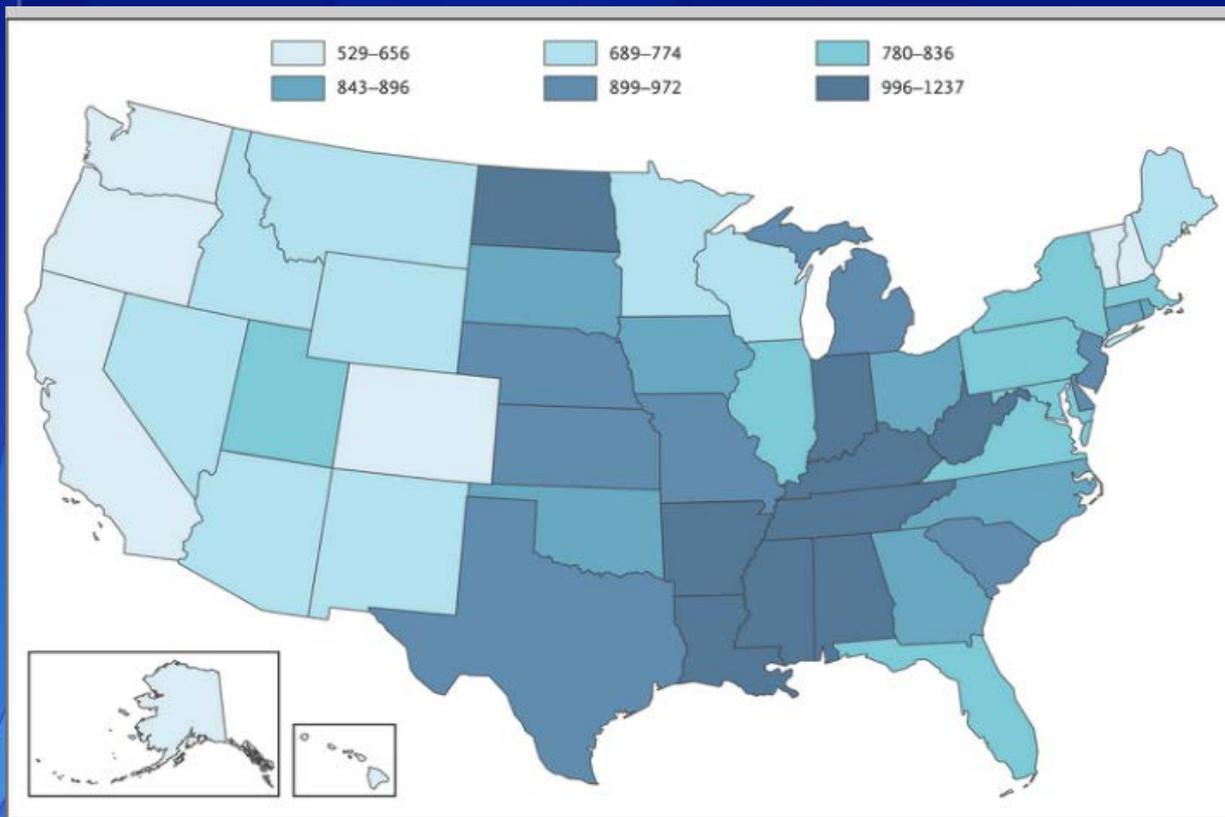
- ❑ Guidance is good. Implementation is great.
- ❑ We need more specific training on implementing stewardship.
 - Just like we have for infection control
- ❑ Some good programs exist.
- ❑ There is certainly room for others and increased focus on stewardship will only create more demand.
- ❑ We should be thinking about what it means to be “certified” in stewardship.

Measure Use

- ❑ Measurement of total antibiotic use can:
 - Highlight variations that merit exploration
 - Allow facilities to benchmark their use
 - Help assess the impact of interventions at both the provider/facility and national levels
- ❑ Measurement of appropriate antibiotic use can:
 - Help determine if poor prescribing is driving high use
 - Help target interventions to improve specific prescribing problems
 - Help assess the impact of interventions

Data on Antibiotic Stewardship- Measuring Use

- Data on overall antibiotic use in out-patient settings is available and being analyzed

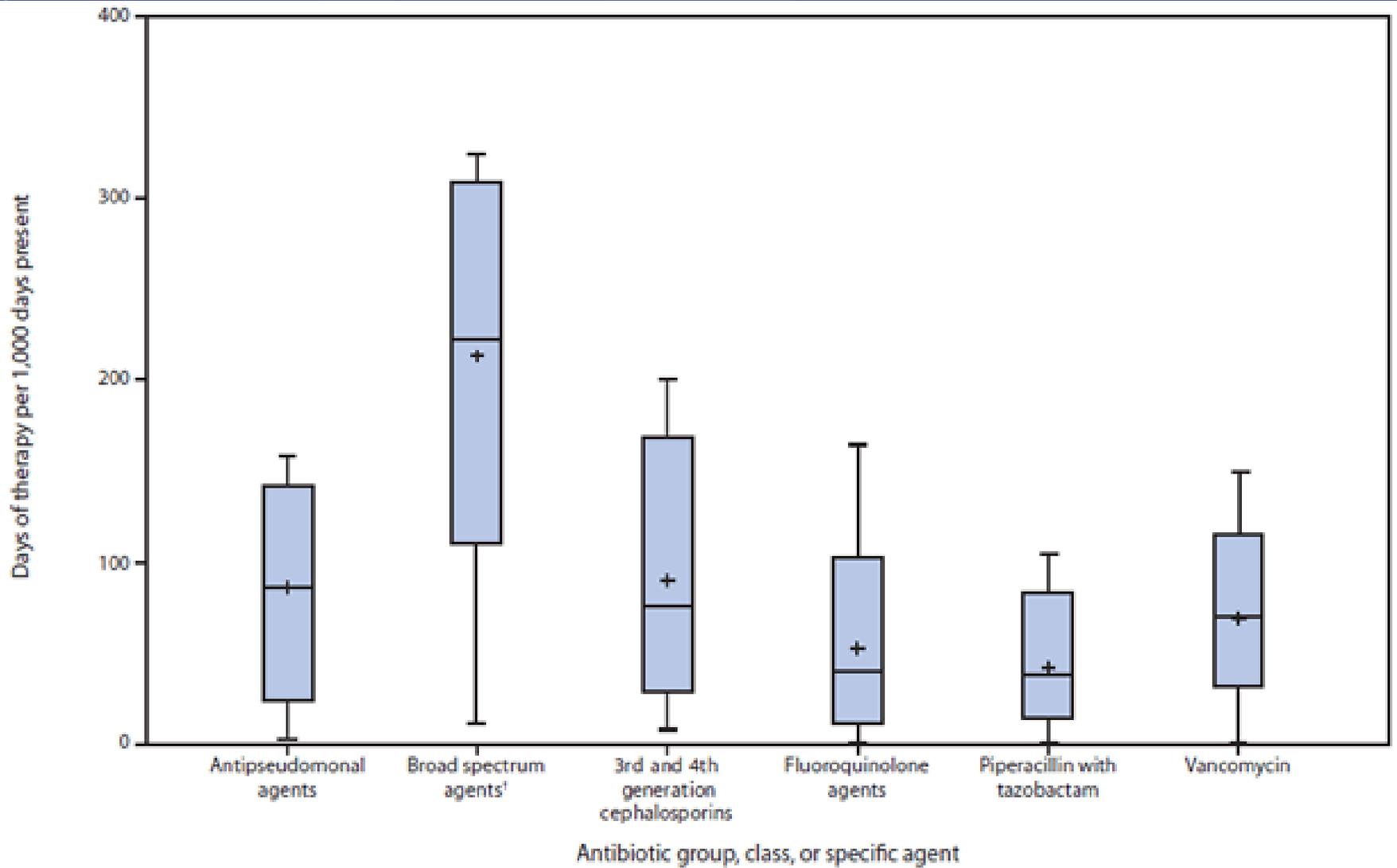


Hicks LA et al. N Engl J
Med 2013;368:1461-
1462

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

Antibiotic Use in NHSN Hospitals



NHSN Antibiotic Use Module

- ❑ Working with enrolled hospitals on several priorities:
 - What factors contribute to variations in antibiotic use?
 - What are the best ways to display use data so that it is most actionable?
 - How can we best benchmark antibiotic use to develop national measures?

Measure Appropriate Antibiotic Use in US Hospitals

- ❑ Emerging Infections Program pilot evaluation of appropriate antibiotic use was helpful in showing that appropriate use could be assessed in a standardized way across a large number of facilities.
- ❑ Rates of inappropriate use:
 - 40% of UTI cases
 - 35% of vancomycin use

Measure Appropriate Antibiotic Use in US Hospitals

- ❑ We'd love to see more hospitals doing this.
- ❑ CDC worked with partners to develop audit tools to help hospitals assess appropriate use.
- ❑ Tools are available (in modifiable, Word format) on the Get Smart for Healthcare website for:
 - UTI, Pneumonia, Use of anti-MRSA agents, General antibiotic use.

Measure Antibiotic Use in US Hospitals

- ❑ Current efforts to measure overall and appropriate antibiotic use are informing our development a metric to submit to the National Quality Forum.
 - Seeking a metric based on the measure in the AU option- antibiotic days per 1000 patient days present.

Challenges With A Quality Measure on Antibiotic Use

- ❑ Will require good benchmarking to help facilities know if they are outliers.
- ❑ The goal is not 100% or zero.
- ❑ Being an “outlier” does not necessarily mean there is a problem.
- ❑ The measure would allow facilities to compare and might suggest areas where further review is warranted.

Measure Antibiotic Stewardship Programs in US Hospitals

- ❑ CDC added questions on Antibiotic Stewardship Programs to the 2015 annual facility survey of NHSN (covers 2014).
 - Will provide data on stewardship programs from ~4000 hospitals reporting data to NHSN.
- ❑ Questions based on the items in the “Core Elements” documents.
 - Will provide some details on how the programs are being implemented, rather than mere presence of a program.

Research

- ❑ Much more research in stewardship is needed.
- ❑ We need more multi-center trials to assess stewardship interventions
 - How well do they work?
 - How can they be best implemented?
- ❑ We need more studies on new interventions and better measurement.

National Goals and Policies- In-patient

- ❑ Before September 18, 2014.
- ❑ No national in-patient stewardship goals or policies.
 - Stewardship questions included as “non-citation” questions on CMS in-patient infection control worksheet.
- ❑ Some national goals on out-patient antibiotic use to reduce prescribing for ear infections and colds..

Why Are National Goals and Policies Important?

- ❑ There is plenty of evidence that:
 - Antibiotics are overused (in-patient and out-patient)
 - Antibiotic stewardship improves patient outcomes
 - Antibiotic stewardship saves money
- ❑ Despite that, strong stewardship programs are not universal and not a high priority in many facilities.
- ❑ Not too different from where infection control was in the past.
- ❑ Certainly not the case for infection control now.

What Made the Difference in Infection Control?

- ❑ Infection control is a Center for Medicare and Medicaid Services (CMS) “Condition of Participation” for acute care hospitals.
 - All hospitals must have an infection control program that meets CMS criteria in order to get paid by CMS.
- ❑ Created a requirement for infection control infrastructure, including trained staff, in all hospitals.

What Made the Difference in Infection Control?

- ❑ Prevention of healthcare associated infections was included in Value Based Purchasing requirements of the Affordable Care Act.
- ❑ Hospitals must publicly reported infection data to get full CMS payment.
- ❑ Over time, infection data will factor into hospital payments.
- ❑ “C-suites” are now very aware of and interested in preventing infections.

National Policies for Stewardship?

- ❑ Many have suggested that stewardship will not make large advances without national policies.
- ❑ IDSA, PIDS and SHEA have all called on CMS to make antibiotic stewardship a Condition of Participation.

September 18, 2014

- ❑ White House announced a national effort to combat antibiotic resistance in bacteria.
- ❑ Three key items released on that day:
 - Report from the President's Council of Advisors on Science and Technology (PCAST)
 - National Strategy for Combatting Antibiotic Resistant Bacteria
 - Executive Order
- ❑ Stewardship prominent in all three.



REPORT TO THE PRESIDENT ON COMBATING ANTIBIOTIC RESISTANCE

Executive Office of the President
President's Council of Advisors on
Science and Technology

September 2014



Report from the President's Council of Advisors on Science and Technology

- ❑ Eight high level recommendations to the president to combat antibiotic resistance:
 - Ensure strong federal leadership
 - Effective surveillance and response
 - Fundamental research
 - Clinical trials with new antibiotics
 - Increase economic incentives for new antibiotics
 - **Improve stewardship of existing antibiotics**
 - Limit the use of antibiotics in animal agriculture
 - Ensure effective international coordination

Effective Surveillance and Response

- ❑ Report calls on CDC to expand funding for state and local health departments to enhance programs for detection and control of antibiotic resistance, including enhanced stewardship programs.

Improving Stewardship in Healthcare

- ❑ CMS should use reimbursement to drive stewardship.
 - Add requirement for robust stewardship programs to conditions of participation for all hospitals and nursing homes, by 2017.
 - Follow with similar requirement for long term acute care hospitals, ambulatory surgical centers and dialysis centers.
 - Expand physician quality reporting system to include quality measures that discourage inappropriate prescribing in outpatient practices.

Improving Stewardship in Healthcare

- ❑ CMS reimbursement- Gather data on antibiotic use and resistance.
 - CMS should include in the Inpatient Quality Reporting Program and reporting on Hospital Compare quality measures based on data reported by healthcare facilities to the NHSN Antibiotic Use and Resistance Module.
 - Quality measure should be submitted to consensus body by 2017.
 - Achieve mandatory, nation-wide reporting by 2020.

Improving Stewardship in Healthcare

- ❑ CMS reimbursement- Gather data on antibiotic use and resistance.
 - CMS should include antibiotic use and resistance measures in value-based purchasing metrics in future years.
 - CDC should work with partners to develop risk stratified benchmarks for use and resistance data.

Improving Stewardship in Healthcare

- ❑ Federal government should use funding requirements to drive stewardship.
 - Require implementation of stewardship as a condition for federal funds for healthcare delivery e.g. in community health centers.

Improving Stewardship in Healthcare

- ❑ The Federal government should lead by example.
 - Require all federally operated healthcare facilities (e.g. Veterans Affairs, Department of Defense, Indian Health Service) to implement stewardship programs and report to the NHSN AUR module.



NATIONAL STRATEGY FOR COMBATING ANTIBIOTIC- RESISTANT BACTERIA

Vision: The United States will work domestically and internationally to prevent, detect, and control illness and death related to infections caused by antibiotic-resistant bacteria by implementing measures to mitigate the emergence and spread of antibiotic resistance and ensuring the continued availability of therapeutics for the treatment of bacterial infections.

September 2014



National Strategy for Combating Antibiotic Resistant Bacteria- Goals

- ❑ Slow the development of resistant bacteria and prevent transmission
- ❑ Strengthen surveillance
- ❑ Advance development of new diagnostics
- ❑ Accelerate research and development for new antibiotics, other therapeutics and vaccines
- ❑ Improve international collaboration in combating resistance.

National Strategy for Combating Antibiotic Resistant Bacteria

- ❑ Implement public health programs and reporting policies that advance antibiotic resistance prevention and foster antibiotic stewardship in healthcare settings and the community.
 - Strengthen stewardship and education
 - Implement annual reporting of antibiotic use in in-patient and out-patient settings.
 - Develop and pilot new interventions.

National Strategy for Combating Antibiotic Resistant Bacteria

- ❑ All states will implement stewardship activities in healthcare settings.
- ❑ All federal facilities will have robust stewardship programs.
- ❑ 95% of hospitals will report antibiotic use data to NHSN.
- ❑ Reduce inappropriate use for monitored conditions/agents by 20% in-patient and 50% outpatient.
- ❑ CDC and AHRQ will expand research.

National Strategy for Combating Antibiotic Resistant Bacteria

- ❑ Expand and strengthen the national infrastructure for public health surveillance and data reporting and provide incentives for timely reporting of antibiotic use and resistance in all healthcare settings.
 - Inclusion of reporting as part of Hospital Inpatient Quality Reporting.
 - Add electronic reporting of antibiotic use and resistance to stage 3 of the meaningful use program.



The White House

Office of the Press Secretary



For Immediate Release

September 18, 2014

Executive Order -- Combating Antibiotic-Resistant Bacteria

EXECUTIVE ORDER

COMBATING ANTIBIOTIC-RESISTANT BACTERIA

By the authority vested in me as President by the Constitution and the laws of the United States of America, I hereby order as follows:

Section 1. Policy. The discovery of antibiotics in the early 20th century fundamentally transformed human and veterinary medicine. Antibiotics save millions of lives each year in the United States and around the world. The rise of antibiotic-resistant bacteria, however, represents a serious threat to public health and the economy. The Centers for Disease Control and Prevention (CDC) in the Department of Health and Human Services (HHS) estimates that annually at least two million illnesses and 23,000 deaths are caused by antibiotic-resistant bacteria in the United States alone.

LATEST BLOG POSTS

September 20, 2014 6:00 AM EDT

Weekly Address: The World Is United in the Fight Against ISIL

In this week's address, the President thanked Congress for its strong bipartisan support for efforts to train and equip Syrian opposition forces to fight ISIL.

Executive Order on Combating Antibiotic Resistant Bacteria

- Describes combating antibiotic resistance is a national security priority.
- Creates federal task force and Presidential advisory council to guide implementation of the national strategy.
- Addresses various areas relevant to resistance, including stewardship.

Executive Order on Combating Antibiotic Resistance

- Sec. 5. Improved Antibiotic Stewardship. (a) By the end of calendar year 2016, HHS shall review existing regulations and propose new regulations or other actions, as appropriate, that require hospitals and other inpatient healthcare delivery facilities to implement robust antibiotic stewardship programs that adhere to best practices, such as those identified by the CDC. HHS shall also take steps to encourage other healthcare facilities, such as ambulatory surgery centers and dialysis facilities, to adopt antibiotic stewardship programs.

Executive Order on Combating Antibiotic Resistance

- Sec5b) Task Force agencies shall, as appropriate, define, promulgate, and implement stewardship programs in other healthcare settings, including office-based practices, outpatient settings, emergency departments, and institutional and long-term care facilities such as nursing homes, pharmacies, and correctional facilities.

Executive Order on Combating Antibiotic Resistance

- Sec 5c- By the end of calendar year 2016, the Department of Defense (DoD) and the Department of Veterans Affairs (VA) shall review their existing regulations and, as appropriate, propose new regulations and other actions that require their hospitals and long-term care facilities to implement robust antibiotic stewardship programs that adhere to best practices, such as those defined by the CDC. DoD and the VA shall also take steps to encourage their other healthcare facilities, such as ambulatory surgery centers and outpatient clinics, to adopt antibiotic stewardship programs.

Executive Order on Combating Antibiotic Resistance

- Sec 5d- Task Force agencies shall, as appropriate, monitor improvements in antibiotic use through the National Healthcare Safety Network and other systems.

Where Are We Now?

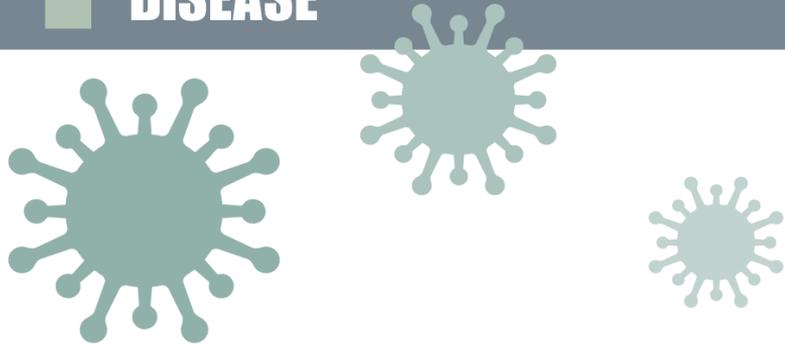
- At IDWeek CMS announced that they intend to propose a rule to require stewardship programs as a hospital Condition of Participation in 2015.
- CDC planning to submit an antibiotic use measure for review by NQF in 2015.
- Federal government submitting an action plan to the President on how to accomplish the national goals for combatting resistance.

Much Needed Investments

- The President recognizes that we will need to make new and big investments if we are going to improve antibiotic use and combat antibiotic resistance.
- White House has proposed a major investment in a comprehensive effort to combat resistance in the President's budget for 2016.

Fighting back against antibiotic resistance

1 PREVENTING INFECTIONS, PREVENTING THE SPREAD OF DISEASE



2 TRACKING



3 IMPROVING ANTIBIOTIC PRESCRIBING AND USE, AKA "STEWARDSHIP"



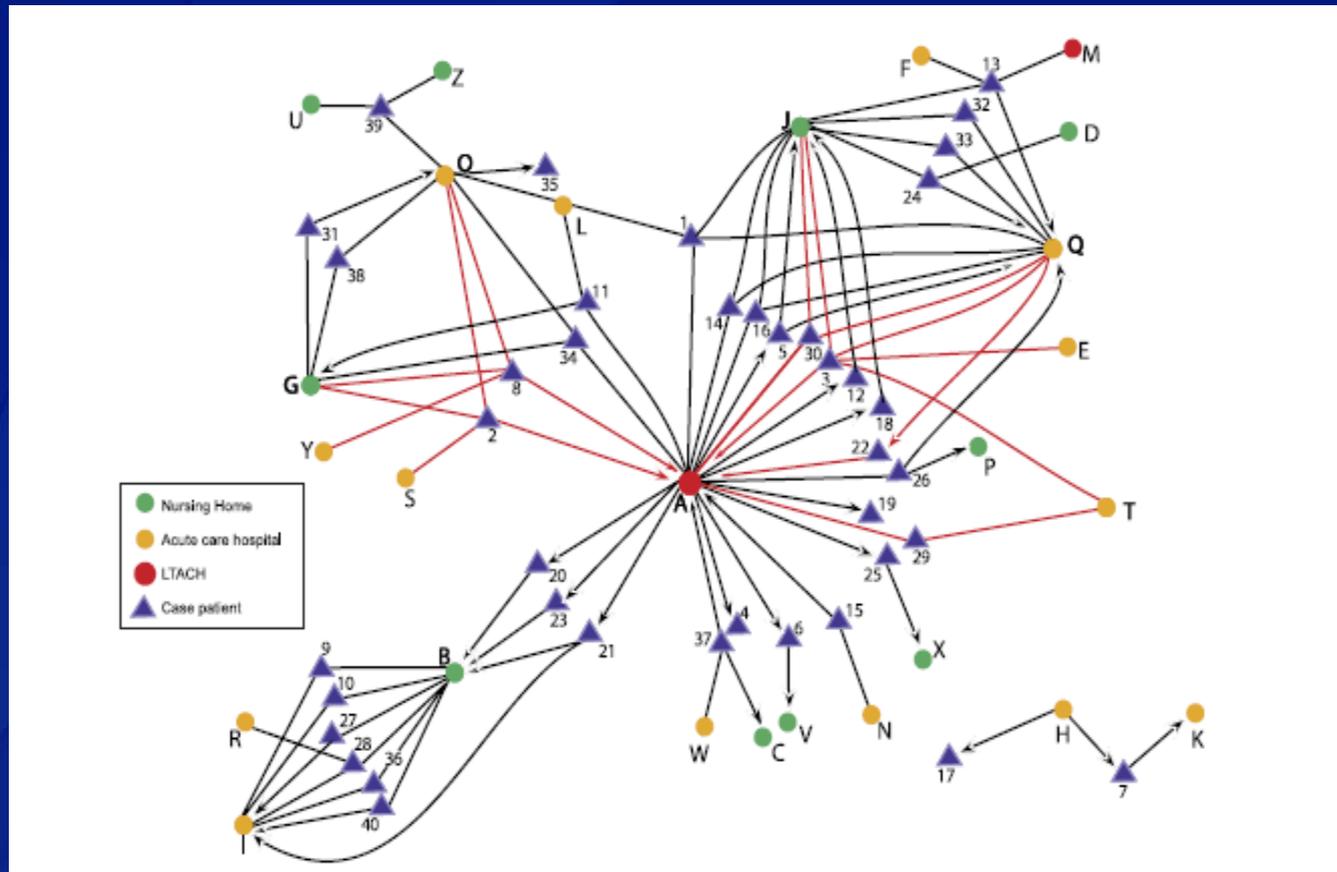
4 DEVELOPING NEW DRUGS



Which Brings Us to Today

- ❑ A key focus in efforts to combat resistance will be to move improvement projects beyond single facility efforts.
- ❑ Healthcare is increasingly connected and therefore our efforts to combat resistance must follow suit.

Regional Spread of CRE in IL



Won S, Munoz-Price S, Lolans K, Hota B, Weinstein R, Hayden M. for the Centers for Disease Control Prevention Epicenter Program. Rapid and Regional Spread of *Klebsiella pneumoniae* Carbapenemased CID 2011;53: 532-540

Houston Leads by Example

- ❑ Regional efforts, like yours, are the model we will need to emulate to really make strides in combatting resistance.
- ❑ Resistance anywhere is resistance everywhere.
- ❑ Poor antibiotic use anywhere hampers stewardship everywhere.

I Look Forward to Learning

- ❑ What's the best way to structure regional efforts to improve antibiotic use?
- ❑ How can we best translate lessons learned and success from one facility to another?
 - Especially across different types of facilities.
- ❑ What advice to you have for me?

Conclusions

- ❑ This is an unprecedented time for antibiotic stewardship.
- ❑ There is now a national strategy for advancing stewardship as a key part of combating resistance.
- ❑ Now comes the hard part of putting reports and strategies into action.
- ❑ We want to know how we can help you advance your stewardship efforts.