Perspective on AnA Global antimicrobial Resistance

Dawn M. Sievert, PhD, MS
Associate Director for Antimicrobial Resistance
Division of Foodborne, Waterborne, and Environmental Diseases
Centers for Disease Control and Prevention

USAHA One Health Committee
October 18, 2017
Global Burden of AMR
Deaths attributable to AMR every year by 2050

North America: 317,000
Europe: 390,000
Africa: 4,150,000
Latin America: 392,000
Asia: 4,730,000
Oceania: 22,000

Mortality per 10,000 population
AMR now
700,000
(low estimate)

AMR in 2050
10 million

Tetanus
60,000

Road traffic accidents
1.2 million

Cancer
8.2 million

Measles
130,000

Cholera
100,000–120,000

Diarrhoeal disease
1.4 million

Diabetes
1.5 million
Every country is a global importer/exporter of AR

1 billion people cross international borders each year.
Antibiotic Resistance: Acting to Combat a Global Issue

The superbug that doctors have been dreading just reached the U.S.

By Lena H. Sun and Brady Dennis

CDC identifies first U.S. cases of drug-resistant fungal infection

By Susan Scotti, CNN
Updated 3:03 PM ET, Fri November 4, 2016

KILLER FUNGUS CANDIDA AURIS MAY HAVE KILLED FOUR US PATIENTS, SAYS CDC

LORENZO TANGS
CDC’s Role in Global Efforts to Combat AMR
CDC International AMR Activities

- Transatlantic Taskforce for Antimicrobial Resistance – technical collaborations to advance AMR programs domestically and abroad

- WHO Antimicrobial Resistance Collaborating Centers – Using CDC expertise to help WHO develop global AMR solutions

- Global Health Security Agenda – Engaging 17 countries to strengthen laboratories, surveillance networks and develop action plans
Trans-Atlantic Task Force on Antimicrobial Resistance
Key Focus Areas & Activities

▪ Improve appropriate therapeutic use of antimicrobial drugs in medical and veterinary communities.
  – Developing strategies to measure drug use in animals
  – Assessing appropriate drug use in humans

▪ Prevent healthcare and community-associated drug-resistant infections.
  – Harmonizing definitions of resistance for improved surveillance
  – Developing strategies to translate surveillance data into prevention interventions
Trans-Atlantic Task Force on Antimicrobial Resistance
Key Focus Areas & Activities

- Develop strategies for improving the pipeline of new antimicrobial drugs.
  - Developing incentives for drug development
  - Harmonizing and coordinating the drug approval regulatory process
CDC WHO Antimicrobial Resistance Collaborating Centers

Key Activities

- Building international collaborations for surveillance of AMR pathogens
- Providing technical guidance for the laboratory detection of resistance and for implementing surveillance
- Improving international communication of new or emerging AMR pathogens
Global priority list of antibiotic-resistant bacteria to guide research, discovery, and development of new antibiotics
A Challenge - Improving Global AMR Data

The first WHO GLASS Report described insufficient AMR surveillance data in many parts of the world.
GHSA AMR Action Package

Prevent avoidable catastrophes

5-Year Target:
• Integrated and global package of activities to combat AMR

Desired Impact:
• Enhance infection prevention and control
• Prevent the emergence and spread of AMR, especially among drug-resistant bacteria
• Strengthen surveillance and laboratory capacity
Joint External Evaluation (JEE)

- The purpose of the JEE is to **identify the most critical gaps** within a country’s health systems using a multi-sectoral approach; **prioritize opportunities** for enhanced preparedness and response; and **engage with current and prospective donors and partners** to effectively target resources.

- As of May 2017, CDC experts have participated in more than 30 JEE deployments and coordinated with host countries to translate JEE findings and recommendations into action.
Develop international guidelines and policy in partnership with WHO, Codex, OIE, and FAO
Examples of CDC’s Global Work to Combat AMR

Innovation & Infection Control in Vietnam
- Piloting shorter-course preventive therapy to reduce TB disease and slow development of resistant TB
- Studying latent TB management by offering testing and treatment before traveling to the United States.
- Establishing national AR and HAI surveillance network of 16 sites to generate critical data
- Developing national infection control expertise through a national Technical Advisory Group to reduce HAIls and improve containment

Improving TB Diagnostics in Mexico
- Linking patients diagnosed with TB to care and treatment

First National TB Program in China
- Strengthening the Chinese TB surveillance system and collaborating on lab quality assurance programs

Strengthening HAI/AR Programs in India
- Implementing HAI and AR surveillance in 30+ sites across country to better understand AR burden
- Initiating programs to prevent and reduce central line associated bloodstream infections
- Assessing stewardship programs to improve antibiotic use
Examples of CDC’s Global Work to Combat AMR

- ABROAD
- Proctor and Gamble
- Broad Institute, MIT
- NARMS & FoodNet
Examples of CDC’s Global Work to Combat AMR

• Improve capacity to detect, investigate, and respond to enteric outbreaks in-country, around the world
Contact: dsievert@cdc.gov
Thank You!

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.