WHO European Region [EUR]

WHO European Region [EUR]

Currently, there are seven bilateral influenza cooperative agreements that support influenza activity in the European Region. These cooperative agreements are with ministries of health or other institutions that work with the U.S. Centers for Disease Control and Prevention (CDC) to build capacity in order to routinely identify, diagnose and respond to seasonal and pandemic influenza.

Direct country support though non-research cooperative agreements is established in the following seven countries/entities:

- Armenia
- Georgia
- Kyrgyzstan
- Moldova
- Russian Federation
- SECID: The Southeast European Center for Surveillance and Control of Infectious Diseases—(Priority countries—Albania, Bosnia and Herzegovina, Kosovo,* Macedonia, and Montenegro)
- Ukraine

In addition, CDC supports the World Health Organization (WHO) Regional Office for Europe via a cooperative agreement to provide technical and coordination support to Member States.

The core activities of these bilateral agreements are:

- To build sustainable national capacity for the detection, identification and response to seasonal, avian and novel influenza.
- To develop interagency pandemic preparedness plans.
- To strengthen capacity for integrated laboratory and epidemiologic surveillance for influenza-like illness (ILI) and severe acute respiratory infections (SARI), which includes making routine contributions to WHO's Global Influenza Surveillance and Response System (GISRS) and implementing International Health Regulations 2005 (IHR).
- To develop and train local rapid response and containment teams.

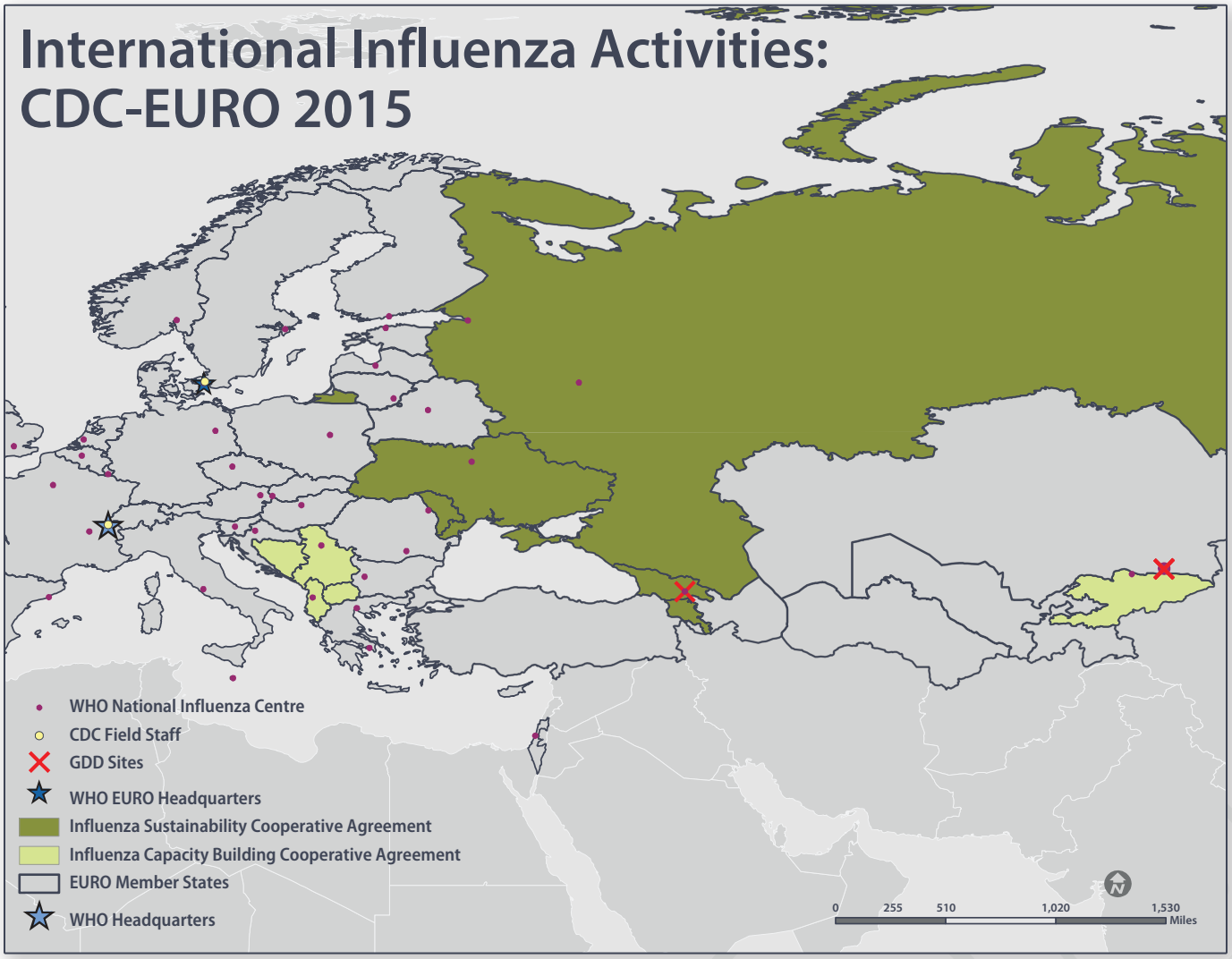
Influenza Division Contacts:

Stacey Spivey-Blackford, MS
Project Officer
Extramural Program
Influenza Division, NCIRD
U.S. Centers for Disease Control and Prevention
Atlanta, GA
Email: ifm8@cdc.gov

Mark Thompson, PhD
Health Scientist
International Epidemiology and Research Team
Influenza Division, NCIRD
U.S. Centers for Disease Control and Prevention
Atlanta, GA
Email: mthompson2@cdc.gov

This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

WHO Regional Office for Europe [EURO]



HIGHLIGHTS

- Launched the new joint WHO/Europe and European Centre for Disease Prevention and Control (ECDC) influenza surveillance platform and bulletin, Flu News Europe, for 53 countries in October 2014.
- Held the Fourth Joint WHO Regional Office for Europe/ECDC Meeting on Influenza Surveillance (2014).
- Organized a Flu Awareness Campaign in October 2014 with a focus on increasing uptake of seasonal influenza vaccine in high risk groups.
- Deployed two Influenza and Respiratory Pathogens Program (IRP) staff to Sierra Leone and one to Liberia to support the response to Ebola.
- Published 11 articles in international, peer-reviewed journals, including a multicountry SARI risk factor study.
- Updated and translated into Russian the WHO Regional Office for Europe Influenza website.

U.S. CDC DIRECT SUPPORT

The WHO Regional Office for Europe (WHO/Europe) in Copenhagen, Denmark, serves 53 Member States with a population exceeding 900,000 million. Influenza activities are conducted by the Influenza and Other Respiratory Pathogens Programme (IRP).

The second five-year cooperative agreement (CoAg) began in September 2011 and entered its fourth year in October 2014. In addition to financial support, since 2009 a CDC-seconded senior epidemiologist has strengthened IRP. CoAg activities are grouped around the following technical areas: surveillance and laboratory; seasonal influenza vaccine; burden of disease; pandemic preparedness and early warning; and communication and advocacy. IRP also collaborates with CDC staff on the development of trainings (e.g. data management training) and tools (e.g. influenza surveillance assessment tool).

Coordinating influenza surveillance and providing support to countries in the WHO European Region is a major activity of the CoAg. Until October 2014, IRP ran the regional influenza surveillance platform and published the weekly surveillance bulletin, EuroFlu, in English and Russian.

WHO/Europe also continues to provide training and technical assistance to member states to strengthen influenza surveillance. In addition, WHO/Europe supports National Influenza Centres (NIC) throughout the region by providing external quality assessment (EQA) programs, and by supporting virus strain characterization, and sharing of influenza viruses within the Global Influenza Surveillance and Response System (GISRS).

SURVEILLANCE

The WHO Regional Office for Europe strives to strengthen epidemiological and virological components of sentinel surveillance for influenza, including outpatient surveillance for influenza-like illness (ILI) and acute respiratory infection (ARI), and hospital-based surveillance for severe acute respiratory infections (SARI). The activities in this area include collecting, analyzing and publishing in Flu News Europe weekly surveillance data from 50 countries; developing capacity to use surveillance data to estimate the burden of influenza to prioritize national influenza vaccination programmes; increasing uptake of seasonal influenza vaccine; and supporting activities at the national level aimed at implementing International Health Regulations core capacities for early warning and response. Countries of the Newly Independent States, where sentinel surveillance has recently been established, and selected countries of South-Eastern Europe (SEE) continued to be the main focus of the work at the country level from 2013 to 2015.

SURVEILLANCE ACTIVITIES

- Continued development of epidemic thresholds for SARI surveillance based on the Moving Epidemic Method.
- Supported strengthening of influenza surveillance in the region, including assistance to SEE countries through a CoAg with CDC.
- Expanded the Flu Awareness Campaign, a multimedia event, with six member states participating in the 2014–2015 season.
- Developed tools to support reviewing, monitoring and strengthening national surveillance systems, including an electronic surveillance assessment tool and a feasibility tool for select SARI sentinel sites.
- Enhanced disease surveillance for severe influenza in the region, with 15 countries routinely conducting SARI surveillance by 2015.
- Conducted inter-country meetings and missions to three countries to support calculation of estimates of clinical and economic influenza burden.
- Continued the development of guidelines to increase influenza vaccine uptake in targeted populations (i.e. pregnant women and health care workers) based on the Tailoring Immunization Programmes for Influenza.

LABORATORY

In the European Region, 41 (77%) of 53 countries with influenza surveillance have a National Influenza Centre (NIC) recognized by WHO. Through the CoAg, NICs in the WHO European Region receive training in influenza laboratory techniques, support to improve laboratory quality, assistance with shipment of viruses to WHO Collaborating Centres for reference and research on influenza, and reagents for influenza testing. A total of 44 (83%) countries in the WHO European Region share influenza viruses with GISRS, and 16 (30%) monitor and report weekly data on antiviral susceptibility to WHO.

LABORATORY ACTIVITIES

- Increased the number of laboratories in the region participating in the WHO External Quality Assurance Programme from 34 in 29 countries in 2007 to 63 in 48 countries in 2014.
- Provided support for 28 countries to ship viruses and clinical specimens to the WHO CC in time for the WHO Consultation on the Composition of Influenza Virus Vaccines (VCM) for the Northern Hemisphere 2015–2016 influenza season. Of these, 16 countries used the WHO Shipment Fund Project.
- Provided three national trainings on shipping infectious substances; participants were 60 specialists from national, regional, and sub-regional levels and reference laboratories in Tajikistan, Turkmenistan, and Uzbekistan.
- Conducted a training course for 17 virologists from the European Region on laboratory preparedness for emerging respiratory pathogens.
- Organized and held the training "Introduction to Laboratory Quality Management and the Laboratory Quality Stepwise Implementation (LQSI) tool" for all SEE countries and for all Newly Independent States (NIS).
- Organized the WHO course "Strengthening capacities of influenza laboratory experts" for NICs.

PREPAREDNESS

In the period from October 1, 2013 to September 30, 2015 several outbreaks highlighted the continued importance of pandemic preparedness. The main events during the last two years have been the ongoing outbreak of Middle East respiratory syndrome coronavirus (MERS-CoV) in the Arabian Peninsula, which exported cases to the WHO European Region; human cases of avian influenza A(H7N9) virus infection in China, a country which borders the WHO European Region; a substantial rise in the number of human cases of avian influenza A(H5N1) virus infection in Egypt; and the largest ever outbreak of Ebola virus in Western Africa, including a number of cases imported to Europe.

These outbreaks with their complexities and challenges emphasized the need for WHO and its member states to continue to strengthen core capacities of the International Health Regulations and pandemic preparedness

PREPAREDNESS ACTIVITIES

- Held critical care training for a total of 140 intensive care clinicians in five countries.
- Held a workshop on outbreak response to avian influenza A(H7N9) virus infections and other emerging pathogens in three countries (Kyrgyzstan, Tajikistan, and Turkmenistan).
- Held a Joint ECDC and WHO/Europe Consultation on pandemic and all hazard preparedness in November 2013.
- Switzerland and Germany published a revised pandemic preparedness plan, which brings the total to eight countries having published revised pandemic preparedness plans since the 2009 pandemic.
- Reorganized the WHO/Europe web site on pandemic influenza and translated it into Russian.
- Conducted laboratory preparedness surveys for avian influenza A(H7N9) virus and MERS-CoV.
- Provided technical assistance in the European Region and West Africa during outbreaks caused by MERS-CoV, avian influenza virus, and Ebola virus.
- Conducted a workshop on outbreak investigation and response for South-eastern European countries in collaboration with the South East European Center of Infectious Diseases Surveillance and Control (SECID) in July 2015.

TRAINING

- Conducted a joint ECDC and WHO/Europe consultation on pandemic and all-hazard preparedness in Slovakia (November 2013).
- Conducted Data Management Training for South East European (SEE) Countries in collaboration with CDC in Greece (April 2014).
- Conducted the 4th joint WHO/Europe–ECDC Annual European Influenza Surveillance Meeting in Austria (June 2014).
- Conducted a training on defining disease burden and decision-making for seasonal influenza vaccination for eight countries in Georgia (August 2014).
- Developed the Introduction to Laboratory Quality Management and the Laboratory Quality Stepwise Implementation (LQSI) tool for SEE and NIS, (November 2014/April 2015).

- Conducted a laboratory preparedness training course in the Netherlands (November 2014).
- Conducted a course for NICs on development and validation of PCR assays in the Russian Federation (May 2015).
- Conducted a workshop to estimate disease burden for seasonal influenza for four countries from SEE in Denmark (July 2015).

CONTACTS

Caroline Brown, PhD
Programme Manager
Influenza & Other Respiratory Pathogens Programme
WHO Regional Office for Europe
World Health Organization
Copenhagen, Denmark
Email: cbr@euro.who.int

Diane Gross, DVM, PhD
Epidemiologist
Influenza & Other Respiratory Pathogens Programme
WHO Regional Office for Europe
World Health Organization
Copenhagen, Denmark
Email: dgo@euro.who.int

Michala Hegermann-Lindencrone, MPH
Technical Officer
Influenza & Other Respiratory Pathogens Programme
WHO Regional Office for Europe
World Health Organization
Copenhagen, Denmark
Email: mhl@euro.who.int

ARMENIA

A photo taken during the 2014–2015 National Awareness Campaign in Kotayq marz.

HIGHLIGHTS

- Established new ILI and SARI sentinel sites in the cities of Ijevan (Tavush region), near the busiest border crossing area in the country, and in Nairi (Kotayq region), where the main poultry trade centers are located.
- Organized and executed an influenza awareness campaign, including printed and Internet ads, articles, TV and radio public announcements, and national special events throughout the influenza season.
- Submitted influenza samples to the WHO CC in London annually; 40 samples submitted from the 2013–2014 season.

OVERVIEW

In 2006, the State Hygiene and Anti-Epidemic Inspectorate (SHAEI) of the Ministry of Health (MOH) in Armenia began a cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC) to develop and enhance influenza surveillance and laboratory capacity. Since 2010, Armenia has conducted surveillance for both influenza-like illness (ILI) and severe acute respiratory infection (SARI) in the cities of Yerevan, Kapan (Syunik marz) and Vanadzor (Lori marz) and the sentinel surveillance system now includes a fully functioning PCR laboratory in each city. With a focus on avian and human influenza, Armenia's epidemiological surveillance capacity has been enhanced since the beginning of the partnership with CDC.

SURVEILLANCE

The influenza sentinel system in Armenia is integrated into the general epidemiological surveillance system of infectious diseases. ILI sentinel surveillance includes six polyclinics: two sites in Yerevan, and one site each in Vanadzor, Kapan, Ijevan, and Nairi. SARI sentinel surveillance includes 11 hospitals: seven in Yerevan, and one each in Vanadzor, Kapan, Ijevan and Nairi. The sentinel sites include one pediatric (Yerevan), one maternity (Yerevan), two adult (Yerevan) and seven general (Yerevan, Vanadzor and Kapan) hospitals. Each hospital has doctors in key departments designated as surveillance doctors.

SURVEILLANCE ACTIVITIES

- Conducted supervisory visits at sentinel surveillance sites in Yerevan, Vanadzor (Lori marz), Kapan (Syunik marz), Ijevan (Tavush marz) and Nairi (Kotayq marz).
- Established an internet connection for all organizations participating in sentinel surveillance and the sanitary-quarantine border posts (approximately 35 different sites).

LABORATORY

During 2014 and 2015, the National Reference Virology Laboratory at CDC/Yerevan underwent significant renovations, with the virology laboratory relocated to a different part of the building and refurbished with a new design and equipment. Renovations are expected to be complete in 2016. The laboratory is continuing preparatory work to introduce influenza virus isolation and typing using current World Health Organization (WHO) reagents and techniques. After implementing virus isolation, the laboratory aims to begin the process of formal recognition as a National Influenza Laboratory in Armenia.

A poster in Armenian, prepared and distributed during the National Awareness Campaign.

The 2014–2015 National Awareness Campaign in Aragacotn marz where the latest information on influenza was provided to medical practitioners (family doctors, pediatritians, school and kindergarten doctors and nurses).

LABORATORY ACTIVITIES

- Tested a total of 825 samples during the 2014–2015 influenza season: 587 samples by the CDC/Yerevan laboratory, 121 samples by the Lori marz laboratory and 117 by the Syuniq marz laboratory.
- Tested a total of 478 samples during the 2013–2014 influenza season: 348 samples by Yerevan 40 samples by Lori marz and 97 from Syunik marz.
- Completed minor renovation of the virology laboratory in Syunik marz, including changing utility services and ensuring availability of gas.
- Submitted data to WHO on a regular basis.

PREPAREDNESS

A monitoring and evaluation exercise was conducted by CDC/Yerevan experts, including the Project Team Leader, an Expert/Consultant, a WHO Country Office representative, and other Armenian WHO focal points on influenza epidemiology and virology.

PREPAREDNESS ACTIVITIES

- Conducted awareness-raising workshops in all marzes of Armenia. Workshops for school personnel and kindergartens (e.g. teachers, caretakers, nurses) covered 624 people. Workshops for hospital medical personnel and policlinics (e.g. pediatricians, family doctors, general physicians), covered 950 people.

TRAINING

- Conducted trainings for sentinel site personnel on SARI case management, sampling and testing based on WHO and CDC recommendations. The trainings were held in all regions of Armenia and were attended by 444 people.

INFLUENZA VACCINE ACTIVITIES

No influenza vaccine activities were planned during this time.

GEORGIA

A clinician taking a sample at an ILI sentinel site in Georgia.

HIGHLIGHTS

- Established an influenza sentinel surveillance system throughout the country.
- Developed and implemented quality assurance measures in the laboratory and at surveillance sites.
- Enhanced the influenza surveillance system by conducting annual monitoring visits and trainings of epidemiologists and clinicians in influenza epidemiology and surveillance.

OVERVIEW

The partnership between the National Center for Disease Control and Public Health of Georgia (NCDC) and the U.S. Centers for Disease Control and Prevention (CDC) began in 2006. Fiscal year 2015 is the fourth year of NCDC's second cooperative agreement with CDC, with an implementation period from 2011–2016. The purpose of the agreement is to improve laboratory, epidemiological and preparedness capacity for surveillance and response to avian and pandemic influenza.

SURVEILLANCE

Sentinel surveillance of severe acute respiratory influenza (SARI) was first established in Georgia in 2007, with an influenza-like illness (ILI) sentinel site established in Tbilisi in 2009. During fiscal years 2014 and 2015, NCDC continued to make improvements and enhancements to the influenza sentinel surveillance system in the country. NCDC specialists developed a template for regional and district public health centers for reporting and monitoring the weekly trends of ILI incidence and SARI admission rates in their respective regions. In addition, new modules for ILI and SARI data collection were added to the Electronic Integrated Disease Surveillance System (EIDSS), the system for collecting and reporting data on notifiable diseases and especially dangerous pathogens in Georgia.

Georgia continued to submit influenza surveillance data to the World Health Organization (WHO) on a weekly basis and in the 2014–2015 season began submitting to the European Surveillance System (TESSy) that replaced EuroFlu.

SURVEILLANCE ACTIVITIES

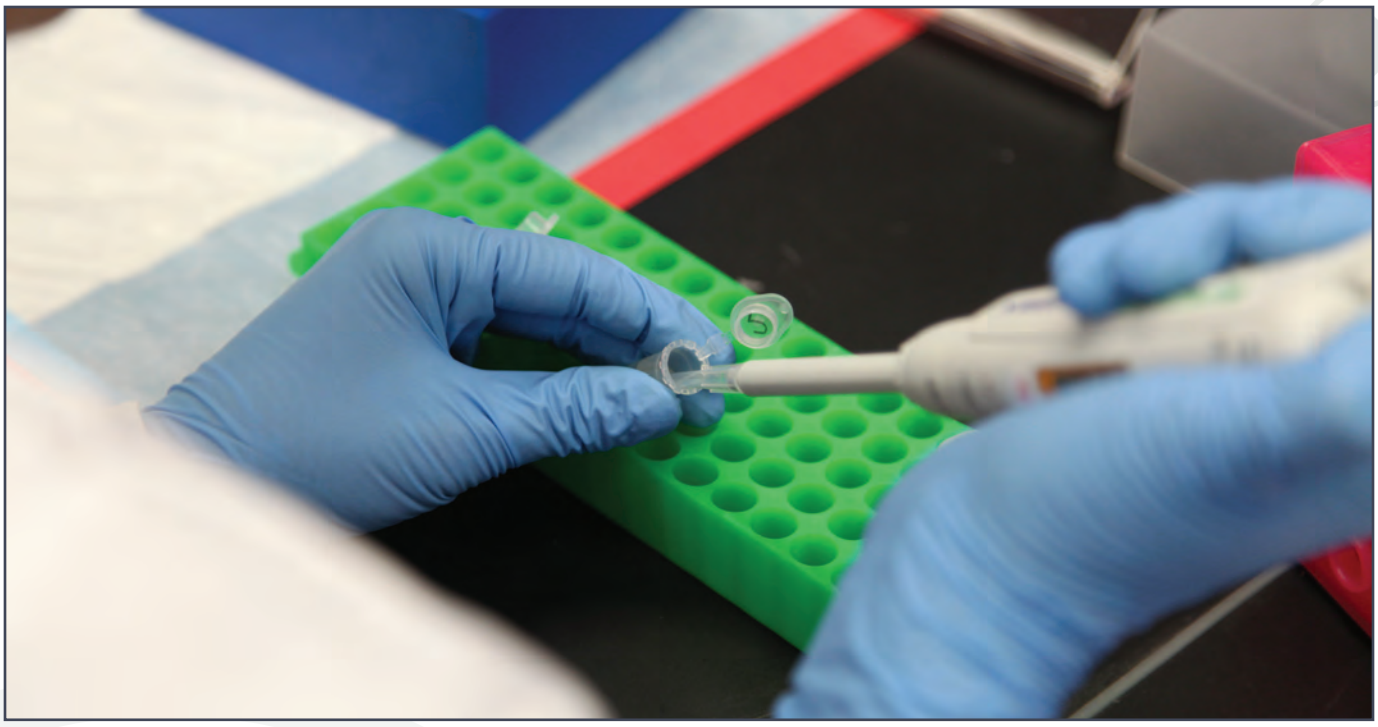
- Conducted a review of the influenza sentinel surveillance system in December 2014 in collaboration with CDC and the Council of State and Territorial Epidemiologists (CSTE).

LABORATORY

The National Influenza Laboratory (NIL) was established at NCDC in 2006 and was recognized as a National Influenza Center (NIC) by WHO in 2007. In 2013, the entire NCDC laboratory was relocated to the NCDC/Richard Lugar Center for Public Health Research, a brand new facility built with funds from the U.S. Defense Threat Reduction Agency (DTRA). In 2014, the NIL was re-designated as a NIC by WHO at the new location at the Lugar Center. During the past nine years of collaboration with CDC, laboratory capacity has been strengthened through staff training on RT-PCR testing, virus isolation, hemagglutination inhibition, and the procurement of essential equipment and supplies.

LABORATORY ACTIVITIES

- Conducted an assessment of the NIC laboratory in collaboration with the Association of Public Health Laboratories (APHL) and CDC using the International Influenza Laboratory Capacity Review Tool.
- Procured necessary reagents and supplies during the 2013–2014 and 2014–2015 seasons.
- Participated in WHO's External Quality Assessment Project (EQAP) in 2014 and 2015 with high marks.
- Confirmed and reported nine fatal infections due to influenza A (H1N1)pdm09 virus infection and



A laboratory technician processing a sample at the Lugar Center.

one due to influenza B during the 2014–2015 season. The age of fatal cases ranged from one to 64 years; eight cases (80%) were in the 30-64 year age group.

- Tested 1,114 specimens for influenza viruses during the 2014–2015 influenza season; 32 were positive for influenza A (H1N1)pdm09 virus, six for influenza A (H3N2) and 185 for influenza B.
- Submitted 20 samples from the 2014–2015 influenza season to the WHO Collaborating Center (CC) in London for virus isolation, sequencing and resistance screening.

PREPAREDNESS

A draft of a national preparedness plan was developed in 2006, and approved by the Ministry of Health (MOH) in 2009. This plan was activated during the 2009 influenza pandemic with great success.

INFLUENZA VACCINE ACTIVITIES

As a result of the national preparedness plan, for the first time in Georgia, high-risk groups were identified and vaccinated with seasonal influenza vaccine, and immunization awareness campaigns were organized for the general population and regional public health center specialists. Eight thousand doses of vaccine were purchased with government funds and administered to high-risk groups, with 500 doses of vaccine used for vaccinating NIC personnel, sentinel site staff, and epidemiologists involved in the ILI and SARI surveillance systems. Additionally, 2,000 doses of vaccine were purchased by the Global Fund project for vaccinating HIV-infected individuals.

KYRGYSTAN

Nurses at the National Clinical Infectious Disease Hospital in Bishkek demonstrating the influenza specimen collection process during a site visit by national staff and CDC.

HIGHLIGHTS

- Trained 115 doctors, epidemiologists, and directors of the state sanitary and epidemiological surveillance (SSES) centers on influenza monitoring, assessment, analysis, and recognition of outbreaks of influenza.
- Expanded sentinel surveillance with the addition of an ILI site at the Family Medicine Center Number One in Tokmok.
- Provided the national and regional virology laboratories with reagents and supplies.

OVERVIEW

Beginning in 2008, Kyrgyzstan began conducting sentinel surveillance for influenza-like illness (ILI) and severe acute respiratory infection (SARI) in the cities of Bishkek and Osh. The cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC), which began in 2013, has strengthened the sentinel surveillance system in Kyrgyzstan and continues to help build capacity and improve the country's preparedness to respond to a pandemic.

SURVEILLANCE

SARI sentinel surveillance was first established in Kyrgyzstan in 2008 and currently there are four SARI sentinel sites, with two hospitals in Bishkek and two hospitals in Osh. ILI surveillance was established in 2009, with three ILI sentinel sites in outpatient clinics, one in Bishkek and two in Osh. During the 2014–2015 season, an additional ILI site was established in Tokmok.

SURVEILLANCE ACTIVITIES

- Connected 39 SSES centers to the internet for reporting.
- Developed epidemic threshold for seven provinces and two cities to help assess and predict the epidemiological influenza situation and detect outbreaks of influenza.
- Conducted an evaluation and comparison of the routine and sentinel surveillance systems for influenza (analysis of the timeliness, accuracy, and sensitivity of the different surveillance systems).
- Conducted supervisory visits to sentinel sites in Osh, Tokmak, and Bishkek.
- Conducted training for virologists from the National Virological Center in the virology laboratories in the Kara-Suu and Issyk-Ata districts.
- Established new reporting forms for receiving annual reports from sentinel sites.
- Participated in a review of the influenza sentinel surveillance system in June 2014 in collaboration with CDC in order to identify strengths and opportunities for improving the system.

LABORATORY

The National Influenza Laboratory in Bishkek was established in 2002, and is situated within the Centre of Molecular-Genetic and Microbiological Investigations. The laboratory was designated by the World Health Organization (WHO) as a National Influenza Center (NIC) in 2007. Four laboratories in the Republic are involved in the influenza surveillance network: (1) National Virology Laboratory, Center of Microbiological and Molecular Genetic Studies, Ministry of Health, (2) the Virology Laboratory at the Center of State Sanitary and Epidemiological Supervision of Bishkek; (3) the PCR laboratory at the Issyk-Ata Republican Center of Psychological Health

and State Epidemiological Surveillance; and (4) the Virology Laboratory at the Kara-Suu Republican Center of Psychological Health and State Epidemiological Surveillance.

LABORATORY ACTIVITIES

- Participated in WHO's External Quality Assessment Project (EQAP) and received a score of 100% on the last panel.
- Tested 613 samples, of which 97 (15.8%) were positive for an influenza virus: 38 were influenza A (H3N2) virus, 12 were influenza A (H1N1)pdm09, and 47 were influenza B.
- Participated in a laboratory assessment in collaboration with CDC in order to identify strengths and opportunities in the laboratory.
- Trained laboratory assistants at the regional laboratories on RT-PCR and influenza virus isolation methods.

PREPAREDNESS

- Support from CDC has significantly advanced the level of influenza pandemic preparedness and planning. The Department of Disease Prevention and Sanitary Inspection, in conjunction with the Ministry of Health, has begun to develop an operational plan for the health sector in the event of an outbreak of influenza.

PREPAREDNESS ACTIVITIES

- Organized a round table for leaders of SSES centers to build capacity and help strengthen influenza surveillance at the local level.
- Designed and printed pamphlets, checklists for parents, posters, and informational sheets on the main symptoms and tips on prevention to help raise awareness and educate the population of Kyrgyzstan about influenza (24,000 pcs).
- Planned exercises to enhance pandemic preparedness with the concerned departments and ministries.
- Purchased 343 suits with N-95 masks and glasses which were issued to nine regional centers of the Department of Disease Prevention and Sanitary Inspection.

TRAINING

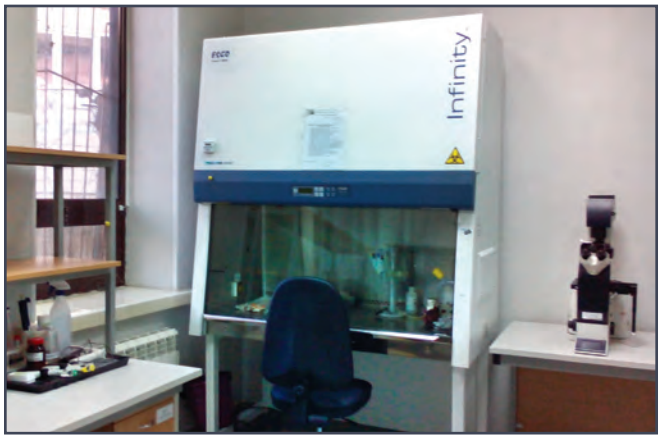
- Provided a workshop for 21 health care workers and laboratory staff on biosafety, storage, and transport of samples.
- Provided training for nine laboratory experts on the laboratory diagnosis of influenza viruses in Bishkek, Osh, and Chui regions.
- Provided training for doctors and epidemiologists at the regional and municipality levels on monitoring, analyzing, and identifying influenza outbreaks.

INFLUENZA VACCINE ACTIVITIES

A training was organized to prepare doctors and epidemiologists to formulate the number of at-risk groups (i.e. children and patients with heart disease, lung disorders, diabetes, obesity, health workers) in supervised areas.

In the event of an influenza outbreak, it is important to understand the number of people at risk that need vaccination. In the near future, a study of the economic impact of influenza will be carried out, with results of the study to be taken into account during the planning and administration phases of future vaccination campaigns against influenza.

REPUBLIC OF MOLDOVA



Room for influenza virus isolation on cell cultures (Room No. 8).

HIGHLIGHTS

- Improved the influenza sentinel surveillance system by strengthening hospital, polyclinic, and laboratory surveillance for ILI, ARI, and SARI.
- Developed and implemented quality assurance measures—including External Quality Assurance Programs—at the NIC and at the nine surveillance sites.
- Improved the influenza surveillance system by conducting workshops and trainings on influenza epidemiology, surveillance, and laboratory diagnosis.

OVERVIEW

Since 2009, the U.S. Centers of Disease Control and Prevention (CDC) has worked with the Ministry of Health (MoH), National Center of Public Health of the Republic of Moldova (NCPH) to build capacity for pandemic preparedness, communication, surveillance, monitoring, early response, and infection control. Fiscal year 2015 is the second year of CDC's sustainability cooperative agreement with NCPH. The purpose of the award is to improve laboratory, epidemiological, and preparedness capacity for surveillance and response to pandemic influenza.

SURVEILLANCE

During the reporting period, nine sentinel sites collected samples and sent them to the National Influenza Laboratory (NIL), with approximately 40–60 samples sent weekly. Weekly influenza surveillance data are collected and submitted electronically to the World Health Organization (WHO), and in the 2014–2015 season Moldova began submitting data through the newly established system, The European Surveillance System (TESSy), which replaced EuroFlu. The NCPH website (www.cnsp.md) is also updated on a regular basis throughout the year.

Software allowing for electronic transmission of influenza surveillance data from the sentinel sites to NCPH continued to be used and enhanced and all new medical staff at sentinel sites were trained on how to use the software. A working group updated the national definitions and main indicators for each new influenza season and input the data into the EuroFlu website (through the 2013–2014 season) and TESSy website (starting in the 2014–2015 season).

SURVEILLANCE ACTIVITIES

- Continued to monitor sentinel sites regularly and provide all necessary assistance and supplies for transportation of collected specimens.
- Prepared and disseminated surveillance reports on a weekly basis among healthcare professionals and stakeholders.
- Developed a new MoH order to incorporate sentinel surveillance (ILI, ARI, and SARI) into the Electronic Integrated Disease Surveillance System (EIDSS) that was approved.
- Strengthened surveillance capacity by training 60 people on influenza surveillance, outbreak investigation and response, and disease control activities.

LABORATORY

The NIL was recognized as a National Influenza Center (NIC) by WHO in 2013. All specimens collected from the nine sentinel sites are tested weekly at the NIC. A well-functioning system with a well-maintained cold chain is in place to transport specimens to the NIC in a timely manner. Specimens are all collected at the beginning of the week to ensure they arrive at the NIC by Thursday for testing and are not refrigerated for more than three days. The NIC provides RT-PCR testing for influenza viruses including detection, typing

and subtyping. The NIC sent influenza samples for confirmation to the WHO Collaborating Centre (CC) in London, UK in 2014 and 2015.

LABORATORY ACTIVITIES

- Confirmed 21 deaths due to an influenza virus: one child and 20 adults, including two pregnant women during the 2014–2015 season.
- Tested 685 specimens for influenza viruses from October 2014 to September 2015: 108 were positive for influenza A (H1N1)pdm09 virus, 10 for influenza A (H3N2), and 110 for influenza B.
- Submitted 129 samples during the 2014–2015 season to the WHO CC in London for virus isolation, sequencing, and resistance screening.
- Participated in External Quality Assessment Project (EQAP) by the WHO CC London, WHO CC Hong Kong, and WHO CC Atlanta.
- Designated specialists to attend training with the WHO CC in London (October 2013) and the WHO CC in Atlanta (March 2015).
- Participated in a laboratory assessment using the International Influenza Laboratory Capacity Review Tool, in collaboration with APHL and CDC.

PREPAREDNESS

The European Centre for Disease Prevention and Control (ECDC) and WHO missions conducted in 2014 assessed the national core capabilities for communicable diseases, including pandemic influenza preparedness and response. Recommendations included the following: ensure that the decision-making structure incorporates information from a multisectoral group; work towards standard operational procedures for decision making; prioritize the funding allocated to the plan for the highest priority issues; and work towards sustainable funding. Due to new and reemerging global health threats, a more strategic and more coherent approach to global health preparedness is needed. The Republic of Moldova is in the process of revising the National Pandemic Plan in accordance with the International Health Regulation (2005).

PREPAREDNESS ACTIVITIES

- Assessed preparedness for public health emergencies at the national and territorial levels.
- Continued discussions with stakeholders regarding the improvement of the National Pandemic Plan.

TRAINING

- Idenitfied two specialists to attend training on techniques and research on isolation, growth, and characterization of influenza viruses at the National Institute for Medical Research in London, UK (October 2013).
- Identified two specialists to attend the CSTE/CDC Influenza Data Management and Epidemiological Analysis Course in Athens, Greece (April 2014).
- Identified one specialist to attend the CDC/APHL International Advanced Influenza Real-time RT-PCR Workshop in Atlanta, Georgia (March 2015).

INFLUENZA VACCINE ACTIVITIES

As a part of the National Preparedness Plan, high-risk groups were identified and vaccinated with seasonal influenza vaccines. Immunization awareness campaigns aimed at the general population and regional public health center specialists were organized. With government funds, 150,000 doses of vaccines were purchased and administered to high-risk groups, NIC personnel, sentinel site staff, and epidemiologists involved in the ILI, ARI and SARI surveillance system.

RUSSIAN FEDERATION

Anastasiya Vasilieva, scientist participating in development of immune reagents for identification of potentially pandemic viruses.

HIGHLIGHTS

- Developed new software for the electronic submission, storage, and analysis of influenza surveillance data.
- Expanded PCR diagnosis to detect seven other respiratory viruses, in addition to influenza viruses.
- Transported virus isolates to WHO CCs (Atlanta and London) in a timely manner for 2012–2013 and 2014–2015 seasons.
- Increased capacity to recognize avian influenza viruses A(H9N2), A(H7N9), and A(H2N2) through monoclonal antibody testing and rRT-PCR testing.

OVERVIEW

The sustainability cooperative agreement between the Centers for Disease Control and Prevention (CDC) and the Russian Federation began in 2011. The Research Institute of Influenza (RII) in St. Petersburg and the D.I. Ivanovsky Research Institute of Virology (IIV) in Moscow are recognized by the World Health Organization (WHO) as National Influenza Centers (NIC).

SURVEILLANCE

During fiscal years 2013 and 2014, RII enhanced and improved both routine and sentinel influenza surveillance systems that collect, analyze and report epidemiologic and laboratory data from 59 Regional Based Laboratories (RBL), collaborating with the two NICs. Both NICs, in Moscow and St. Petersburg, increased the number of influenza viruses isolated during the 2013–2014 and 2014–2015 influenza seasons. Antigenic, genetic, and phylogenetic analysis of influenza viruses circulating in Russia was expanded, including determination of their susceptibility to antivirals. Sentinel surveillance for severe acute respiratory infection (SARI) and influenza-like illness/ acute respiratory illness (ILI/ARI) was improved, allowing for identification of the main risk groups, and the most commonly circulating influenza or other respiratory viruses. Data were presented on a weekly basis to the Ministry of Healthcare of Russia (MoH), Rospotrebnadzor, as well as the RBLs through weekly surveillance reports and website summaries. Data on influenza activity in Russia was also reported on a regular basis to GISRS, WHO EURO's new electronic system, The European Surveillance System (TESSy), and WHO Collaborating Centers (CC).

SURVEILLANCE ACTIVITIES

- Enhanced the epidemiologic capacity and infrastructure for disease surveillance, including the development of quantitative criteria to determine the epidemic start and geographic spread of influenza for separate cities, federal districts, and the country.
- Developed a written sustainability plan and included a draft in the Order of Ministry of Healthcare and Rospotrebnadzor.
- Obtained results from the first national disease burden estimates.

LABORATORY

The laboratory surveillance network in Russia currently includes 55 RBLs. Influenza virus isolation is conducted in 31 laboratories. Antigenic and genetic analysis of viruses circulating in Russia is conducted on a regular basis, including determination of susceptibility to antivirals. The etiology of SARI and ILI/ARI cases reported from sentinel sites varies depending on the geography of the site and seasonal patterns. Influenza viruses were detected more often among SARI patients and other respiratory viruses more often in ILI/ARI patients.

LABORATORY ACTIVITIES

- Deposited 348 viruses in the "Collections of Viruses" located at both NICs.
- Published the article, "Influenza surveillance in Russia based on epidemiological and laboratory data, 2005–2012" in the American Journal of Infectious Diseases.

PREPAREDNESS

The draft Pandemic Preparedness Plan for Russia (PR) was refined and updated, with the completed version set to be submitted to the MoH in September 2015. The capacity to identify novel influenza A viruses of H2, H5, H7, and H9 subtypes as potential pandemic agents was increased by preparing rRT-PCR reagent kits and developing immunological methods for identification of potential novel pandemic influenza A viruses (PPIV).

A local rapid-response and containment team (LRT) was assembled to monitor outbreaks and clusters of severe respiratory illness that could indicate the emergence of a new pandemic virus.

PREPAREDNESS ACTIVITIES

- Developed new laboratory tests including rRT-PCR and immunological methods to be used for investigation of clinical samples from SARI patients and autopsy materials.
- Generated hybridomas producing monoclonal antibodies for influenza H2, H5, H7, and H9 virus subtypes.
- Inactivated influenza H2, H5, H7, and H9 virus subtypes for inclusion in an EQC panel designated as PCR control in RBLs participating in sentinel surveillance.

TRAINING

The following activities were completed:

- Presented six reports (two included data on pandemic preparedness) at the workshop of "Rospotrebnadzor".
- Conducted consultations with both NICs and RBLs virologists.

The following activities and trainings were carried out in collaboration with WHO EURO:

- Developed guidance on data input in GISRS through TESSy in Russian for NICs in East European countries.
- Conducted a two-day TESSy online training for NIC specialists.
- Conducted a five-day training in influenza virology at RII with virologists from NICs in East European countries.
- Selected six NIC specialists to attend training courses in Netherlands, Greece, Turkey, and Denmark.

INFLUENZA VACCINE ACTIVITIES

The main groups at risk for influenza-associated SARI, including pregnant women and patients with chronic lung and cardiovascular disease, were identified through the sentinel surveillance system. Recommendations to introduce seasonal influenza vaccination to the identified target groups will be completed.

Ascertainment of vaccination status among influenza patients was also added to the sentinel surveillance system. The percent of patients vaccinated among hospitalized SARI patient with an influenza virus was lower than among SARI patients with a non-influenza etiology.

Low vaccination coverage was identified in hospitalized SARI patients with RT-PCR-confirmed influenza virus, with much higher vaccination rates among ILI/ARI patients with a confirmed influenza virus infection, indirectly suggesting that there may be a protective role of vaccination in preventing the development of severe influenza. Preliminary data on the economic burden of influenza were also obtained.

Nadezhda Konovalova, PhD, a leading scientist in influenza virus isolation and antigenic characterization, training students from Eastern European countries on influenza virology.

SECID

Workshop on ILI Surveillance in Bosnia and Herzegovina.

OVERVIEW

The South East European Center for Infectious Diseases Surveillance and Control (SECID) was established in 2013 at the Institute of Public Health in Tirana, Albania to support Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, and Kosovo,* in the field of surveillance and control of infectious diseases, including influenza and International Health Regulations (IHR) implementation. Within this network Albania, Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo* have been identified as priority countries. With the exception of Albania, the priority countries do not yet have National Influenza Centers (NIC).

SURVEILLANCE

The influenza surveillance review guidance for sentinel influenza surveillance from the WHO Regional Office for Europe and CDC's international influenza assessment tool were used to assess the influenza surveillance systems in all SEE countries. Influenza workshops were organized in each country and surveillance assessments were organized in priority countries to decide about sentinel sites and population to be covered for ILI/ARI and SARI surveillance. Activities carried out in each of the priority countries included preparing influenza sentinel surveillance guidelines, identifying ILI and SARI sentinel sites, conducting workshops with sentinel sites, testing guidelines with sentinel sites, establishing influenza surveillance coordinators in each sentinel site, as well as training on sample collection. SECID's information technology (IT) team also developed a template and a web-based system for ILI and SARI reporting.

SURVEILLANCE ACTIVITIES

- Translated the WHO/Europe guidance for sentinel influenza surveillance and CDC's international influenza assessment tool into each country language to be used for the assessments.

HIGHLIGHTS

- Improved identification and diagnosis of influenza cases in Albania, Bulgaria, Croatia, Bosnia and Herzegovina, Macedonia, Montenegro, Serbia and Kosovo.*
- Completed influenza surveillance assessments in all SEE countries.
- Prepared influenza surveillance guidelines and training packages for all SEE countries.
- Established SARI sentinel surveillance in Montenegro, Macedonia, Bosnia and Herzegovina, and Kosovo* and also strengthened SARI surveillance in Albania, Croatia, and Serbia.
- Established ILI sentinel surveillance in Montenegro, Macedonia, Bosnia and Herzegovina and Kosovo* and improved ILI surveillance in Albania, Bulgaria, Croatia, and Serbia.
- Purchased equipment and began training for influenza virus isolation in laboratories in Macedonia, Montenegro, Bosnia and Herzegovina, and Kosovo.*
- Revised pandemic preparedness plan in Romania and Croatia.
- Established joint protocols and activities for human and animal influenza surveillance in Bulgaria and Croatia.
- Prepared and piloted a web-based platform for reporting ILI/ARI and SARI Surveillance data in Albania, Macedonia and Croatia.

- Organized influenza assessment workshops in every country.
- Prepared influenza surveillance guidelines for each country.
- Prepared SARI surveillance protocols for Bosnia and Herzegovina, Bulgaria, Macedonia, Montenegro, and Kosovo.*
- Prepared ILI surveillance protocols for Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Updated ILI and SARI surveillance protocols in Albania, Croatia, Serbia, and Romania.
- Developed training packages for ILI and SARI surveillance in Albania, Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Conducted field assessments of influenza surveillance in Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Kosovo.*
- Identified ILI and SARI sentinel sites and trained staff in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Identified and revised ILI and SARI sentinel sites in Albania and Croatia.
- Provided sentinel sites with all necessary sample collection and transportation materials.
- Albania, Croatia, Bulgaria, Romania, and Serbia submitted virological and epidemiological data electronically to The European Surveillance System (TESSy) on weekly basis.
- Prepared and disseminated surveillance reports to healthcare professionals at sentinel sites in Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, and Kosovo.*
- Monitored sentinel sites in each country.
- Organized visits for influenza surveillance coordinators between the following countries: Serbia and Macedonia visited Romania; Kosovo* visited Slovenia; and Montenegro and Bosnia and Herzegovina visited Serbia.
- Prepared template in SEEFlu, a web-based influenza information system.

LABORATORY

Albania, Bulgaria, Croatia, Romania, and Serbia all have NICs, while Bosnia and Herzegovina, Macedonia, Montenegro and Kosovo* have national influenza laboratories, but do not have NICs. All activities are aimed to strengthen the capacities of influenza diagnosis (RT-PCR) in influenza laboratories across the region and to start establishing capacities for influenza virus isolation in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*

Essential kits and some equipment on RT-PCR testing were procured for all countries and training on RT-PCR testing was provided in all countries. A self-assessment influenza laboratory diagnosis and quality assurance tool developed by WHO was translated and used by all countries and the results were provided to SECID, WHO, and CDC. Laboratory SOPs for influenza diagnosis by RT-PCR were prepared in all countries and, based on that and NIC requirements, country plans were developed and essential equipment for virus isolation was procured for Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*

LABORATORY ACTIVITIES

- Translated and used WHO's Influenza laboratory self-assessment tool in all countries.
- Developed and implemented laboratory SOPs for RT-PCR in all countries.
- Developed plans for obtaining NIC recognition in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Developed sample collection and transportation SOPs in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Translated WHO Biosafety guidelines for use in Albania, Macedonia, Montenegro, Bosnia and Herzegovina, Serbia, Kosovo,* and Bulgaria.
- Improved influenza diagnostics in all countries, with a 35% improvement in Albania.
- Organized training visits for influenza laboratory specialists from Serbia and Macedonia to visit Romania; and Kosovo* to visit Slovenia.
- Influenza laboratory specialists from Macedonia and Kosovo* participated in a training at CDC.
- Procured and distributed RT-PCR essential kits according to the needs of all the countries.

- Procured essential equipment for virus isolation for Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*

PREPAREDNESS

Pandemic preparedness plans are in place in all SEE countries and they were used during the 2009 influenza pandemic. All countries have also adopted legislation to allow for implementation of pandemic plans and have performed training and established structures to coordinate pandemic preparedness and response. Discussion around revising and updating preparedness plans was started in all countries during influenza assessment workshops. Romania and Croatia started the process of evaluating the existing framework for preparedness and terms of reference and began revision of pandemic preparedness plans. Joint human and animal workshops were also organized to discuss integrated surveillance and pandemic preparedness.

PREPAREDNESS ACTIVITIES

- Organized an influenza pandemic preparedness planning workshop in Croatia and Romania.
- Organized animal and human surveillance workshops in Albania, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, and Kosovo.*
- Established joint protocols and activities for and human and animal influenza surveillance in Bulgaria and Croatia.

TRAINING

- Trained approximately 400 health care workers from ILI and SARI sites.
- Trained and retrained all ILI site health care workers in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Trained and retrained all SARI site health care workers in Bosnia and Herzegovina, Macedonia, Montenegro, and Kosovo.*
- Retrained all SARI and ILI sentinel sites in Albania, Bulgaria, Croatia, Romania and Serbia.

INFLUENZA VACCINE ACTIVITIES

Influenza vaccination is not mandatory for any group of people in SEE countries, although a certain number of people from high risk groups are covered by health insurance and vaccinated free of charge. At this time there are no data to evaluate the impact of vaccination policies or burden of disease.

However, Albania participated in a workshop organized by WHO EURO to evaluate the burden of disease and impact of vaccination policies. Albania also introduced for the first time a national program and guidelines to vaccinate health workers where a national coverage of 70% was achieved.

This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

UKRAINE

OVERVIEW

Fiscal year 2015 is the fifth year of the U.S. Centers for Disease Control and Prevention's (CDC) sustainability cooperative agreement with L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases National Academy of Medical Science of Ukraine. This cooperative agreement is the continuation of the previous five-year agreement between CDC and PATH to strengthen influenza and pandemic preparedness in Ukraine.

SURVEILLANCE

During the 2014–2015 influenza season, 271 influenza viruses were isolated with 50 isolates submitted to CDC and 50 to the WHO Collaborating Center (CC) in London. The percentage of influenza positive samples obtained from the ILI and SARI surveillance sites in the four sentinel centers varied from 7% to 58%.

SURVEILLANCE ACTIVITIES

- Developed a new logistics plan for transporting samples between sentinel sites and the National Influenza Center (NIC) on dry ice.
- Performed supervisory visits to influenza sentinel sites in Odessa and Khmelnitsliy.
- Organized training for all participants of sentinel surveillance.
- Carried out quality SARI surveillance and established that there was a high correlation between the number of SARI cases and the percent of influenza-positive samples.
- Prepared an additional draft order aimed at improving surveillance. This order is under consideration in the Ministry of Health.

LABORATORY

Funding from CDC continued to support the NIC in Kyiv and four regional virology laboratories in the sentinel sites with equipment, reagents, consumables and other items to maintain optimal functionality of the laboratories. These laboratories can perform RT-PCR and virus isolation on cell culture. Samples from Ukraine are routinely submitted to the WHO CC Atlanta and the WHO CC London.

HIGHLIGHTS

- Submitted isolates twice each season to a WHO CC to support the Vaccine Strain Selection Meeting for the Northern Hemisphere.
- Published a weekly influenza bulletin in both English and Ukrainian on the site www.ukrinfluenza.com.ua.
- Trained two laboratorians on laboratory methods at the WHO CC in London.
- Organized trainings for clinicians and sanitary-epidemiological service personnel.

LABORATORY ACTIVITIES

- Trained sentinel site virologists in influenza virus isolation and identification, and RT- PCR assay.
- Tested 1,225 samples from ILI and SARI patients by PCR, with 25.5 % positive for an influenza virus.
- Supported the NIC in Kyiv and four regional virology laboratories with consumables.
- Continued participation in WHO GISRS, including submitting 110 positive samples from the 2013–2014 and 2014–2015 seasons to the WHO CC in Atlanta.
- Conducted three supervisory site visits to three sentinel sites.
- Improved the material and technical equipment of virology laboratories (equipment and test-systems) and trained personnel to strengthen pandemic preparedness.

PREPAREDNESS

- Developed new recommendations for the national healthcare system in the event of accidental importation of avian influenza A (H5N1) and (H7N9) viruses from endemic regions.
- Made several improvements to the National Guidelines for Health Services of Ukraine which include planning and organizing measures to combat pandemic influenza.

TRAINING

The NIC continued to provide technical assistance and training to ensure continued operation and improvements of the sentinel surveillance system, quality of the surveillance data, timely data analysis, and integration of preparedness and response activities.

From 2013–2015 the following trainings were organized in Ukraine:

- **Sentinel Surveillance—**Trained 50 health care workers from clinics involved in surveillance.
- **Virus Isolation/Cell Culture—**Trained virologists from Odessa, Kharkiv, Dnipropetrovsk, Khmelnytsky, Ternopil, and Zhitomyr.

A researcher from the Gromashevsky Institute, attended the Advanced Influenza Real Time RT-PCR Workshop in March 2015 at CDC Atlanta.

INFLUENZA VACCINE ACTIVITIES

Every year the Institute develops an influenza forecast and recommendations for the next influenza epidemic season. Recommendations include a brief description of registered influenza vaccines available in Ukraine and high risk groups that should be vaccinated first. The forecast and recommendations, are sent from the MOH to all regions of the country.

EUR—Country Contacts

ARMENIA

Nelson Zuloyan
Principal Investigator and Executive Director
Health Project Implementation Unit, State Agency
Ministry of Health
Yerevan, Armenia
Email: healthpiu@gmail.com

Artavazd Vanyan, MD, PhD
Program Scientific Manager
National CDC
Ministry of Health
Yerevan, Armenia
Email: ph@ph.am

Nune Bakunts, MD
Expert on Laboratory Capacity
National CDC
Ministry of Health
Yerevan, Armenia
Email: n.bakunts@gmail.com; n_bakunts@moh.am

Armen Hayrapetyan, MD, PhD
Expert on Epidemiology Capacity Management
National Tuberculosis Control Centre
Ministry of Health
Yerevan, Armenia
Email: hayrarmen@gmail.com

GEORGIA

Khatuna Zakhashvili, MD
Principal Investigator
Communicable Diseases Department
National Center for Disease Control and Public Health
Tbilisi, Georgia
Email: episurv@ncdc.ge

Olgha Tarkhan-Mouravi, MD
Project Assistant
Surveillance Division
National Center for Disease Control and Public Health
Tbilisi, Georgia
Email: olgancdc@gmail.com

Ani Machablishvili, MD
Head, Influenza Laboratory
National Center for Disease Control and Public Health
Tbilisi, Georgia
Email: influenza@ncdc.ge

Paata Imnadze, PhD
Local Expert/Head of Scientific Board
National Center for Disease Control and Public Health
Tbilisi, Georgia
Email: pimnadze@ncdc.ge

KYRGYZSTAN

Nurbolot Usenbaev
Candidate of Medical Sciences
Head, Center of Quarantine and Especially Dangerous Infections
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance
Ministry of Health
Bishkek, Kyrgyzstan
Email: usenbaev_nurbolot@mail.ru

Abdykadyr Zhoroev, MD
Head, Department of Prevention and Surveillance of Infectious Diseases
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance
Ministry of Health
Bishkek, Kyrgyzstan
Email: zhoroev_1969@mail.ru

Dinagul Otorbaeva, MD
Head, Department of Prevention and Surveillance of Infectious Diseases
Department of Disease Prevention and State Sanitary and Epidemiological Surveillance
Ministry of Health
Bishkek, Kyrgyzstan
Email: d_otorbaeva@mail.ru

Kaliya Kasymbekova, PhD
Professor and Candidate of Medical Sciences
Head, Center of Microbiological and Molecular Genetic Investigations
Department of Disease Prevention and Sanitary Inspection
Ministry of Health
Bishkek, Kyrgyzstan
Email: kasymbekova@list.ru

REPUBLIC OF MOLDOVA

Radu Cojocaru, MD, PhD
Program Manager
Deputy Director, Department for Laboratory Activity Preparedness and Response
National Centre of Public Health
Chisinau, Republic of Moldova
Email: cphm_md@yahoo.com

Angelina Ursu, MD, MPH
Executive Coordinator
Avian Influenza Control/Human Pandemic Preparedness and Response
National Centre of Public Health
Chisinau, Republic of Moldova
Email: cphm_md@yahoo.com

Mihail Pisla, MD, PhD
General Director
National Centre of Public Health
Chisinau, Republic of Moldova
Email: director@cnsp.md

Stela Gheorghita, MD, PhD
Epidemiology Coordinator
Deputy Director, Department for Surveillance of Infectious Diseases
National Centre of Public Health
Chisinau, Republic of Moldova
Email: sgheorghita@cnsp.md

Igor Spinu, MD, PhD
Network Coordinator
Department for Influenza Surveillance
National Centre of Public Health
Chisinau, Republic of Moldova
Email: ispinu@cnsp.md

Veronica Eder, Biol
Laboratory Coordinator
Department for Influenza Surveillance
National Centre of Public Health
Chisinau, Republic of Moldova
Email: influenza@cnsp.md

Constantin Spinu, MD, PhD
WHO Focal Point, NIC Moldova
Deputy Director for Science
Department for Influenza Surveillance
National Centre of Public Health
Chisinau, Republic of Moldova
Email: cspinu@cnsp.md

RUSSIAN FEDERATION

O. I. Kiselev, Dr.Biol.Sci.
Director
Research Institute of Influenza
St. Petersburg, Russia
Email: office@influenza.spb.ru

A. A. Sominina, MD
Chief of the Laboratory
Research Institute of Influenza
St. Petersburg, Russia
Email: anna@influenza.spb.ru

M. P. Grudinin, PhD
Vice-Director of RII
Chief of the Laboratory
Research Institute of Influenza
St. Petersburg, Russia
Email: grudinin@influenza.spb.ru

M.Y. Eropkin, Dr.Biol.Sci.
Chief of the Laboratory
Research Institute of Influenza
St. Petersburg, Russia
Email: eropkin@influenza.spb.ru

L.M. Tsybalova, MD
Vice-Director of RII
Chief of the Laboratory
Research Institute of Influenza
St. Petersburg, Russia
Email: sovet@influenza.spb.ru

L.S. Karpova, MD
Chief of the Laboratory
Research Institute of Influenza
St. Petersburg, Russia
Email: epidlab@influenza.spb.ru

SECID

ALBANIA

Silvia Bino, MD, PhD
Associate Professor of Infectious Diseases
Head of Department, Influenza Coordinator
Office of Control of Infectious Diseases
SECID/Institute of Public Health
Tirana, Albania
Email: silviabino@gmail.com

Ledia Agolli, MSc
Business Official
SECID/Institute of Public Health
Tirana, Albania
Email: ledia.agolli@gmail.com

Jonilda Sulo, MPH
Project Assistant
SECID/Institute of Public Health
Tirana, Albania
Email: jonildasulo@gmail.com

Majlinda Kota (Dhimolea), PhD
Virologist
Influenza Laboratory
Institute of Public Health
Tirana, Albania
Email: mdhimolea@live.com

Artan Simaku, MD, MPH
Influenza Epidemiologist
Office of Control of Infectious Diseases
National Surveillance Center
Institute of Public Health
Tirana, Albania
Email: artan.simaku@gmail.com

BOSNIA AND HERZEGOVINA

Semra Cavalijuga, MD, PhD, Professor
Country Influenza Coordinator
Institute of Epidemiology
University of Sarajevo
Sarajevo, Bosnia and Herzegovina
Email: scavalijuga@gmail.com

Aida Pilav, MD, MPH
Influenza Surveillance Manager
Assistant Minister for Public Health, Monitoring and Evaluation
Ministry of Health
Sarajevo, Bosnia and Herzegovina
Email: aida.pilav@fmoh.gov.ba; idanap@bih.net.ba

Jelena Ravlija, MD, Assistant Professor
SARI Surveillance Coordinator
Department of Epidemiology
Federal Institute of Public Health
Mostar, Bosnia and Herzegovina
Email: j.ravija@zzjzzfbih.ba

Mirsada Mulaomerovic, MD
Epidemiologist, ILI/ARI and Bulletin
Department of Epidemiology
Federal Institute of Public Health
Sarajevo, Bosnia and Herzegovina
Email: m.mulaomerovic@zzjzfbih.ba

Amela Dedei Ljubovic, MD, PhD
Influenza Laboratory Focal Point
Head of OJ Clinical Microbiology, Clinical Center
University of Sarajevo
Sarajevo, Bosnia and Herzegovina
Email: amela.ljubovic@hotmail.com

Nina Rodic-Vukmir, MD, MSc
Influenza Surveillance Manager
Epidemiologist, Department of Epidemiology
Public Health Institute of Republika Srpska
Banja Luka, Republika Srpska, Bosnia & Herzegovina
Email: nina.rodic@gmail.com

Janja Bojanic, MD, PhD, Professor
Influenza Surveillance Training
Assistant Director for Medical Issues
Public Health Institute of Republika Srpska
Banja Luka, Republika Srpska, Bosnia & Herzegovina
Email: janjabojanic@gmail.com

Ljubica Jandric, MD, MSc
SARI Surveillance Coordinator
Head of Department of Epidemiology
Public Health Institute of Republika Srpska
Banja Luka, Republika Srpska, Bosnia & Herzegovina
Email: ljubica.jandric@gmail.com

Stanka Tomic, MD
Influenza Laboratory Focal Point
Department of Microbiology and Parasitology
Public Health Institute of Republika Srpska
Banja Luka, Republika Srpska, Bosnia & Herzegovina
Email: stanka.tomic72@gmail.com

Pava Dimitrjevic, MD
Influenza Laboratory Quality Assurance
Department of Epidemiology
Public Health Institute of Republika Srpska
Banja Luka, Republika Srpska, Bosnia & Herzegovina
Email: pdimitrijevic@gmail.com

BULGARIA

Angel Kunchev, MD
Chief State Health Inspector
Public Health Directorate
Ministry of Health
Sofia, Bulgaria
Email: akunchev@mh.government.bg

Neli Korsun, MD
Influenza Laboratory Focal Point
Influenza Laboratory
National Centre for Infectious and Parasitic Diseases
Sofia, Bulgaria
Email: rfilipova@mh.government.bg

CROATIA

Vladimir Drazhenovic, MD
Head, National Influenza Center
Croatian National Institute of Public Health
Zagreb, Croatia
Email: vladimir.drazenovic@hzjz.hr

Iva Pem Novosel, MD
Epidemiologist
Epidemiology Service
Croatian National Institute of Public Health
Zagreb, Croatia
Email: iva.pem-novosel@hzjz.hr

MACEDONIA

Shaban Memeti, MD, Associate Professor
Influenza Surveillance Manager/Director
Institute of Public Health
Skopje, Macedonia
Email: scavalijuga@gmail.com

Golubinka Bosevska, MD, MSc
Influenza Surveillance Manager
Influenza Laboratory Focal Point
Head, Virology and Molecular Diagnostics Laboratory
Institute of Public Health
Skopje, Macedonia
Email: golubinka@yahoo.com

Vladimir Mikik, MD
Epidemiologist, ILI/ARI Surveillance
Influenza Surveillance
Institute of Public Health
Skopje, Macedonia
Email: mikik.vladimir@gmail.com

Kristina Stavridis, MD
Epidemiologist, SARI Surveillance Coordinator
Epidemiology Service
Institute of Public Health
Skopje, Macedonia
Email: ketistavridis@gmail.com

MONTENEGRO

Zoran Vratnica, MD, MSc, DSc
Influenza Surveillance Manager
Director of the Centre for Medical Microbiology
Institute of Public Health
Podgorica, Montenegro
Email: zoran.vratnica@ijzcg.me

Bozidarka Rakocevic, MD, MSc
Influenza Surveillance Manager, ILI/ARI Surveillance
Head, Department of Infectious Diseases
Institute of Public Health
Podgorica, Montenegro
Email: bozidarka.rakocevic@ijzcg.me

Zeljka Zekovic, MD
Influenza Laboratory Quality Assurance
Head of Department of Virology and Serology
Institute of Public Health
Podgorica, Montenegro
Email: zeljka.zekovic@ijzcg.me

Sanja Medenica, MD, MSc
SARI Surveillance Coordinator
Director, Centre for Disease Control and Prevention
Institute of Public Health
Podgorica, Montenegro
Email: sanja.medenica@ijzcg.me

ROMANIA

Odette Popovici, MD
Epidemiologist, Influenza Surveillance
National Surveillance Center
Institute of Public Health
Bucharest, Romania
Email: odette.popvici@insp.gov.ro

Emilia Lupulesku, MD
Virologist
Virology Laboratory
Cantacuzino Institute
Bucharest, Romania
Email: elupulescu@cantacuzino.ro

SERBIA

Dragana Dimitrijevic, MD
Epidemiologist
Epidemiology Service
National Public Health Institute
Belgrade, Serbia
Email: dragana_dimitrijevic@batut.org.rs

Slavica Rakic Androic, MD
Virologist
Disease Control and Prevention
Torlak Institute
Belgrade, Serbia
Email: srakic@torlak.rs

*KOSOVO**

Arijana Kalaveshi, MD, MSc, DMs
Influenza Surveillance Manager, ILI/ARI Surveillance
Head, Communicable Diseases Center
National Institute of Public Health
Pristina, Kosovo
Email: ari_kala@yahoo.com

Xhevat Jakupi, MD, MSc
Influenza Laboratory Focal Point
Director, Department of Microbiology
National Institute of Public Health
Pristina, Kosovo
Email: xhevat.jakupi@niph-kosovo.org

Naser Ramadani, MD, MSc, Associate Professor
SARI Surveillance
Director
National Institute of Public Health
Pristina, Kosovo
Email: naser_ramadan@hotmail.com

UKRAINE

Viktor Marievsky, MD, PHD
Senior Project Advisor
L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases
National Academy of Medical Science of Ukraine
Kyiv, Ukraine
Email: ukrinfluenza@ukr.net

Alla Mironenko, MD, PhD
Head, Influenza Laboratory
L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases
National Academy of Medical Science of Ukraine
Kyiv, Ukraine
Email: miralla@ukr.net

Olga Onyshchenko, PhD
Influenza Surveillance Coordinator
L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases
National Academy of Medical Science of Ukraine
Kyiv, Ukraine
Email: otsvetkova@ukr.net

Olga Golubka, PhD
Regional Coordinator
L.V. Gromashevsky Institute of Epidemiology and Infectious Diseases
National Academy of Medical Science of Ukraine
Kyiv, Ukraine
Email: olg_golubka@ukr.net