Introduction to the Antimicrobial Resistance Global Action Plan

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Sixth Asia-Pacific Workshop on Multi-Sectoral Collaboration for the Prevention and Control of Zoonoses
Sapporo, 28-30 October 2015
Outline

• AMR as a global public health crisis
• Global Action Plan on AMR
• Sample of actions requested by the Global Action Plan
• Surveillance of AMR
• AMR containment strategies and approaches in the Asia-Pacific Region
• Take home message
Antibiotics: precious but diminishing resource

Bringing a new antibiotic in market: Cost USD 1 billion, Time: 12-14 years: Life: ??
"It is not difficult to make microbes resistant to penicillin ....

"The time may come when penicillin can be bought by anyone in the shops. Then there is the danger that the ignorant man may easily under-dose himself and by exposing his microbes to nonlethal quantities of the drug make them resistant."
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

Source: ECDC 2007

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

Source: Pumart et al 2012

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

Source: US CDC 2013

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

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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.

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Overall Key Findings

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.
Key Findings by Region

WHO African Region
WHO Region of the Americas
WHO Eastern Mediterranean Region
WHO European Region
WHO South East Asian Region
WHO Western Pacific Region

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WHO Africa Region

8 out of 47 Member States in the region participated in the survey.

All 8 countries in the region state that resistance to treatments for malaria and TB are their greatest challenges.

Poor-quality medicines are a general problem, further contributing to the challenge.

The data in this region are incomplete due to lack of information, however the results suggest that antimicrobial resistance is a growing problem.

Countries who participated in the survey:
- Burkina Faso, Central African Republic, Gambia, Ghana, South Sudan, United Republic of Tanzania, Uganda and Zambia
WHO Region of the Americas

26 out of 35 Member States in the region participated in the survey.

Only 3 countries in the region report having a national plan to address antimicrobial resistance.

Antibiotics and other antimicrobial medicines are available over the counter without a prescription in 18 countries.

Only 10 countries have standard treatment guidelines.

Poor quality medicines are a problem, particularly in Latin America.

Few countries produced a report on surveillance of antimicrobial resistance in humans.

Countries who participated in the survey:
Antigua and Barbuda, Argentina, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Peru, Saint Kitts and Nevis, Suriname, Uruguay

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13 out of 21 Member States in the region participated in the survey.

3 countries have conducted a public information campaign in the previous 2 years.

None of the countries report having a national action plan for antimicrobial resistance.

Antibiotics and other antimicrobial medicines are available without a prescription in 9 countries.

Many gaps were found in addressing the issue. This is not surprising, given the other emergencies in the region, including natural disasters and conflicts.

Poor awareness and understanding in all public sectors.

Countries who participated in the survey:
Afghanistan, Bahrain, Egypt, Iran (Islamic Republic of), Jordan, Lebanon, Morocco, Oman, Pakistan, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates
49 out of 53 Member States in the region participated in the survey.

40% of countries report having comprehensive plans and strategies to address antimicrobial resistance.

About 50% of countries have a national Infection Prevention and Control (IPC) programme.

Public information campaigns are common, however about half the population believe that antibiotics are effective against viruses.

All EU countries undertake surveillance of resistant bacteria through the European Antimicrobial Resistance Surveillance Network (EARS-Net), which is facilitated by the European Centre for Disease Prevention and Control.

Countries who participated in the survey: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan
All 11 Member States in the region participated in the survey.

5 of 11 countries have national plans to address antimicrobial resistance.

9 of 11 countries have a national IPC programme and a national regulatory agency responsible for ensuring quality of medicines. Countries report that health workers comply poorly with prescribing guidelines.

Public awareness in the region is growing – 5 countries report conducting awareness-raising activities in the previous 2 years.

Monitoring use of antibiotics and other antimicrobial medicines is limited, and medicines are available without a prescription in more than half the countries.

Health ministers expressed their commitment to prevent and control antimicrobial resistance through the Jaipur Declaration in 2011.

Countries who participated in the survey: Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste
WHO Western Pacific Region

26 out of 27 Member States in the region participated.

2/3 of the countries report having an IPC programme.

There is weak enforcement of regulations on the sale of antibiotics and other antimicrobial medicines without prescription and of quality standards.

Only 4 of the reporting countries have a national action plan.

Nearly 70% of countries report surveillance for antimicrobial resistance in bacteria; this proportion may increase following introduction of the Western Pacific Antimicrobial Resistance Surveillance system in the near future.

Countries who participated in the survey:
Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Kiribati, Lao People’s Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam
Perspective on the GAP for AMR

• The **impact on health, & implications for health care** are the core fundamental concerns

• However, solutions require engagement **beyond health sector alone**
  – Broad range of global / **intersectoral stakeholders beyond health**
  – Overlapping but also differing concerns & perspectives

• **Stakeholder involvement is currently insufficient**
  – **Consensus & synergy building requires process**
Timeline: Consultations on Draft GAP for AMR

- Strengthened **tripartite collaboration (FAO, OIE, WHO)**
  - Worked together on development of global action plan
  - Shared actions for the collaboration

- Web based call for contributions: July-August 2014

- Consultation with Member States 16 October 2014

- WHO **Strategic Technical Advisory Group (STAG)** on AMR convened

- Member State consultations
  - **Human, animal, agriculture** (The Hague, June 2014)
  - Optimizing use of medicines (Oslo, November 2014)
  - Global surveillance (Stockholm, December 2014)
  - Research needs (Brasilia, March 2015)
WHO ‘Executive Board’ Meeting January 2015

• Strong support to take plan to World Health Assembly
  • 39 country statements, plus 5 NGOs

• Some requests for modification
  • WHO FAO OIE tripartite meeting 10 Feb 2015
  • Meeting with Geneva Permanent Missions 20 Feb 2015
  • WHO Advisory Group meeting 24-25 Feb 2015
  • Re-submitted to World Health Assembly March 2015

EB web site at http://apps.who.int/gb/e/e_eb136.html It is listed as document EB136/20. 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 on antimicrobial resistance

SCOPE
Scope

Differences, but also many commonalities

- Common biological paths
- Common drivers
- Common actors
Scope

• The global action plan covers *antibiotic* resistance in more detail than other ‘antimicrobials’.

• Establishes links to *existing action plans* where appropriate, for viral, parasitic and bacterial diseases, including HIV/AIDS, malaria and tuberculosis.
Global action plan on antimicrobial resistance

PRINCIPLES
Principles

- Whole-of-society engagement, including a one-health approach: the issue affects all, so can only be tackled with participation of the entire society

- Prevention first > good sanitation, hygiene and IPC

- Access > preserve ability to prevent and treat infections

- Sustainability > all countries to have a national plan with defined budget within 2 years of the endorsement

- Incremental targets for implementation > different stages for different countries
Antimicrobial resistance

Draft global action plan on antimicrobial resistance
Global action plan on antimicrobial resistance

STRATEGIC OBJECTIVES & FRAMEWORK FOR ACTION
Global Action Plan Strategic Objectives

1. **Improve awareness and understanding** of AMR through effective communication, education and training.

2. **Strengthen the knowledge and evidence base** through research and surveillance.

3. **Reduce the incidence of infection** through effective hygiene and infection prevention measures.

4. **Optimize the use of antimicrobial medicines** in human and animal health.

5. **Develop the economic case for sustainable investment** that takes account of the needs of all countries, as well as the case for investment in new medicines, diagnostic tools, vaccines and other interventions.

6. **Commitment to report progress**

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Framework for action

• Actions defined for each strategic objective for:
  - Member States
  - WHO Secretariat
  - International and national partners

• Central aspect: DEVELOPMENT OF NATIONAL PLANS
  - Alignment with global action plan
  - Alignment with standards defined by intergovernmental bodies (e.g., Codex Alimentarius, OIE, FAO)
### Sample framework for action from global action plan

#### Strategic objective 1: Improve awareness and understanding

<table>
<thead>
<tr>
<th>Member State</th>
<th>WHO</th>
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<tbody>
<tr>
<td>• Promote awareness raising</td>
<td>• Develop global communications strategy</td>
</tr>
<tr>
<td>• AMR to be a core component of professional education</td>
<td>• Develop OIE – FAO – WHO core communications</td>
</tr>
<tr>
<td>• Establish &amp; support coalitions</td>
<td>• Maintain AMR as priority among MS</td>
</tr>
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#### Strategic objective 2: Strengthen the knowledge and evidence base

<table>
<thead>
<tr>
<th>Member State</th>
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<tbody>
<tr>
<td>• Develop national surveillance system</td>
<td>• Develop global surveillance system</td>
</tr>
<tr>
<td>• Promote surveillance in animal health</td>
<td>• Work with OIE – FAO on integrated surveillance</td>
</tr>
<tr>
<td>• Participate in global &amp; regional surveillance</td>
<td>• Report on AMR and antimicrobial use regularly</td>
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### Strategic objective 3: Reduce the incidence of infection

<table>
<thead>
<tr>
<th>Member State</th>
<th>WHO</th>
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<tbody>
<tr>
<td>• Strengthen animal health and agricultural practices through OIE codes and FAO/WHO Codex Alimentarius</td>
<td>• Work with FAO and OIE, within the <strong>tripartite collaboration</strong>, to develop recommendations for the <strong>use of vaccines in food-producing animals</strong></td>
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### Strategic objective 4: Optimize the use of antimicrobials

<table>
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<tr>
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<tbody>
<tr>
<td>• Develop policies on use of antimicrobial agents in terrestrial and aquatic animals and agriculture</td>
<td>• Strengthen and align, within the <strong>tripartite collaboration</strong> with FAO and OIE, the concepts of critically important antibiotics for human and animal health</td>
</tr>
<tr>
<td>• Regulate licensing, distribution, use and quality assurance of antimicrobial medicines in human and animal health</td>
<td>• <strong>Develop standards and guidance</strong> for the <strong>presence of antimicrobial agents and their residues</strong> in the environment, especially in water, wastewater and food</td>
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</table>
**Sample framework for action from global action plan...**

**Strategic objective 5: Develop the economic case for sustainable investment**

<table>
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<th>WHO</th>
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<td></td>
<td>• Work with the World Bank and with FAO and OIE, within the <strong>tripartite collaboration</strong>, to assess the <strong>economic impact of antimicrobial resistance</strong> and of implementation of the action plan in animal health and agriculture.</td>
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</tbody>
</table>
Example of activities under the Global action plan on antimicrobial resistance

NATIONAL PLANS
AMR National plans

Figure 1.2 – Percentages of Member States that had a national plan for antimicrobial resistance, a coordinating mechanism, a focal point, a policy or a strategy and had prepared a report in the previous 5 years, by region

National action plans: 34 out of 133 countries that responded to the survey.

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Development of National Action Plans

**Governance**
- Identify/Designate National Focal Point
- Establish National Steering Committee

**Assessment & Analysis**
- Collect/Compile Available Data on Burden due to AMR
- Generate Data on Practices, Behaviour
- Detailed Info on Policies, Rules, Regulations and Structures

**Planning**
- Set Targets
- Identify Activities
- Assign Responsible Persons/Institutions
- Identify Costs and Resources Required
- Identify Technical Assistance Needs

**National Action Plan**
Development of National Action Plans

• National plans will provide the basis for the assessment of resources needs.

• WHO Secretariat will facilitate through:
  • supporting countries to develop, implement and monitor national plans;
  • leading and coordinating support to countries for assessment and implementation of investment needs
  • monitoring development and implementation of action plans by Member States and other partners
  • publishing biennial progress reports
Example of activities under the Global action plan on antimicrobial resistance

DEVELOPMENT OF A GLOBAL SURVEILLANCE SYSTEM
Development of a global surveillance system for common bacteria

• Targets
  ▪ To assess impact and trends of antimicrobial resistance
  ▪ Episode of infection, instead of (only) laboratory isolates

• What has been done?
  ▪ Surveillance standards defined
  ▪ Surveillance manual being developed (WHO)
  ▪ Country enrolment in global surveillance to start in 2015
What has WHO been doing in the Asia-Pacific Region?
South-East Asia Region: Commitment

Goal: To minimise the morbidity and mortality due to antimicrobial resistant infection and to preserve the effectiveness of antimicrobial agents in the treatment and prevention of microbial infections.

(simplified version of global strategy)
AMR- ‘Flagship Priority Area’

• To work closely with Member States in development of their respective National Action Plans in alignment with, and as articulated in the Global Action Plan

• Following a systematic approach, based on deliverables and result-based management, to accelerate the progress being already made by our Member States
Action Agenda for Antimicrobial Resistance in the Western Pacific Region

Three Priority Actions:

1) Develop/ implement comprehensive national plans to contain antimicrobial resistance and raise awareness.

2) Improve surveillance of antimicrobial resistance and monitoring of antimicrobial use.

3) Strengthen health system's capacity to contain antimicrobial resistance.
Regional Action Agenda - Ongoing Work

Development of National Action Plans on AMR with multisectoral collaboration

• Cambodia National AMR Plan launched 2015 national multisectoral committee set up
• Viet Nam 2013 + multisectoral Aide Memoire - June 2015
• Philippines Presidential order on national AMR Plan and establishment of inter-agency committee 2014
• Lao Peoples’ Democratic Republic (development of a road map for national map ongoing)
• Republic of Korea Draft Action Plan on AMR by KCDC waiting for approval
Key health system strategies to contain and prevent AMR

- **Educational strategies**
  - Public awareness campaigns has been shown to reduce antibiotic consumption

- **Regulatory strategies**
  - Regulatory restrictions on use of antibiotics in human and animals have been demonstrated to achieve reduction of resistance

- **Managerial strategies**
  - Antimicrobial stewardship program shown to be effective changing decision-making and prescribing practices

- **Economic strategies**
  - Financial incentives to institutions, providers and patients in combination with actions on pricing structure, the price setting and the reimbursement mechanism reduced unnecessary consumption

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Take home message..

• Antimicrobial resistance is a complex problem at the human-animal interface that requires a multi-sectoral, "One Health" approach

• Global Action Plan on AMR galvanizes partners around common goals

• WHO, FAO, OIE and other high level fora (G7, GHSA) have prioritized addressing antimicrobial resistance

• For the first time, the governing bodies of FAO, WHO and OIE have adopted resolutions on AMR in the same year, and all three resolutions have stressed the importance of the "One Health" collaboration to combat AMR

• The momentum is high….so are expectations!
World Antibiotic Awareness Week

Antibiotics: handle with care

16-22 November 2015