

# Resistance anywhere is resistance everywhere

**Get Smart  
About Antibiotics Week**  
November 12-18, 2012

## Did you know?

1. Antibiotic resistance is one of the world's most pressing public health threats.
2. Antibiotics are the most important tool we have to combat life-threatening bacterial diseases, but using antibiotics can have side effects.
3. Antibiotic overuse increases the development of drug-resistant germs.
4. Patients, healthcare providers, hospital administrators, and policy makers must work together to employ effective strategies for improving antibiotic use – ultimately improving medical care and saving lives.

## Geographical Distribution of *Klebsiella pneumoniae* carbapenemase (KPC) Infections



## Geographic spread of the problem

- We've seen that antibiotic resistance can travel the globe. *Klebsiella pneumoniae* carbapenemase (KPC) infections, a type of resistant bacteria known as CRE, were once seen in limited locations in the United States but are now found throughout the country.
- Another type of CRE, caused by New Delhi metallo-beta-lactamase (NDM-1), was initially identified in India, but is now present in several other countries.

## Geographic Spread of CREs:

- Originally found in only one U.S. state – now spread to 37
- Becoming an alarming problem worldwide
- NDM-1 gene, originally found in India and Pakistan, has spread to the United States, Canada, Netherlands, United Kingdom, Australia, and beyond

*Klebsiella pneumoniae*



## Why we must act now

- The way we use antibiotics today or in one patient directly impacts how effective they will be tomorrow or in another patient; they are a shared resource.
- Antibiotic resistance is not just a problem for the person with the infection. Some resistant bacteria have the potential to spread to others – promoting antibiotic-resistant infections.
- Since it will be many years before new antibiotics are available to treat some resistant infections, we need to improve the use of antibiotics that are currently available.

## Global health professionals can

- Spread the message that antibiotic resistance is a global problem.
- Support work of the *Trans Atlantic Task Force on Antimicrobial Resistance* (TATFAR), whose purpose is to identify urgent antibiotic resistance issues that can best be addressed by cooperation between the United States and the European Union. Through TATFAR, the European Union and the United States will collectively focus on the following:
  - Promoting appropriate therapeutic use of antibiotics in the medical and veterinary communities;
  - Preventing antibiotic-resistant infections;
  - Identifying opportunities to **learn from** each other and to promote an information exchange; and
  - Recommending areas of future European Union and United States collaboration.
- Implement hospital infection-control measures to reduce the spread of multidrug-resistant strains and reinforce national policies on prudent use of antibiotics, reducing the generation of antibiotic-resistant bacteria.
- Adhere to WHO's strong recommendations that governments focus control and prevention efforts in four main areas:
  - Surveillance for antimicrobial resistance;
  - Rational antibiotic use, including education of healthcare workers and the public in the appropriate use of antibiotics;
  - Introduction or enforcement of legislation related to stopping the sale of antibiotics without prescription; and
  - Strict adherence to infection prevention and control measures, including safe handwashing measures, particularly in healthcare facilities.
- Develop relevant policies and coordinate international efforts with the support of WHO to combat antimicrobial resistance.

## Outpatient antibiotic use: U.S.A. compared to Europe (2004)

Defined Daily Dose / 1,000 Inhabitants per day



### Centers for Disease Control and Prevention

For more information, please contact Centers for Disease Control and Prevention  
1600 Clifton Road NE, Atlanta, GA 30333  
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-63548  
E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov) Web: <http://www.cdc.gov/getsmart/>  
Web: <http://www.cdc.gov/getsmart/healthcare/>