**ISAAR 2013**

**9th International Symposium on Antimicrobial Agents and Resistance**
Containing antimicrobial resistance: a global mission to be achieved

**13-15 March 2013**
**Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia**

## WHO Strategies to Control AMR in the Asia-Pacific Region

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WHO has highlighted the importance of combating Antimicrobial Resistance (AMR) at all levels by declaring it as an Organization-wide priority. As part of the World Health Day 2011, a series of policy briefs were launched, defining priority areas for action – from increased surveillance and tighter controls in the use of medicines, to calling for greater research efforts into new tools and innovations. The goal is to ensure today's patients have access to high-quality, effective antimicrobials and that these are also preserved for future generations.

WHO is committed to supporting the implementation of the following six policy areas:

1. Commit to a comprehensive, financed national plan with accountability and civil Society engagement
2. Strengthen surveillance and laboratory capacity
3. Ensure uninterrupted access to essential medicines of assured quality
4. Regulate and promote rational use of medicines, including in animal husbandry, and ensure proper patient care; and (4d). Reduce use of antimicrobials in food-producing animals
5. Enhance infection prevention and control
6. Foster innovations and research and development for new tools

### Overview of AMR challenges

Antimicrobial resistance is a complex, multi-dimensional and multi-factorial problem which involves various stakeholders at local, regional, national and international levels. Collaboration between human and animal health sectors has been very helpful in containing public health threats posed by avian influenza and rabies. However, this collaboration is still not systematically organized at all levels for the management of AMR, though antimicrobial use in animal husbandry in quantitative terms outweighs the use in human health and is a major contributing factor for the development of AMR.

Drug resistance in specific diseases is being tackled effectively by some disease specific health programs, led by WHO and other partners.

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- **Drug resistant Malaria**

  The *Global Plan for Artemisinin Resistance Containment* (GPARC)[1] is a call to action for all members of the Roll Back Malaria (RBM) Partnership, to protect ACTs as an effective treatment for *Plasmodium falciparum* malaria. The emergency response to Artemisinin Resistance in the Greater Mekong Region is being addressed through coordination and high-level advocacy by WHO Regional Offices in South-East Asia and the Western Pacific across it Members States.

- **Drug resistant TB**

  The global and regional Green Light Committees (GLC) provide technical assistance on programmatic management of drug resistant tuberculosis, promote rational use and improve access to quality assured second line anti-TB drugs, under the Global Plan to Stop TB 2011-2015, which aims to have 1 million MDR-TB patients treated between that period, and 270,000 patients placed on treatment in 2015.

- **Drug resistant Influenza**

  The WHO Global Influenza Surveillance and Response System (GISRS) gathers and analyses information on the appearance of novel strains of influenza virus and antiviral susceptibility. The GISRS in Western Pacific Region currently includes 21 National Influenza Centres in 15 countries and three WHO Collaborating Centres for Reference and Research on Influenza.

- **HIV drug resistance**

  The WHO's Global Network (HIVResNet) provides standardized tools, training, technical assistance, laboratory quality assurance, analysis of results and recommendations for guidelines and public health action. *WHO global strategy for the surveillance and monitoring of HIV drug resistance* (2012)[2] summarizes a comprehensive package of HIV drug resistance surveys that should be implemented in all countries scaling-up and maintaining populations on antiretroviral therapy (ART).

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[1] WHO, 2011. Global plan for artemisinin resistance containment (GPARC)
http://www.who.int/entity/malaria/publications/atoz/artemisinin_resistance_containment_2011.pdf
[2] WHO global strategy for the surveillance and monitoring of HIV drug resistance, 2012.
http://apps.who.int/iris/bitstream/10665/77349/1/9789241504768_eng.pdf

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- **AMR and Food Safety**

  The Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR) supports WHO's efforts to minimize the public health impact of antimicrobial resistance associated with the use of antimicrobials in food animals. AGISAR updates the WHO list of critically important antimicrobials every two years; develops and disseminates harmonized protocols for monitoring antimicrobial usage and resistance in animals, food and humans, as well as support WHO capacity-building activities through training via the Global Foodborne Infections Network (GFN).

- **Gonococcal resistance**

  The *Global action plan to control the spread and impact of antimicrobial resistance in Neisseria gonorrhoeae (2012)*[3] provides guidance on ways to contain the spread of AMR in *N. gonorrhoeae*, in conjunction with broader national and international strategies for the prevention and control of sexually transmitted infections. The Gonococcal Antimicrobial Surveillance Programme (GASP), started in 1992, monitors AMR surveillance in *Neisseria gonorrhoeae*, with laboratories from 21 countries/jurisdictions (in the Asia-Pacific region).

- **Multidrug-resistant (MDR) bacterial infections**

  Increasing number of healthcare associated infections are multidrug resistant, and found in hospitals. Unlike other disease specific programs, few organized networks/programs cover the surveillance of multi-drug resistant bacterial pathogens, which are further limited geographically to few countries.

  The MDR bacteria that challenge comprehensive AMR surveillance include Gram positive organisms (Methicillin-Resistant *Staph aureus* [MRSA], Vancomycin-intermediate and -resistant Staphylococci, Vancomycin-resistant Enterococci, and Penicillin-resistant Pneumococci), as well as Gram Negative organisms (ESBL and MBL producing [carbapenemase-resistant] Enterobacteriaceae, MDR organisms like *Pesudomonas aeruginosa*, Acinetobacter sps, Burkholderia sps, *Stenotrophomonas maltophilia*, etc.).

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[3] WHO, 2012. Global action plan to control the spread and impact of antimicrobial resistance in *Neisseria gonorrhoeae* http://whqlibdoc.who.int/publications/2012/9789241503501_eng.pdf

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## AMR surveillance

There are a number of global, regional and national networks and partners involved in AMR surveillance, but there is a lack of coordination and collaboration amongst them and the various stakeholders involved. Data on AMR is available from limited geographical areas and there is a lot of disparity in terms of data standardisation as well as lack of dissemination of the AMR data and information. Clinical samples from the health system, primarily hospitalized patients forms a large part of the surveillance data, with little data from the community. The correlation of laboratory data with epidemiological data from other sources is usually not used in the analyses. The key challenges identified under surveillance and laboratory capacity are (i) shortage of competent laboratories, (ii) poor infrastructure and data management, (iii) variation in methods, (iv) low coverage of surveillance, (v) insufficient inter-sectoral collaboration, and (vi) insufficient international collaboration.

## Networks/partnerships

There are many AMR networks and partnership working towards AMR surveillance in the Asia Pacific Region as well as globally, but they vary widely in scope. Some of them include The Asian Network for Surveillance of Resistant Pathogens (ANSORP), Asia Pacific Foundation for Infectious Diseases (APFID), Action on Antibiotic Resistance (ReAct), Alliance for the Prudent Use of Antibiotics (APUA), Asia-Pacific Association of Agricultural Research Institutions (APAARI), etc. However, despite the numerous partnerships and networking efforts and initiatives, there is a need for better coordination to effectively combat AMR.

## WHO's work in the Asia-Pacific Region

The *Asia Pacific Strategy for Strengthening Health Laboratory Services* (2010–2015) follows up on the *Asia Pacific Strategy for Emerging Diseases* (APSED)[4], and encourages each Member State to develop a national plan for laboratory services. The biregional strategy draws attention to interventions involving the introduction of legislation and policies governing the use of antimicrobial agents, to establish laboratory-based networks for the surveillance of resistance, and to ensure rational use of these drugs at all levels of health care settings.

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[4] WHO, 2011. Asia Pacific Strategy for emerging diseases (2010).
http://www.wpro.who.int/entity/emerging_diseases/documents/docs/ASPED_2010.pdf

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The bi-regional National Laboratory Policy and Plan[5] provides technical support to Member States on the steps required to develop and effectively implement a National Laboratory Policy and National Laboratory Plan in accordance with the Asia Pacific Strategy for Strengthening Health Laboratory Services (2010-2015). Establishment of *National Laboratory-based Surveillance of Antimicrobial Resistance*[6] provides essential information on key elements of laboratory-based national surveillance programme for AMR and its utilization for prevention and containment of AMR.

A cross-divisional AMR Technical Working Group (AMR-TWG), established at WHO's Regional Office for the Western Pacific in August 2010, ensures a comprehensive and coordinated approach within the overall context of patient safety and quality improvement. Support to the Member States at the country level is also provided, and the recent development of a comprehensive national antimicrobial resistance policy with participation of stakeholders from health and agriculture sectors in Philippines is a good example of such support.

**What next?**

Coordination and collaboration amongst various sectors and stakeholders is the need of the hour. WHO Global taskforce on AMR is working on a global WHO framework for action to help Member States implement policies to combat AMR. In addition to zoonotic influenza and rabies, AMR is also now a part of the WHO-FAO-OIE tripartite partnership agenda to strengthen work at the human–animal–ecosystem interface. Country situation analysis/assessments to understand AMR challenges in Member States as well as an advocacy strategy, along with gathering of information for evidence-informed policy making to improve antimicrobial use and reduce the spread of AMR, are also being developed. A roadmap to strengthen AMR surveillance in the Western Pacific Region is planned following an AMR surveillance review.

**WHO's role in strengthening AMR surveillance**

As a chain is only as strong as its weakest link, WHO aims to standardize surveillance and

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[5] WHO, 2011. Development of National Health Laboratory Policy and Plan.
http://www.wpro.who.int/health_technology/documents/docs/Nationalhealthlab2_0F38.pdf
[6] WHO, 2010. Establishment of national laboratory-based surveillance of antimicrobial resistance.
http://searo.who.int/entity/antimicrobial_resistance/documents/SEA_HLM_415/en/index.html

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introduce it in Member States with absent or limited capacity for AMR surveillance. WHO also plans to facilitate and be the convener of AMR networks globally and in the region, as well as support the dissemination of AMR data/information. WHO endorses the need for collaboration to strengthen AMR networks and standardize surveillance in Member States and is committed to re-establish/strengthen AMR surveillance systems/networks in the Region to enable better response to risks due to emergence and spread of AMR.

WHO proposes to expand/network existing AMR networks in the Western Pacific Region supported by the introduction of an AMR surveillance focal point in Member States. WHO is ready to invest and build capacity in countries to ensure all Member States are able to respond effectively to the public health threat posed by AMR.

WHO is committed to support countries combating AMR, work with existing networks, build country capacity and strengthen the AMR surveillance system, ensure effective dissemination of the evidence and help building bridges between sectors.