

Global Strategies to Address AMR

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**EMA Working Parties with Patients' and Consumers' Organisations (PCWP) and
Healthcare Professionals' Organisations (HCPWP) joint meeting
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**World Health
Organization**

Disclosures

No conflicts of interest

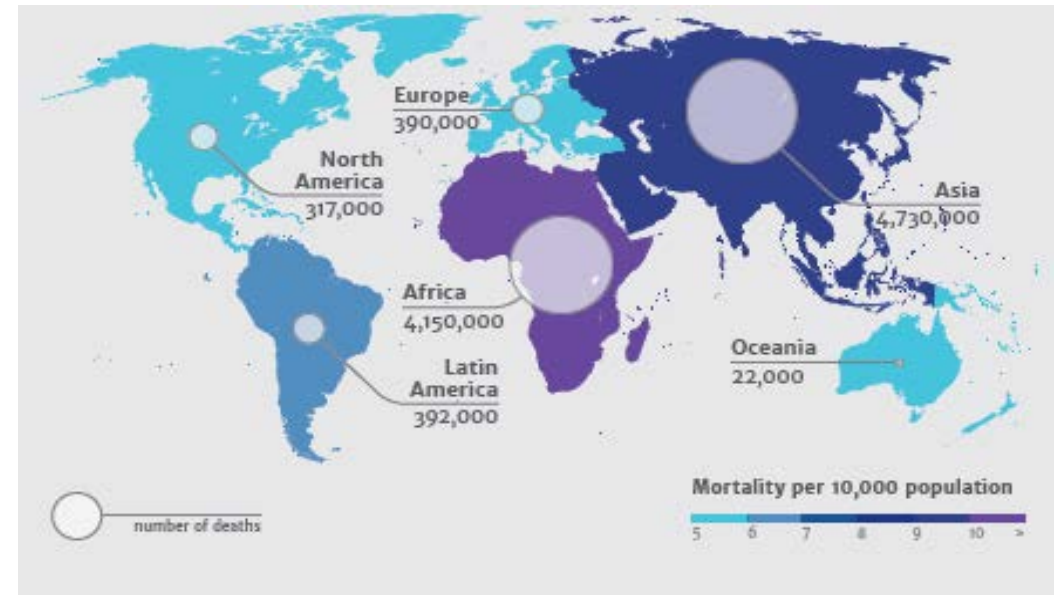


Growing Awareness & Political Commitment

Mortality & Economic impact

- By 2050, lead to 10 million deaths/year
- Reduction of 2 to 3.5 percent in GDP
- Costing the world up to \$100 trillion

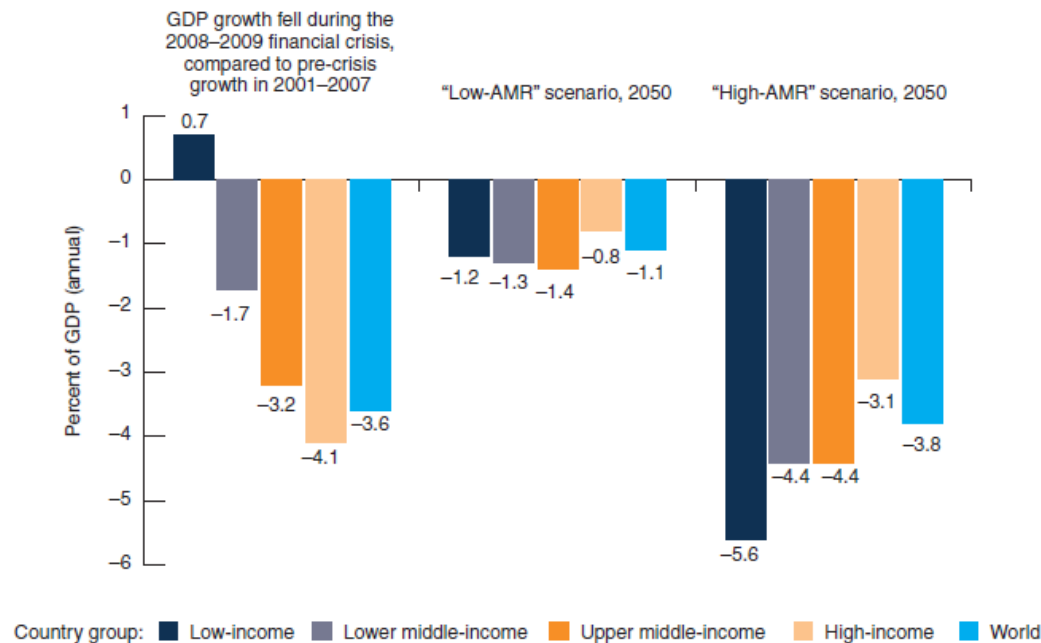
Deaths attributable to AMR every year by 2050



J. O'Neil, 2014. Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations.

Economic Impact

- Economic Costs of AMR May Be as Severe as During the Financial Crisis
- AMR could reduce GDP substantially, but unlike in the recent financial crisis, the damage could last longer and affect low-income countries the most.



Source: World Bank, March 2017. Drug-Resistant Infections: A threat to our economic future



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

UN agenda for 2030: 17 sustainable development goals



AMR threatens 7 out of 17 goals!



AMR is now considered a major threat to modern medicine & global economy

- Profound worldwide adverse health consequences
- Long-term threat with no end in sight unless fundamental changes are made
- Economic implications
- A true **intersectoral** issue

AMR: Need for a One Health strategy



AMR Global Action Plan



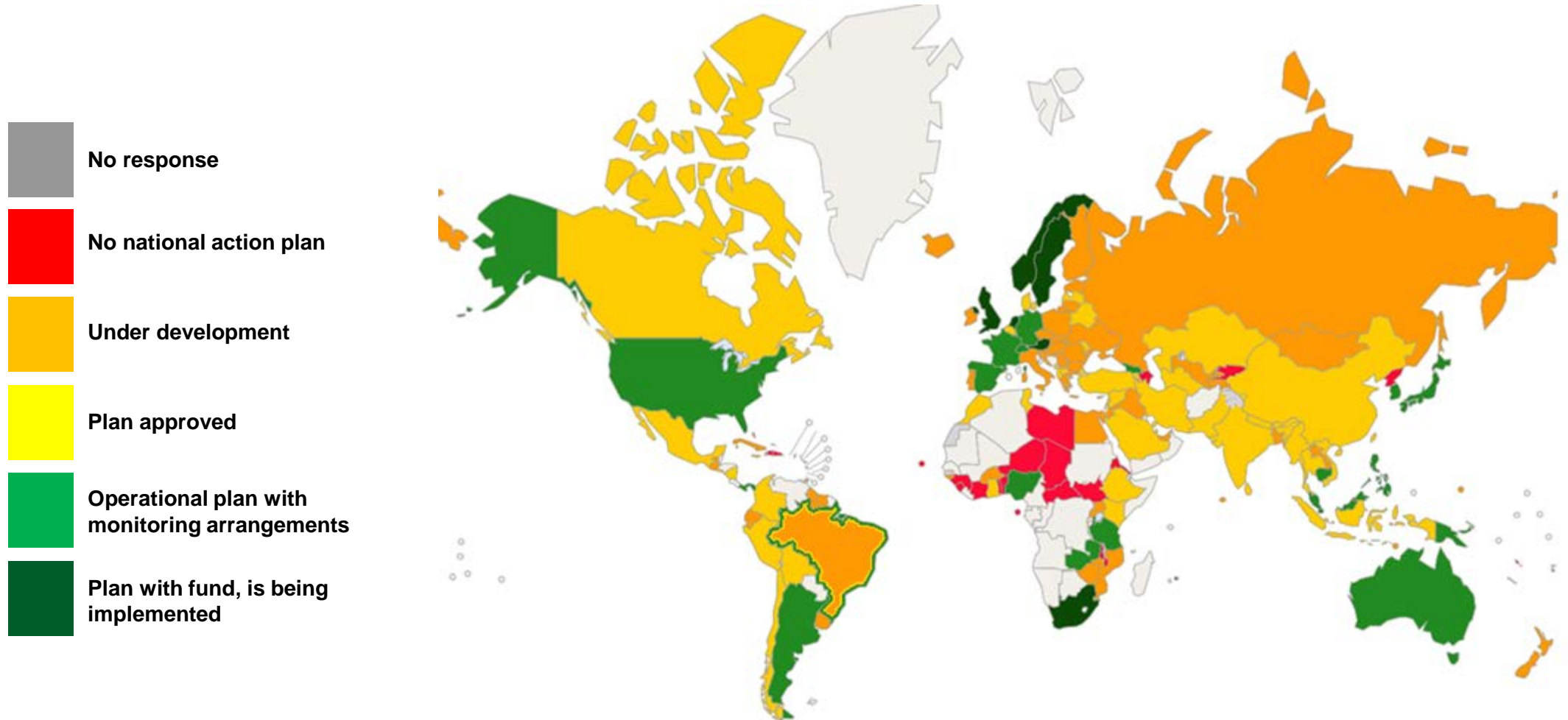
- Adopted by World Health Assembly in May 2015
- One Health approach
 - Close collaboration with FAO and OIE: Tripartite Collaboration
- Blueprint developed by the international community
 - Countries
 - International organizations, civil society and others
- Stepwise approach to implementation
 - as countries have different starting points and priorities
- Provides framework actions
 - By Member States
 - By WHO
 - By international partners

Five strategic objectives

1. Improve awareness and understanding
2. Strengthen knowledge through surveillance & research
3. Reduce incidence of infection
4. Optimize use of antimicrobial medicines
5. Ensure sustainable investment for R&D and implementation of control measures

National Action Plan AMR

Country Progress with Development of National Action Plan



The designations, employment and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.



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Awareness Week



Materials

- Infographs
- Websites
- Videos
- Press releases
- Presentations



Activities

- Country events (press conferences, seminars, workshops)
- Social media (incl. global twitter chat)

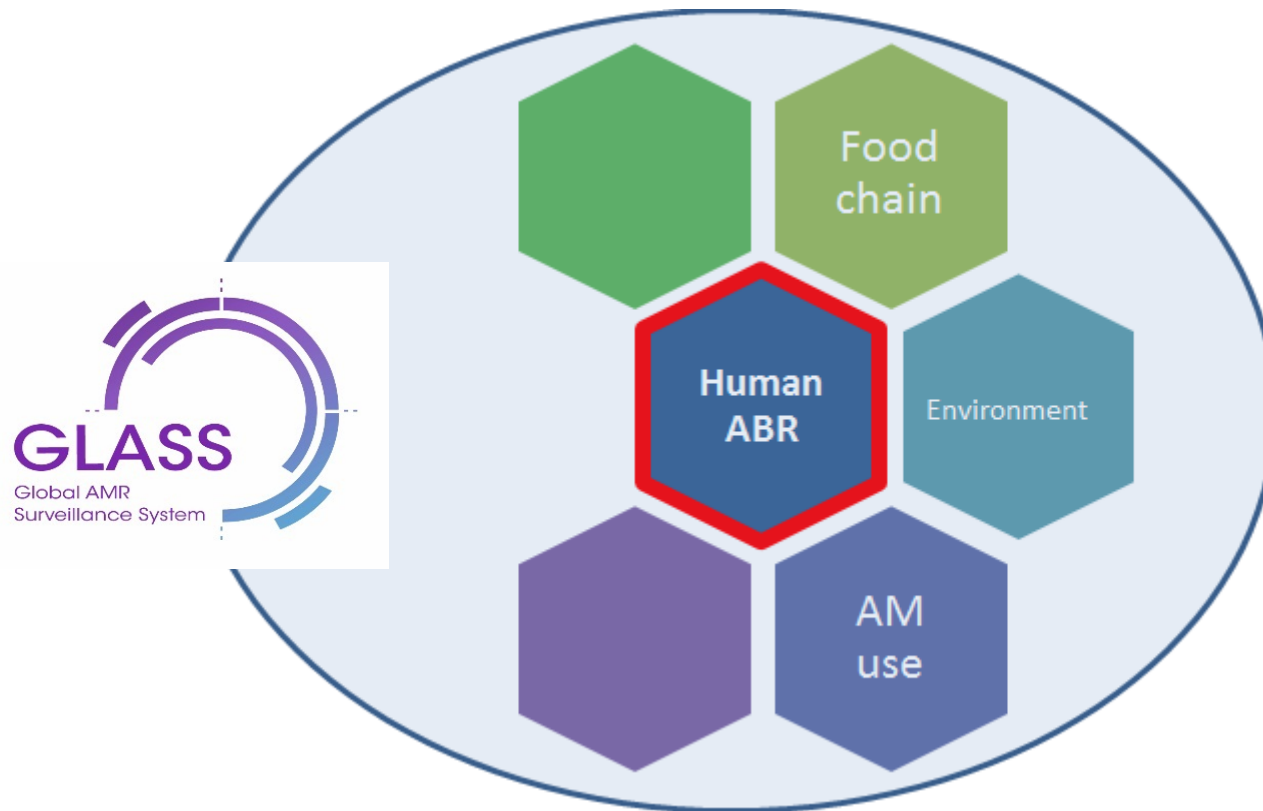
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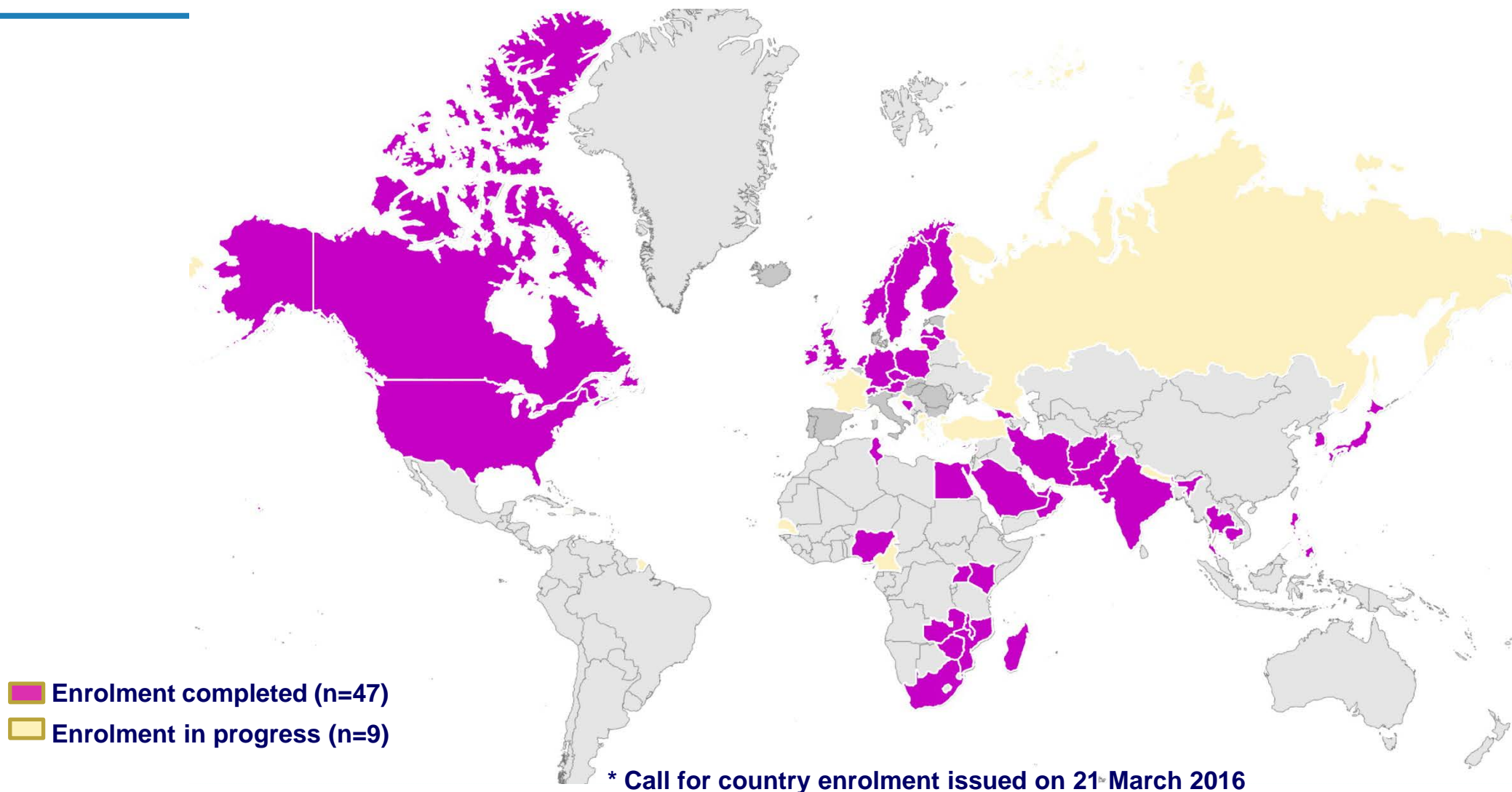
WHO Global AMR Surveillance System (GLASS)

- To capture and integrate information needed to inform strategies to tackle AMR locally, regionally and globally.



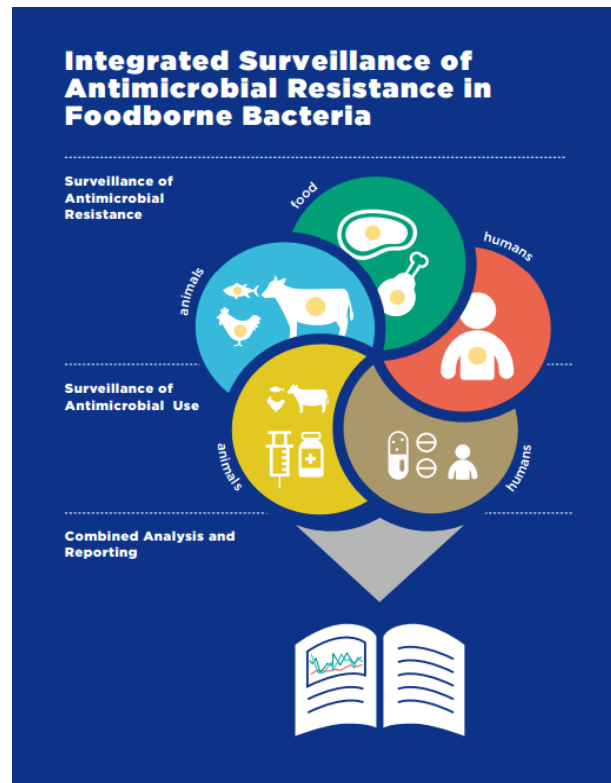
Status of countries enrolled in GLASS

As of 21 July 2017*



AMR surveillance in the food chain

2017



- GLASS promotes multisectoral approach
- Guidance on Integrated Surveillance of AMR in the food chain provides a framework for integrated surveillance
- Harmonized protocol on integrated surveillance of ESBL-producing *E.coli* in humans, the food chain and the environment being developed.

<http://apps.who.int/iris/bitstream/10665/255747/1/9789241512411-eng.pdf?ua=1>

Surveillance of antimicrobial consumption

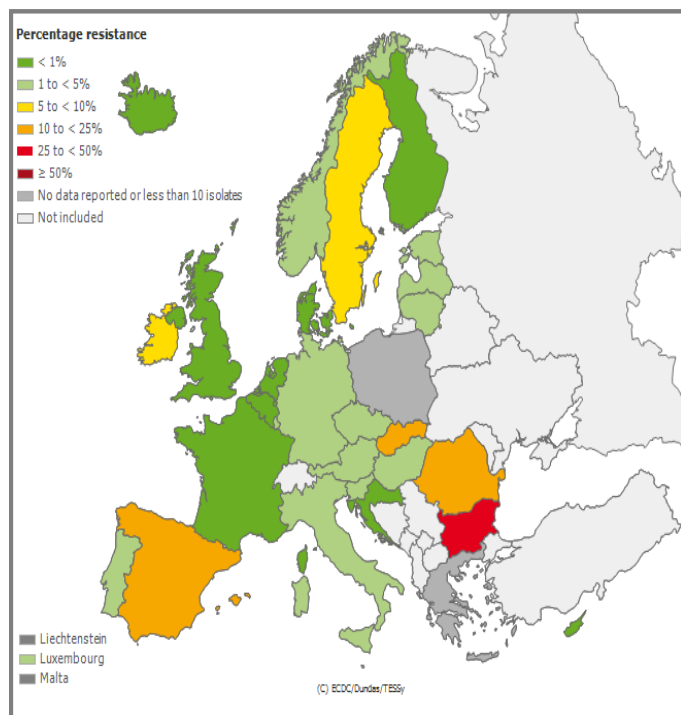
- Monitoring of antimicrobial consumption
 - Methodology developed
 - Training for 27 countries
 - Monitoring in 36 countries

- Monitoring of antimicrobial use
 - Ongoing development of protocols for:
 - Surveys of antimicrobial use in hospitals
 - Surveys of antimicrobial use in community settings



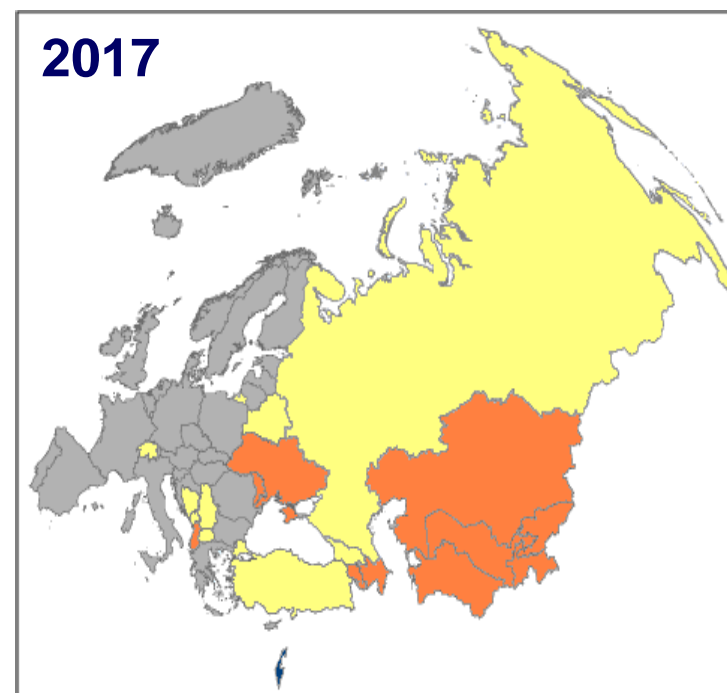
Expanding AMR surveillance throughout Europe

European Antimicrobial Resistance Surveillance Network (EARS-Net)



European Centre for Disease Prevention and Control

Central Asian and Eastern European Surveillance of AMR (CAESAR)

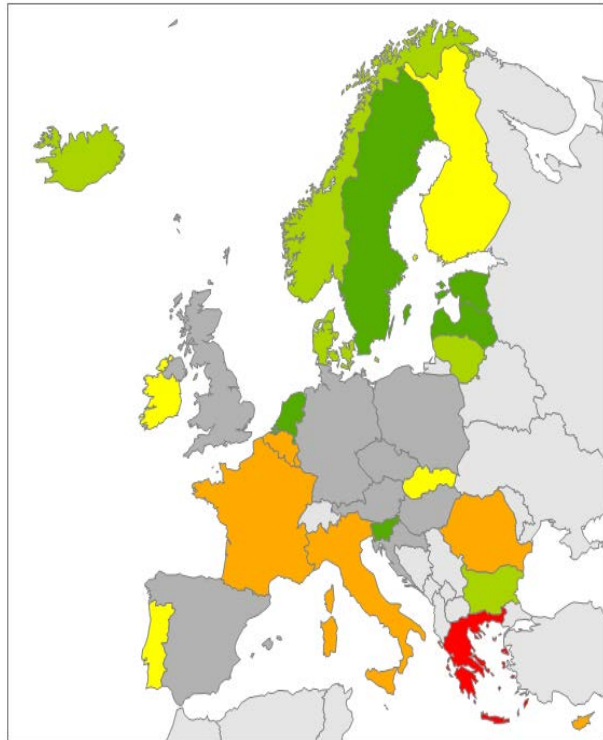


World Health Organization Regional Office for Europe

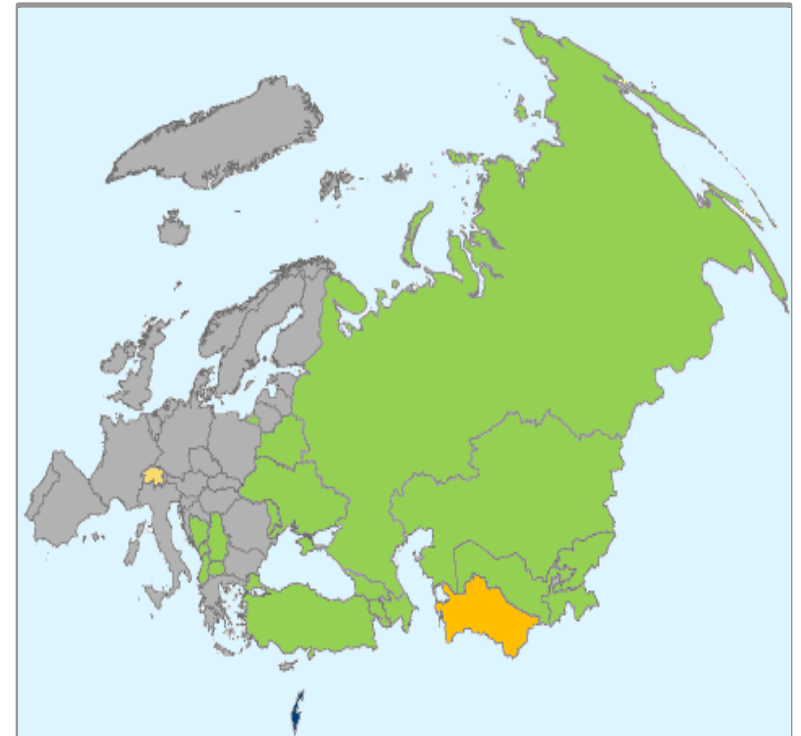
- Countries submitting data to CAESAR
- Countries building capacity for CAESAR
- Countries participating in EARS-Net

Expanding AM consumption monitoring throughout Europe

European Surveillance of Antimicrobial Consumption Network (ESAC-Net)



WHO Antimicrobial Medicines Consumption network (AMC)



European Centre for Disease Prevention and Control

World Health Organization Regional Office for Europe

- Countries which reported 2013 data to WHO
- Countries in the process of collecting AMC data
- Countries participating in ESAC-Net

Five strategic objectives

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Promoting rational use of antibiotics in humans

WHO Model List of Essential Medicines

20th List
(March 2017)
(Amended August 2017)

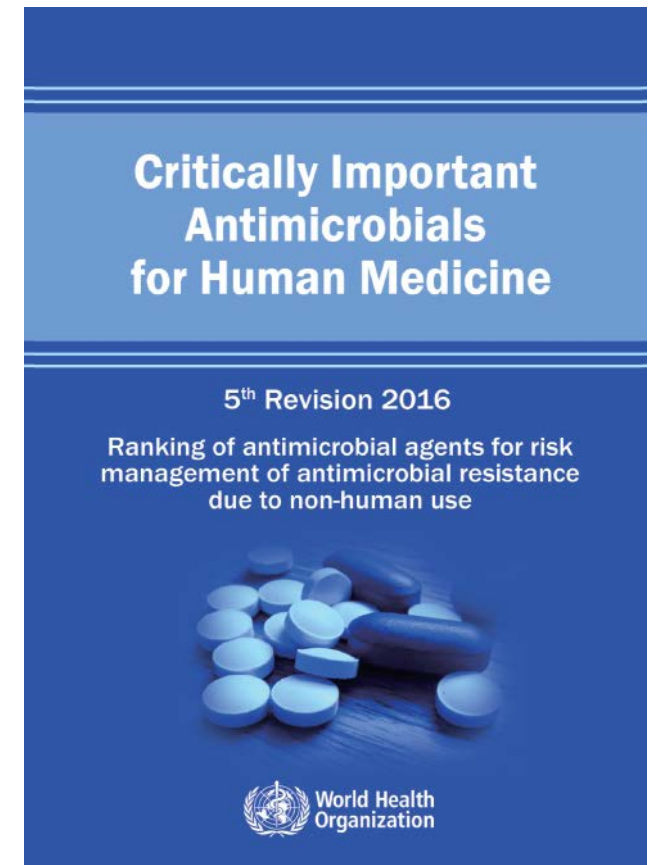
Status of this document

This is a reprint of the text on the WHO Medicines website
<http://www.who.int/medicines/publications/essentialmedicines/en/>

- *WHO Model List of Essential Medicines* (first in 1977)
- Updated 2017 Version:
 - Treatment of 21 infectious syndromes reviewed
 - Added 30 medicines for adult and 25 for children
 - Antibiotics are now grouped to 3 categories:
 - **ACCESS** Antibiotics that should be available at all times
 - **WATCH** Antibiotics recommended as first- or second-choice treatments for a small number of infections
 - **RESERVE** Antibiotics that are last-resort options

Promoting rational basis for non-human use of antibiotics

- 5th revision of the list of critically important antimicrobials (CIA list) for human health to be published end March 2017



Five strategic objectives

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



WHO Priority pathogen list for R&D of new, effective medicines

Priority 1: CRITICAL	Priority 2: HIGH	Priority 3: MEDIUM
<ul style="list-style-type: none">• <i>Acinetobacter baumannii</i> carbapenem-resistant• <i>Pseudomonas aeruginosa</i> carbapenem-resistant• <i>Enterobacteriaceae</i> carbapenem-resistant, ESBL-producing	<ul style="list-style-type: none">• <i>Enterococcus faecium</i> vancomycin-resistant• <i>Staphylococcus aureus</i> methicillin-resistant, vancomycin-intermediate and resistant• <i>Helicobacter pylori</i> clarithromycin-resistant• <i>Campylobacter spp.</i> fluoroquinolone-resistant• <i>Salmonellae</i> fluoroquinolone-resistant• <i>Neisseria gonorrhoeae</i> cephalosporin-resistant, fluoroquinolone-resistant	<ul style="list-style-type: none">• <i>Streptococcus pneumoniae</i> penicillin-non-susceptible• <i>Haemophilus influenzae</i> ampicillin-resistant• <i>Shigella spp.</i> fluoroquinolone-resistant

New medicines against **MDR gram-negative** bacteria urgently needed.

Source: WHO
ebolaalert.org

GARDP - Global Antibiotic R&D Partnership

WHO/DNDi initiative: *Priorities and Pilot Programmes*

2023 Objectives

- **four new treatments** through improvement of existing antibiotics and new chemical entities
- **Build a robust pipeline** of pre-clinical and clinical candidates
- **Support appropriate use and access** of new antibiotic treatments

www.gardp.org



Neonatal Sepsis: global consortium to conduct preclinical/clinical studies. By 2023, develop 1 treatment for empiric use, and 1 treatment for highly drug-resistant infections to clinical development.



Sexually-transmitted Infections: portfolio with private and academic partners. By 2023, develop 1 new treatment for gonorrhoea (incl. MDR) and explore use for syndromic management of STIs



Paediatric Antibiotic Platform to optimize current and new antibiotics for children through dose, duration of treatment, formulation, or combinations. By 2023, develop 1 new treatment.



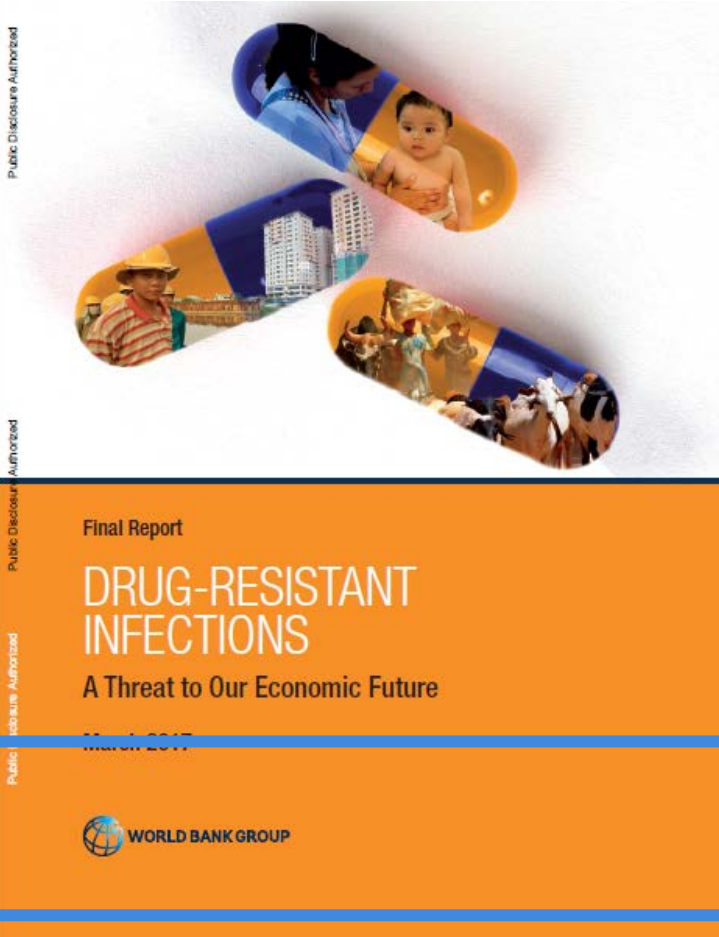
Exploratory/Upstream/Memory Recovery: Antibiotic Memory Recovery Initiative; combinations; carbapenem-resistant organisms; ESBLs; possibly fungal infections & enteric infections; other upstream opportunities.

Costs of containment: USD 9 billions/year

Can the world afford?

TABLE 2. Cumulative Costs
Present Discounted Values

Under All Measures Cumulative to 2050, Constant Dollars)	Real Discount Rate (Annual)		
	1.4%	3.5%	5.5%
1. Costs (results of simulations) Low AMR-impact scenario	30	20	13
High AMR-impact scenario	85	54	36
2. Benefits if 50% of costs averted Low AMR-impact scenario	15	10	6
High AMR-impact scenario	42	27	18
3. Costs AMR action plan (Table 1)	0.3	0.2	0.2
4. Net benefits (2.–3.) Low AMR-impact scenario	14.7	9.8	5.8
High AMR-impact scenario	42.2	26.8	17.9



Source: World Bank, 2017. *Drug-Resistant Infections: A Threat to Our Economic Future*

2016 UN General Assembly resolution

Resolution in support AMR Global Action Plan implementation Creation of an AMR Inter-Agency Coordination Group (IACG)

IACG

- Chaired by UN Deputy Secretary-General and WHO DG
- Composed of individual experts and representatives of agencies
- Secretariat housed at WHO in close collaboration with FAO and OIE



World Health
Organization

Concluding Points

- AMR has evolved into one of world's major health dangers with serious economic and multisectoral implications
- Global & concerted action is needed
 - AMR Global Action Plan provides a technical blueprint
- Multisectoral national action plans are fundamental
 - Sustainable implementation is a major challenge: global investment is needed!
- Global Monitoring should assess progress in tackling AMR



Community of Practice



187 members
74 countries



Welcome to the online discussion forum for those developing and implementing national action plans to combat antimicrobial resistance. This forum is moderated by the WHO AMR Secretariat.

Use of the AMR-NAP forum is subject to the Terms of Engagement.

N.B. Chrome browser appears to work better with this platform than Internet Explorer. If you are having trouble viewing discussions, try logging in with a different browser.

Overview

The antimicrobial resistance national action plan (AMR-NAP) is a key component of the WHO AMR Strategy. It provides a framework for developing and implementing national action plans to combat antimicrobial resistance. The AMR-NAP forum provides a platform for users to discuss and share their experiences in developing and implementing national action plans to combat antimicrobial resistance. It also provides a platform for users to discuss and share their experiences in developing and implementing national action plans to combat antimicrobial resistance.

Sub-communities

To access the sub-community on Health Workforce AMR, Education and Training, please click [here](#)

Mechanism

Questions posted are received by the Forum Moderator. Where the answer to a question is available in guidance materials or in a previous question and answer exchange, the user will be directed to the appropriate resource/ exchange. This question will not be posted online. Questions that cannot be addressed through 'textbook' guidance are posted online. All AMR-NAP forum users can respond to a question. A question that is deemed by the Forum Moderator to be particularly challenging is escalated for input from a technical expert, where possible. The AMR Secretariat welcomes feedback from users on their AMR-NAP forum experience and its application to practice. We will undertake periodic evaluation.

Using the Library

Recent discussions

Discussions →

- Upcoming AMR online Community of Practice time-limited discussion series
wesangulae@who.int on September 15 2
- NEW BMJ collection: Antimicrobial resistance in Southeast Asia
Jane Lwoyer on September 14 2
- Progress towards antimicrobial resistance containment and control in Indonesia (Sept 2017)
Breeda Hickey on September 14 1
- BMJ article: Developing a situation analysis tool to assess containment of antimicrobial resistance in South East Asia
Breeda Hickey on September 14 1
- Selection of specimen type for GLASS surveillance
Sergey Eremin on September 14 8
- Fwd: One Health Consultative workshop to develop national action plan on antimicrobial resistance, 10 – 14 September 2017, Baghdad, Iraq
Rana Mahdi on September 13 1

Recent resources

Library →

- South East Asia: biology, programme, and thematic surveillance of healthcare associated infections in India (Sept 2017)
- Using information technology to improve surveillance of antimicrobial resistance in South East Asia (Sept 2017)
- Antimicrobial resistance communication activities in South East Asia (Sept 2017)
- Antibiotic residues in the environment of South East Asia (Sept 2017)

<https://ezcollab.who.int/amr-nap>



Thank you!