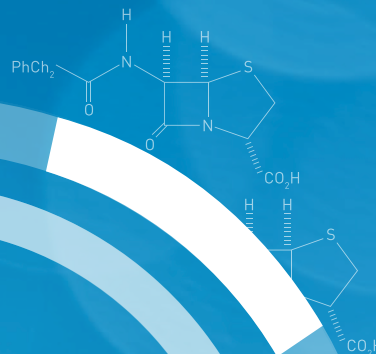




World Health  
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# Combating Antimicrobial Resistance: Activities of WHO Collaborating Centres in the European region



AMR surveillance network meeting 2016. Participating countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, The former Yugoslav Republic of Macedonia, The Republic of Moldova, Montenegro, Russian Federation, Serbia, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan, in addition to Kosovo\*

\* in accordance with the United Nations Security Council Resolution 1244(1999)

# Technical support and the specialized expertise of the WHO Collaborating Centres are needed to strengthen antimicrobial resistance surveillance

Antimicrobial resistance (AMR) is now recognized as one of the major threats to global health of our time. With the adoption of the WHO European strategic action plan on antibiotic resistance (2011) and the global AMR action plan (2015), WHO has made the control of AMR one of its top priorities. In September 2016, the UN General Assembly reiterated AMR as a global health threat that requires a whole-of-government approach to address.

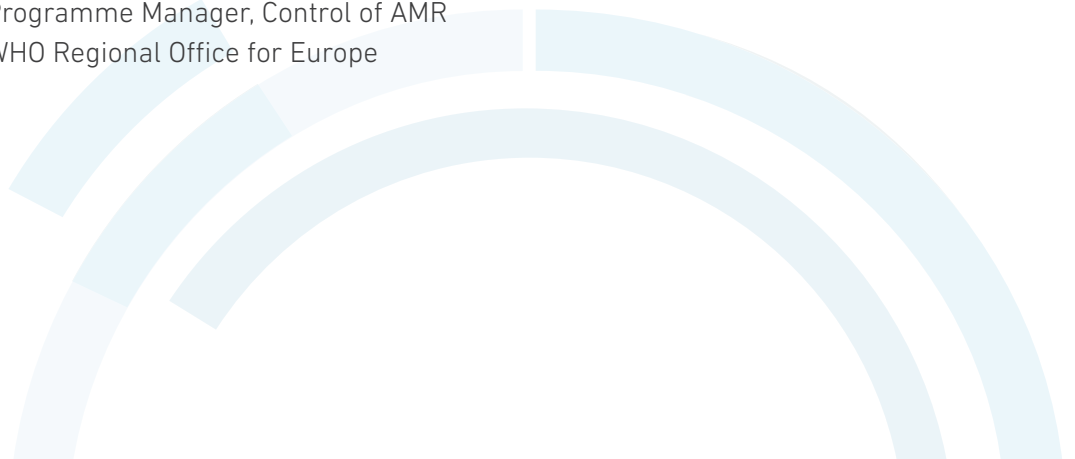
With the growing awareness of the issue, the demand for technical support is increasing rapidly. WHO Collaborating Centres (WHO CCs) are recognized by WHO for their specialized expertise and excellence. They are regarded

as the extended work force of WHO when it comes to the implementation of specific tasks. In both the regional and global action plans, surveillance is highlighted as one of the corner stones of the effort to control AMR. In the WHO European Region, four WHO CCs with a special focus on AMR are combining their strengths to provide crucial support to Member States to strengthen their AMR surveillance and develop new training modules, coordinated by the Regional Office. The idea for this newsletter came out of the first WHO CC meeting in Copenhagen, 31 August 2016, to inform other WHO CCs and potential collaborators of the ongoing and planned activities at the regional and global level and invite them to join forces.

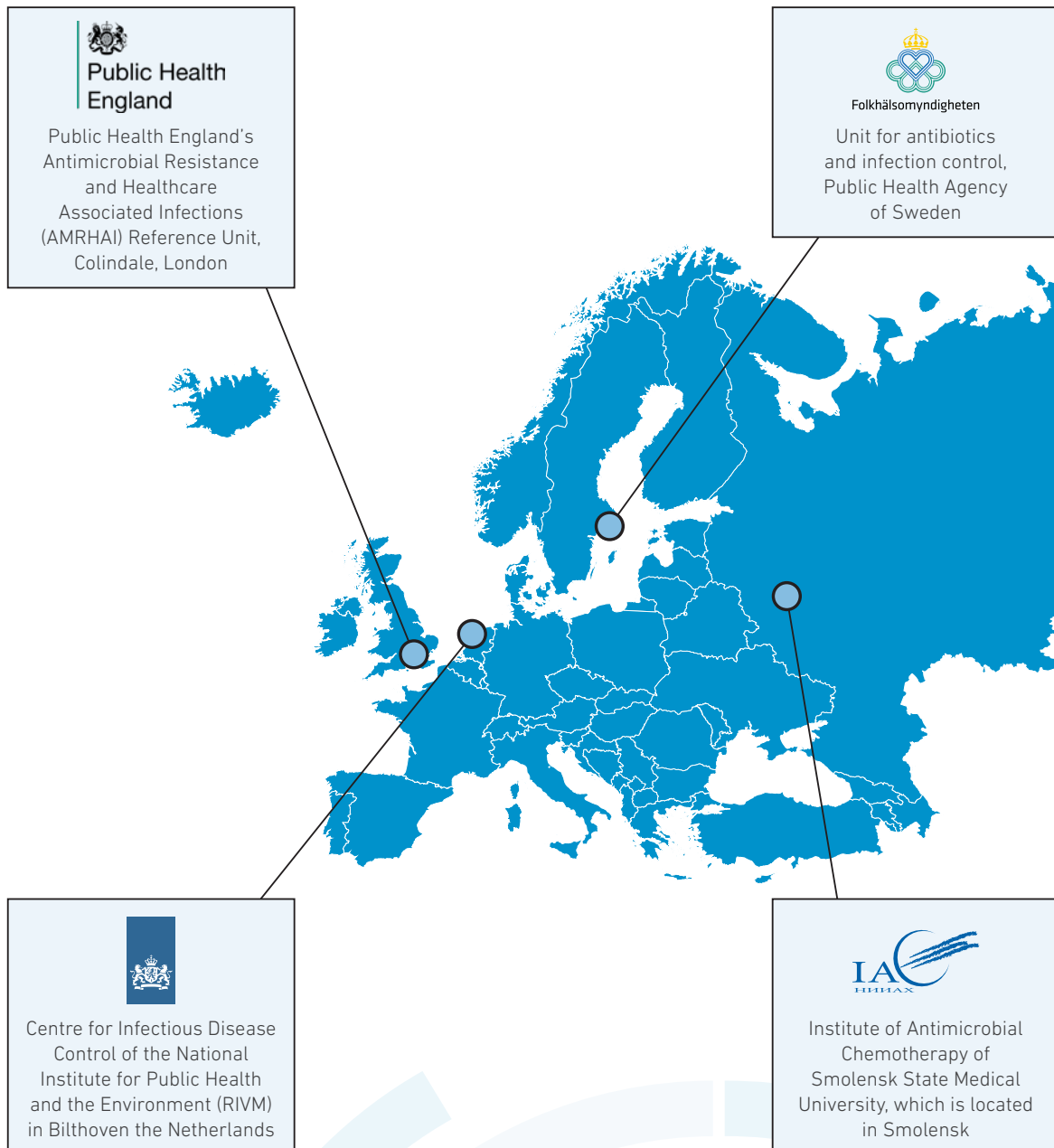


**Danilo Lo Fo Wong**

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# WHO COLLABORATING CENTRES ON AMR SURVEILLANCE





## The WHO CC for AMR Epidemiology and Surveillance (NET-89)

The WHO CC is based in the Centre for Infectious Disease Control of the National Institute for Public Health and the Environment (RIVM) in Bilthoven the Netherlands. Led by Dr Tjalling Leenstra and Dr Marianne van der Sande the WHO CC supports the establishment and strengthening of national AMR surveillance networks in WHO Europe member states by providing technical advice on surveillance methodology and technical support on the management, analysis and interpretation of AMR surveillance data. The CC coordinates CAESAR data collection, analyses the data and provides feedback for quality improvement to participants. Together with the WHO Regional Office for Europe AMR program the WHO CC produces the CAESAR Annual Report. This November the second CAESAR Annual Report was published, including data from seven countries and one area.

### Main activities include:

- Facilitating workshop modules on surveillance methodology, data-management, data quality assurance and data-analysis and interpretation for national and sub-regional AMR workshops.
- From 14-16 June, 2016, the second<sup>1</sup> CAESAR Multicountry Workshop on National Antimicrobial Resistance (AMR) Surveillance for Data Managers and Epidemiologists was held in Bilthoven.
- The WHO CC is principal investigator in the Proof-of-Principle (PoP) studies and will contribute to the development of an Infection Prevention and Control (IPC) module for CAESAR countries.
- The WHO CC provides technical support to the development of the GLASS IT-platform.

<sup>1</sup> The first workshop was from 16-18 September 2015, in Bilthoven, the Netherlands.



## The WHO CC for Capacity Building on AMR Surveillance and Research (RUS-126)

The WHO CC, led by Prof Roman Kozlov, is based in the Institute of Antimicrobial Chemotherapy of Smolensk State Medical University, which is located in Smolensk. Collaboration with WHO dates back to 1997, where advice on the issue of antimicrobial resistance in *Corynebacterium diphtheriae* was requested by WHO-led programs on the containment of diphtheria in WHO European region.

### Main activities include:

- Supporting WHO's efforts to strengthen AMR surveillance in Russian-speaking Member States by providing laboratory training and Russian-speaking facilitators and trainers to AMR workshops
- Providing expert advice and analysis of national antimicrobial consumption/resistance data from Belarus, Kazakhstan, Moldova and Kyrgyzstan
- Perform reference functions as External Quality Assurance centre as requested by WHO, incl. translation and adaptation of manuals and guidelines into Russian language.
- Facilitating the design and official approval of Russian clinical recommendations on susceptibility testing based on the WHO-recommended EUCAST methodology, which is closely regarded by other Russian-speaking countries.



Public Health  
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## The WHO CC for Reference and Research on AMR and Healthcare Associated Infections (UNK-105)

The WHO CC is based in Public Health England's Antimicrobial Resistance and Healthcare Associated Infections (AMRHA) Reference Unit, Colindale, London. Led by Prof Neil Woodford and Dr Nandini Shetty, the WHO CC is involved in projects to build AMR laboratory capacity in low and middle income countries (LMICs).

### Main activities include:

- Building laboratory capacity for participation in Central Asian and Eastern European Surveillance of Antimicrobial Resistance network (CAESAR), through training at multicountry workshops. Training and/or scoping visits have commenced in Albania, Armenia, Georgia, Turkmenistan and Uzbekistan.
- Working with LMICs in Central Asia and Eastern Europe to facilitate development of National Action Plans (NAPs) to combat AMR.
- Support Laboratory Quality Systems Implementation (LQSI) in LMICs.
- Working with the UK's Foreign and Commonwealth Office and the China Prosperity Fund to deliver training on 'Improving capacity of Clinical Microbiologists in China against the global threat of AMR'.



Plans for the future include: (i) co-developing and implementing an Infection Prevention and Control (IPC) module for LMICs (ii) working with UK NEQAS on CAESAR EQA (iii) collaborative work with Dr John Stelling in Boston (WHO CC for Surveillance of AMR) to improve the WHO-Net software; and (iv) collaboration with other AMR-focused WHO CCs globally to aid the implementation of GLASS.



Folkhälsomyndigheten

## The WHO CC for AMR Containment (SWE-66)

The WHO CC is located in Solna, Sweden, at the Unit for antibiotics and infection control, Public Health Agency of Sweden. Led by Dr Sonja Löfmark and Dr Malin Grape, the WHO CC supports WHO and its Member States in the development of the strategic direction of global AMR containment, by supporting integrated work on AMR with focus on surveillance.

The CC supports countries in building capacity for AMR containment, including national surveillance to estimate the burden and to prioritize and evaluate interventions. A key objective is to implement the Global AMR Surveillance System (GLASS) to promote harmonization in the collection, analysis and sharing of AMR data.

### Main activities include:

- Capacity building to strengthen WHO Member States' capacity for AMR surveillance to promote local and national use of surveillance data and facilitate participation in GLASS. This includes country visits, such as to Iran and Oman, and participating in and arranging workshops and training, such as a regional meeting in India on IT to improve AMR surveillance.
- Support the continuous development and implementation of GLASS, including production and periodic revision of supporting documentation and educational material, such as the published manual.
- Progress monitoring by follow up and evaluation of the implementation of GLASS by WHO and by its Member States. A pilot project has started for assessment of the practical implementation of GLASS material in a few countries.

## News from the Region

### GLASS

The Global Antimicrobial Resistance Surveillance System (GLASS) was launched by WHO in Copenhagen, Denmark, in October 2015, upon request of the Member States to support a standardized approach to the collection, analysis and sharing of data on AMR at the global level, in order to inform decision-making, drive local, national and regional action, and to provide the evidence base for action and advocacy. GLASS aims to combine clinical, laboratory and epidemiological data on pathogens that pose the greatest threats to health globally as outlined here.

Since March 2016, 38 countries expressed interest in joining GLASS and 27 of these have completed the enrolment procedures.<sup>2</sup> Countries participating in the CAESAR network and enrolled in GLASS will have the AMR data that they submit to CAESAR transferred automatically to GLASS by the CAESAR coordination group, to avoid double reporting and ensure representation in the global picture.

**Since March, 2016, 38 countries have expressed an interest in joining GLASS and 27 countries have completed the enrolment procedures**

### The CAESAR Programme

Surveillance of AMR is considered the backbone of both the European strategic action plan and the global action plan. Many countries in the European Region that are not members of the European Union did not systematically collect and share data on AMR in 2011 when the regional action plan was adopted. Therefore, the WHO Regional Office for Europe, together with the National Institute for Public Health and the Environment of the Netherlands (RIVM) and the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), established the Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR) network in 2012 to assist countries in setting up and/or strengthening national AMR surveillance.



Country mission in Azerbaijan. From left to right Danilo Lo Fo Wong, Katja Seme, Dennis Faix, and Tjalling Leenstra.

<sup>2</sup> Data from 23 November, 2016.



CAESAR activities include performing country assessment missions, building laboratory and surveillance capacity through national and multicountry training workshops, performing annual external quality assessments, arranging consultant support, facilitate twinning activities, supporting national surveillance network meetings and organizing annual CAESAR network meetings.

These efforts contribute to the newly established WHO Global Antimicrobial Resistance Surveillance System (GLASS – see above). The WHO Regional Office for Europe and its AMR-focused Collaborating Centres, partners (i.e. ESCMID) and consultants support countries with a stepwise approach towards national coordination and setting up or strengthening national AMR surveillance, via assessment missions, national and multicountry workshops and consultancies.

During World Antibiotic Awareness Week 2016, the second CAESAR report was published. It describes the activities undertaken in countries participating in CAESAR in setting up and strengthening their national AMR surveillance networks. In addition, the report describes results from the three years of external quality assessment (EQA) exercises of antimicrobial susceptibility testing among laboratories participating in CAESAR, and resistance data from seven countries and Kosovo (in accordance with United Nations Security Council resolution 1244 (1999)) gathered through the CAESAR network. For the first time, the report includes maps showing data from both the European Antimicrobial Resistance Surveillance network (EARS-net), coordinated by the European Centre for Disease Prevention and Control (ECDC), and the CAESAR network providing a more comprehensive picture of the AMR situation in the European region. Please find the report here: <http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/publications/2016/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance.-annual-report-2016>.

### Proof-of-Principle AMR surveillance (PoP) study

In parts of the WHO European Region, the implementation of a national AMR surveillance system based on routine antibiotic susceptibility testing is limited by the under-utilization of microbiological diagnostics in routine clinical practice. The main reasons reported for this include lack of funds for microbiological diagnostics and clinicians' perceptions that susceptibility data lack clinical utility. The proof-of-principle (PoP) study was set up with the aims of (i) stimulating



*PoP mission in Armenia. From left to right Irina Pristas, Gayane Ghukasyan, Nienke van der Sande, Romelia Abovyan, and Kristina Gyurjyan.*

the taking of blood cultures from patients with suspected bloodstream infections by providing case definitions and materials, and (ii) starting to assess the antibiotic susceptibility patterns of the main pathogens causing community- and hospital-acquired bloodstream infections, thereby:

- establishing and supporting a surveillance infrastructure as a point of departure for a national sentinel laboratory-based surveillance system for AMR;
- demonstrating the value of clinical microbiological diagnostics in routine patient care by providing timely feedback of laboratory results to clinicians to guide the antibiotic treatment of bloodstream infections; and
- establishing good clinical practice for routine clinical work-up in hospitals and strengthening the AMR reference and surveillance capacity at national reference laboratories.

A pilot PoP study started in July 2015 in Tbilisi, Georgia, and is being coordinated by the Richard Lugar Center for Public Health Research of the National Center for Disease Control and Public Health of Georgia. The first results were published in the CAESAR report 2016. Further PoP studies will start in 2017 in Armenia and Uzbekistan. The PoP study is a joint undertaking with the European WHO CCs.

# Contact the AMR team

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