Global Action Plan Antimicrobial Resistance

One year in development

World Health Assembly, May 2014
Requests the Director General to develop a global plan

WHO leads development of the plan, May to Dec 2014
With advice from experts, Member States, forums and web consultations

WHO Executive Board, Jan 2015
Expresses strong support to take plan to World Health Assembly

World Health Assembly, May 2015
Adopts the Global Action Plan – over 50 supporting statements
Passes new resolution to support action – over 60 country sponsors

FAO and OIE Assembly May 2015
Pass resolution for member states to support GAP and follow guidance
Increase WHO organization-wide budget AMR

Global action plan on antimicrobial resistance
Five strategic objectives:

1. Improve awareness and understanding (WAAW)
2. Strengthen knowledge through surveillance & research
3. Reduce the incidence of infection (IPC)
4. Optimize the use of antimicrobial medicines
5. Ensure sustainable investment (R&D)

National Action Plans
Implementation GAP: Guiding Principles

1. Realistic & achievable objectives
2. Take into account different capacities of Member States
3. Involve FAO and OIE, where appropriate
4. All-inclusive approach (HIV, TB and malaria)
5. Joint ownership between HQ and Regions
6. Communication!
Implementation GAP: 10 work streams

1. Global communications campaign (Liv Lawe-Davies)
2. Support National Action Plans of MS (Carmem Pessoa)
3. Global Antimicrobial Resistance Surv System (Carmem Pessoa)
4. Support measures to improve IPC (Benedetta Allegranz)
5. Monitor use & enhance stewardship of antibiotic use (Gilles Forte)
Implementation GAP: 10 work streams

6. Encourage R&D and explore new business models (Peter Beyer)
7. Improve point of care diagnostics (Francis Moussy)
8. Address the environmental drivers (Kate Medlicott)
9. Vaccines in order to prevent AMR (Martin Friede)
10. One Health liaison: (Awa Aidara Kane)

Additional: HTM, NTD STI, Maternal Health, etc
Core value: together aligned
GAP is a big thing
**Objective I:** Develop/adapt indicators and tools for monitoring antimicrobial consumption and use in humans in different settings: support countries and inter-country collaboration for data collection, analysis and dissemination.

**Objective II:** Develop technical guidance and standards and support implementation of countries policies and best practices for evidence-based selection and use of quality antimicrobials.

**Objective III:** Provide guidance and support countries for development and enforcement of relevant regulations for optimal use of quality assured, safe and effective antimicrobials and to prevent supply of SSFFC medicines.
Key deliverables in 2016

- Support selected countries in various WHO regions for collection, analysis and dissemination of data on consumption and use of quality antimicrobials using existing methodologies e.g. EURO

- Organise global & regional consultations with regional offices and selected countries for sharing experiences on antimicrobials use surveys methods and results and successful countries policies and practices

- A WHO expert working group established for the review and selection of effective and safe antimicrobial medicines for inclusion in the WHO Model List of Essential Medicines; ensure coherence with other evidence based antimicrobials tools e.g. Critically Important Antimicrobials list
Key Deliverables 2016

• Support selected countries for development of policies and best practices on responsible prescribing and use, based on antimicrobials consumption & use monitoring and on resistance surveillance data
• Support selected countries for improvement of regulations related to production, registration and distribution of antimicrobials e.g. sales over the counter, direct-to-consumer marketing etc.;
• Capacity-building in selected countries to detect, report, issue alerts, conduct product recalls/respond to emergencies and develop strategies to minimize the risk of SSFFC medical products
Approaches

- Sharing and analysis of information on consumption & use of antimicrobials and on resistance in humans; contribute to an information repository; promote collaboration at country level
- Support inter-country collaborations and networks for sharing information and expertise on human antimicrobial consumption and use
- Collaboration with other AMR streams of work e.g. R&D, IPC, knowledge and training etc.
- Work with FAO and OIE, on consumption and use of antimicrobials and resistance in humans and animals; one health approach
- Collaborate with ECDC (ESAC-Net) , EMA, Civil Society, WHO CC etc.
CAUSES OF ANTIBIOTIC RESISTANCE

Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause.

- Over-prescribing of antibiotics
- Patients not finishing their treatment
- Over-use of antibiotics in livestock and fish farming
- Poor infection control in hospitals and clinics
- Lack of hygiene and poor sanitation
- Lack of new antibiotics being developed

www.who.int/drugresistance

#AntibioticResistence
Global action plan on antimicrobial resistance

**ANTIBIOTIC RESISTANCE**

Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause. This is compromising our ability to treat infectious diseases and undermining many advances in medicine.

We must handle antibiotics with care so they remain effective for as long as possible.

**WHAT YOU CAN DO**

1. Only use antibiotics when prescribed by a certified health professional
2. Always take the full prescription, even if you feel better
3. Never use left over antibiotics
4. Never share antibiotics with others
5. Prevent infections by regularly washing your hands, avoiding close contact with sick people and keeping your vaccinations up to date

[www.who.int/drugresistance](http://www.who.int/drugresistance)

#AntibioticResistance

**WHAT HEALTH WORKERS CAN DO**

1. Prevent infections by ensuring your hands, instruments and environment are clean
2. Keep your patients’ vaccinations up to date
3. Test to confirm if you think a patient might need antibiotics, where possible
4. Only prescribe and dispense antibiotics when they are truly needed
5. Prescribe and dispense the right antibiotic at the right dose for the right duration

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#AntibioticResistance

World Health Organization
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**WHAT POLICY MAKERS CAN DO**

1. Ensure you have a robust national action plan to tackle antibiotic resistance
2. Improve surveillance of antibiotic-resistant infections
3. Strengthen policies and implementation of infection prevention and control measures
4. Regulate and promote the appropriate use of quality medicines
5. Make sure information on the impact of antibiotic resistance is available

[www.who.int/drugresistance](http://www.who.int/drugresistance)

#AntibioticResistance

World Health Organization
Global action plan on antimicrobial resistance

WHO multi-country survey (10,000)

Good news: 64% reported knowing antibiotic resistance was an issue that could affect them and their families

But important misconception
76% - AMR means body becomes resistant to antibiotics
In fact bacteria—not humans or animals—become resistant

64% believe Abx good for illnesses not treatable by Abx: colds and flu,

About 1/3 believe they should stop taking Abx when they feel better
Instead, should complete full prescribed course of treatment.

More than half (57%) felt not much they can do to stop AMR
Not true -- Everyone has a role
For example, ask MD if you really need. If yes, take as prescribed
Global Antimicrobial Resistance Surveillance System (GLASS)
Lead: Carmem Pessoa

Goal
To achieve a monitoring capacity to capture essential information on the global situation of antimicrobial resistance and inform decision making.
GLASS future directions

Integrated foodborne AMR surveillance
• Food-animals
• Food
• Humans

Monitoring of antimicrobial use or consumption

Surveillance of bacterial resistance in humans

Environmental AMR surveillance

… other types of AMR surveillance
Research and Development
Incubation and Preservation

- WHO has assisted DNDi to incubate a new facility that will develop new formulations of antibiotics with a particular focus on developing countries
- WHO will start exploring a framework for conservation
- Tracking resource flows for new drug development
From a medical view of bacterial resistance

To a more holistic, Integrated multi-sectoral, "One Health" approach
One Health, liaison FAO / OIE
Lead: Awa Aidara
ANTIBIOTIC RESISTANCE

Antibiotic resistance happens when bacteria change and become resistant to the antibiotics used to treat the infections they cause.

The over-use and misuse of antibiotics in livestock, aquaculture and crops is contributing to antibiotic resistance and its spread into the environment, food chain and humans. This is compromising our ability to treat infectious diseases, and undermining many advances in medicine.

We must handle antibiotics with care so they remain effective for as long as possible.

WHAT THE AGRICULTURE SECTOR CAN DO

1. Ensure that antibiotics given to animals—including food-producing and companion animals—are only used to treat infectious diseases and under veterinary supervision
2. Vaccinate animals to reduce the need for antibiotics and develop alternatives to the use of antibiotics in plants
3. Promote and apply good practices at all steps of production and processing of foods from animal and plant sources
4. Adopt sustainable systems with improved hygiene, biosecurity and stress-free handling of animals
5. Implement international standards for the responsible use of antibiotics, set out by OIE, FAO and WHO
Can we avoid using AB in food producing animals?...YES, WE CAN!

Total sales, in kilograms of active substance, of antimicrobials for therapeutic use in farmed fish in Norway in the period 1981-2014 versus produced biomass (slaughtered) farmed fish (NORM-VET report, 2014)
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Implementation GAP: organisational matrix

\[
\begin{pmatrix}
X_{\text{transformed}} \\
Y_{\text{transformed}} \\
Z_{\text{transformed}}
\end{pmatrix} = M \times \begin{pmatrix}
X_{\text{original}} \\
Y_{\text{original}} \\
Z_{\text{original}}
\end{pmatrix}
\]

\[
\begin{pmatrix}
X_{\text{transformed}} \\
Y_{\text{transformed}} \\
Z_{\text{transformed}}
\end{pmatrix} = \begin{pmatrix}
m_{11} & m_{12} & m_{13} \\
m_{21} & m_{22} & m_{23} \\
m_{31} & m_{32} & m_{33}
\end{pmatrix} \times \begin{pmatrix}
X_{\text{original}} \\
Y_{\text{original}} \\
Z_{\text{original}}
\end{pmatrix}
\]

\[
\begin{pmatrix}
X_{\text{transformed}} \\
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\end{pmatrix} = \begin{pmatrix}
m_{11} \times X_{\text{original}} + m_{12} \times Y_{\text{original}} + m_{13} \times Z_{\text{original}} \\
m_{21} \times X_{\text{original}} + m_{22} \times Y_{\text{original}} + m_{23} \times Z_{\text{original}} \\
m_{31} \times X_{\text{original}} + m_{32} \times Y_{\text{original}} + m_{33} \times Z_{\text{original}}
\end{pmatrix}
\]
Global action plan on antimicrobial resistance

GAP organizational structure

Global Technical Coordination Group

- HQ & RO staff

Global Policy Group

Steering Group
- ADGs & DPMs

AMR Coordinating Secretariat

- Marc Sprenger, Director
- Liz Tayler, Monitoring & Reporting Officer
- Eileen Jameson, Management Officer
- Ellen Attafuah, Assistant
- Pravarsha Prakash, Technical Officer
- Katie Barker, Technical Officer
International Initiatives: align
All supporting Action at country level

All countries to have national action plan by 2017
Action Coordinated through 6 WHO regions
Focal Point and Workstream Co Pilot in Regions
(FAO OIE non aligned)
After 10h flight: reality check

Courtesy: FAO, HJ Ormel DVM
IN many countries …

No medical microbiology lab in main hospital
No infection and prevention control in hospital
No drug regulation
No knowledge, no awareness
Bulk of sales through unregulated private providers/ drug sellers
Very limited diagnostic capacity

But committed local people
She is the champion!
Conclusion

1. Global Action Plan AMR is ambitious
2. Global Action Plan AMR: joint responsibility
WHO will make the GAP happen

1. As One Team
2. Being transparent
3. Trust each other
4. Working towards same goal
Thank you