Global action plan on antimicrobial resistance

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World Health Organization
Proportion of MDR among previously treated TB cases, 1994-2010

Combining data from all countries and territories:
• MDR in previously treated TB cases: 19.8% One in every five patients
Global action plan on antimicrobial resistance
Epidemic prone diseases and community acquired infections

- **Cholera**
  - Resistance to Nalidixic acid, fluorazolidone, cotrimoxazole:
  - Tetracycline resistance:

- **Shigellosis**
  - Multidrug resistant, causing extensive outbreaks

- **Typhoid fever**
  - MDR *Salmonella typhi* prevalent all over South East Asia
  - Causing 10% Case Fatality Rate (CFR) in children (preantibiotic era: 12.8%)

- **Acute respiratory infections (pneumonias)**
  - >50% of *Strept pneumoniae* resistant to penicillin in Thailand
Hospital-associated infections in South East Asia

- **Staphylococcus aureus**
  - >50% isolates in hospitals are methicillin-resistant

- **Pseudomonas, Klebsiella, Serratia**
  - Multidrug-resistance, persist hospital settings, and cause huge mortality morbidity

- **Acinetobacter baumannii**
  - >50% of patients infected with resistant strains die
Veterinary source of pathogens

Chickens imported into Bhutan
- Several salmonellae
- 40/42 *Salmonella enteritidis* were MDR

Healthy cows in Thailand
- 68% of *Salmonella enterica* were MDR

Chickens to humans in Thailand
- MDR *Salmonella schwarzengrund*
Resistant organisms move across the borders through humans and food-chain

- Two outbreaks of Methicillin Resistant *Staph. aureus* (MRSA) in hospitals in Canada:
  - Origin in SEAR
- Multi Drug Resistant Typhoid fever in USA:
  - Origin 6 countries
- MDR *Salmonella schwarzengrund*
  - Imported Thai food into Denmark and the USA
- Multi Drug Resistant *Mycobacteria*
- Resistant malaria at Thai-Cambodia border
Why now?

Increasingly serious global public health threat
- New evidence and information
  - Untreatable infections
  - 25,000 deaths/year across EU
- Desperation over "dry pipeline"

Economic impact
- by 2050, lead to 10 million deaths every year
- reduction of 2 to 3.5 percent in GDP
- costing the world up to $100 trillion

Growing awareness and commitment
- Political, professional, public
- Health, agriculture, finance/economic, industry
Estimates of Burden of Antibacterial Resistance

**European Union**  
Population 500m  
25,000 deaths per year  
2.5m extra hospital days  
Overall societal costs  
(€ 900 million, hosp. days)  
Approx. €1.5 billion per year  

**Thailand**  
Population 70m  
>38,000 deaths  
>3.2m hospital days  
Overall societal costs  
US$ 84.6–202.8 mill. direct  
>US$1.3 billion indirect  

**United States**  
Population 300m  
>23,000 deaths  
>2.0m illnesses  
Overall societal costs  
Up to $20 billion direct  
Up to $35 billion indirect  

Global information is insufficient to show complete disease burden impact and costs

Global action plan on antimicrobial resistance
World Health Assembly 2015

• WHO Executive Board January 2015
  • Strong support to take plan to World Health Assembly
  • 39 country statements, plus 5 NGOs
  • Consensus on need for action, and what should be done
  • Some requests for modification

• World Health Assembly May 2015
  • Global action plan adopted – over 50 supporting statements
  • New resolution to support action – over 60 country sponsors

WHA web site at http://apps.who.int/gb/e/e_wha68.html. It is listed as document A68/20. Available in 6 languages. Supplementary material is available on our AMR webpages at http://www.who.int/drugresistance/global_action_plan/en/
Global action plan based on...

5 Guiding principles

- Whole of society engagement & one health
- Prevention first
- Access to health services and products
- Sustainability
- Incremental targets for implementation
Five strategic objectives:

- Improve awareness and understanding
- Strengthen the knowledge through surveillance and research
- Reduce the incidence of infection
- Optimize the use of antimicrobial medicines
- To ensure sustainable investment
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Worldwide country situation analysis: response to antimicrobial resistance

April 2015
Overall Key Findings

The survey was completed by 133 countries in 2013-2014.

Few countries (34 out of 133) have a comprehensive national plan to fight resistance to antibiotics and other antimicrobial medicines.

Monitoring is key for controlling antibiotic resistance, but it is infrequent. In many countries, poor laboratory capacity, infrastructure and data management are preventing effective surveillance, which can reveal patterns of resistance and identify trends and outbreaks.
Sales of antibiotics and other antimicrobial medicines without prescription remain widespread, with many countries lacking standard treatment guidelines, increasing the potential for overuse of antimicrobial medicines by the public and medical professionals.

Lack of programmes to prevent and control hospital-acquired infections remains a major problem.

Public awareness of the issue is low in all regions, with many people still believing that antibiotics are effective against viral infections.
Next Steps

• National Action Plans
  • Support from WHO (Regional and Country Offices)
  • Define national priorities and investment needs
  • Cross-sector collaboration at all levels

• Global surveillance
  • Human and animal health
  • Microbiology and antibiotic use
  • Guide decisions from patient treatment to national policy
  • Monitor trends and effectiveness of actions

• Global leadership and cooperation
  • G7
  • United Nations
  • Monitoring and evaluation – WHO to report every 2 years
Thank you