





## CONTENT

| <u>History</u>               |
|------------------------------|
| Scientific activity          |
| Genomic Research Centre      |
| Manufacturing31              |
| <u>Laboratory tests</u>      |
| Clinical activity            |
| Educational activity         |
| Publishing activity          |
| Central Medical Clinic CMD69 |



# History

# HISTORY

| 1963 | The establishment of the Central Research Institute of Epidemiology  |
|------|--|
| 1967 | The establishment of the Clinical Department of Infectious Pathology, which was used as the basis for the Paediatric Clinical Department of Infectious Pathology in 1976   |
| 1971 | The Institute was headed by <b>V. I. Pokrovsky</b> , Member of the USSR Academy of Medical Sciences, Member of the Russian Academy of Medical Sciences, Member of the Russian Academy of Sciences, President of the Russian Academy of Medical Sciences from 1987 to 2006, Honourary Head of Epidemiology and Evidence-Based Medicine Department of I.M. Sechenov First MSMU                                   |
| 1987 | The creation of the Specialised Scientific Research Laboratory of epidemiology and AIDS prevention   |
| 1992 | Molecular Diagnostics of Infectious Diseases Laboratory was created. The development of molecular diagnostics in Russia started  |
| 1996 | The organization of the first «Molecular Diagnostics» conference by the Institute's staff  |
| 1998 | The creation of the Specialised Clinical Laboratory for Diagnostic and Treatment Control of Infectious Diseases  |
| 2000 | The development and authorisation of the first reagent kits for molecular diagnostics of socially significant infectious diseases in the Russian Federation  The molecular-biological diagnostic test systems production was launched  The establishment of the Federal Research and Methodological Centre for AIDS Prevention and Control   |
| 2001 | The creation of the Research and Production Laboratory for the Development and Production of Solutions for the Diagnostics of Human and Animal Infectious Diseases  The establishment of the All-Russian Training Centre for Molecular Diagnostics  The formation of the Institute's Scientific Advisory Clinical and Diagnostic Department, which later acquired the status of the CMD Central Medical Clinic |
| 2003 | The Molecular Diagnostics Centre of Infectious Diseases was established on the base of the Institute, which, since 2007, has been known as the Centre of Molecular Diagnostics (CMD)   |
|      |  |

#### HISTORY

The launch of 8 All-Russian Reference Centres for monitoring socially significant infections: viral hepatitis, hospital-acquired infections, salmonellosis, acute intestinal infections, HIV and HIV-associated infections, 2008 bacterial meningitis, upper and lower respiratory tract infections and sexually transmitted diseases The foundation of the National Scientific Society of Infection Disease Specialists by the staff of the Institute The creation of the Research and Methodological Centre for Immunoprophylaxis of Rospotrebnadzor The launch of the Institute's Laboratory and Production Complex The appointment of professor V. G. Akimkin, Member of the Russian Academy of Sciences, as Director of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing 2018 The opening of the International Educational Centre for the Study of Biological Safety Issues at the Far East Federal University The establishment of the Reference Centre on the Monitoring of Antibiotic Residues in Food Ingredients and Products The Institute became a part of the World-Class Genomic Research Center for Biological Safety and Technological Self-Sufficiency Ensuring under the Federal Scientific and Technical Programme for the Development of Genetic Technologies The production of a high-accuracy test system for the detection of SARS-CoV-2 RNA was launched (among the first ones in Russia) The Specialised Centre of AIDS Prevention and Control of Federal Budget Institute of Science 2020 «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing was commissioned The Institute was the first in Russia to develop and launch the production of a quantitative reagent kit for the assay of COVID-19 pathogen by RT-PCR The Institute was appointed as the center for the acquisition of data on the novel coronavirus infection (COVID-19) pathogen genome seguencing by the Russian Government The launch of the Experimental Biological Laboratory for the Conduct of Preclinical Studies of Anti-HIV Gene-Therapy Products 2021 The Institute was appointed as the Research Results Information Exchange Center of a new coronavirus infection (COVID-19) causative agent presence using the State Services portal by the Russian Government More than 3 million PCR studies have been performed to diagnose COVID-19 Obtained 3 international patents for the detection of ultra-low amounts of HIV DNA using the genome-editing methodW The creation of the reference center for the research of VZV infection

The institute became the ninth international reference center of the Food and Agriculture

Organization of the United Nations (FAO) in the world for antimicrobial resistance

6



# Scientific activity

#### **SCIENTIFIC UNITS**

I Laboratory for Healthcare-Related Infections

Laboratory for Epidemiology of Meningococcal Infection and Purulent Bacterial Meningitis

Laboratory for Clinical Microbiology and Human Microbial Ecology

Laboratory for Molecular Mechanisms of Antibiotic Resistance

| Genome Editing Laboratory

Laboratory for Epidemiology of Natural Focal Infections

Viral Hepatitis Laboratory

Laboratory for Molecular Diagnostics and Epidemiology of Reproductive Organ Infections Laboratory for Molecular Diagnostics and Epidemiology of Intestinal Infections

Laboratory for Diagnosis and Molecular Epidemiology of HIV

Laboratory for Immunological Prophylaxis

Laboratory for Molecular Diagnostics and Epidemiology of Respiratory Infections

Laboratory for Experimental Pharmacology

Laboratory for Molecular Microbiology and Epidemiology of Mycobacterial Infections

| Genomics Research Laboratory

Laboratory for Molecular Methods for Analysis of Genetic Polymorphisms



#### SCIENTIFIC UNITS

- I Clinical Department of Infectious Pathology
- | Bioinformatics Science Team
- Science Team for Genetic Engineering and Biotechnology
- | Science Team for Proteomic Analysis
- Science Team for the Development of new Methods of Zoonotic Infections Diagnostics
- Scientific Team for the Development of New Diagnostic Methods for Opportunistic and Papillomavirus Infections

- Specialized Scientific Research Department for AIDS Prevention and Control
- Science Team for the Development of New Methods of Zoonotic Diseases Diagnostics
- Science Team for the Development of New Molecular Biological Technologies
- Science Team for the Development of Experimental Models
- Science Team for Mathematical Methods and Epidemiological Forecasting
- | Genomic Technology Science Team



#### SCIENTIFIC AND METHODOLOGICAL CENTER AND REFERENCE

I Scientific and Methodological Center for Immunological Prophylaxis of Rospotrebnadzor

#### REFERENCE CENTRES OF ROSPOTREBNADZOR

- 1. HIV Monitoring Reference Center
- 2. Bacterial Meningitis Monitoring Reference Center
- 3. Reference Centre on Monitoring of Salmonellosis
- 4. Viral Hepatitis Monitoring Reference Center
- 5. Reference Center for Monitoring Acute Intestinal Infections
- 6. Reference Center for Monitoring Healthcare-Related Infections
- 7. Reference Center for Monitoring of Upper and Lower Respiratory Tract Infections
- 8. Reference Center for Monitoring of Sexually Transmitted Infections
- 9. Reference Center for Monitoring the Residual Amount of Antibiotics and Antibiotic Resistance of Bacteria in Food Raw Materials and Food Products
- 10. Reference Center for the Study of Varicella-Zoster Virus Infection



# SCIENCE IN FIGURES



Institute employees



task groups of the Academic Council of Rospotrebnadzor



members of the Russian Academy of Sciences



scientific publications annually (including 20 papers in cooperation with foreign authors)



Candidates and Doctors of Sciences



researchers - they are young scientists



#### PRIORITY RESEARCH AREAS

Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing is the leading state research institute in Russia dealing with epidemiology, infectious pathology and the development of diagnostic methods for socially significant infectious diseases

# THEMATIC STRUCTURE OF RESEARCH PROJECTS CARRIED OUT AS PART OF ROSPOTREBNADZOR'S SECTORAL RESEARCH PROGRAMME FOR 2021–2025:



#### **Epidemiological Surveillance and Diagnostics**

- 1. Epidemiological surveillance of the effectiveness of the measures aimed at reducing the incidence, morbidity and mortality of HIV infection and associated diseases
- 2. Development of new methods and approaches for improving laboratory diagnostics and epidemiological surveillance over HIV infection
- 3. Epidemiological surveillance of infections caused by the human immunodeficiency and hepatitis B and C viruses and development of epidemic control measures aimed at preventing the healthcare-associated spread of blood-borne infections
- 4. Improvement of the viral hepatitis epidemiological surveillance system
- 5. Risk-focused epidemiological surveillance and prevention of healthcare-associated infections in hospitals of various specialisation
- **6.** Studying genetic markers of microbial antibiotic resistance in clinical practice and in ensuring food safety
- 7. Epidemiological and socio-economic assessment of the effectiveness of expanding the national preventive immunisation schedule
- 8. Improvement of molecular-biological monitoring of respiratory infection pathogens, development of new methods and technologies for theirs laboratory diagnostics and prevention
- 9. Epidemiological monitoring of meningococcal infection and purulent bacterial meningitis, including the assessment of epidemiological risks and hazards using state-of-the-art methods for the detection and identification of relevant pathogens

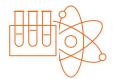
#### PRIORITY RESEARCH AREAS

- 10. Improvement of the methods for epidemiological monitoring of opportunistic and papillomavirus infections using new diagnostic and comprehensive schemes for pathogen detection
- 11. Clinical and epidemiological characterisation of infectious gastrointestinal pathology and associated conditions
- 12. Clinical and pathological justification and improvement of therapeutic programmes aimed at maintaining and restoring the human microbiome in response to common infectious diseases
- **13.** Scientific and methodological justification of the system for epidemiological control and prevention of diseases caused by SARS-like coronaviruses



#### **Zoonotic Infections**

- 14. Scientific and methodological support for epidemiological surveillance of zoonotic infections, including transmissible ones, using new technologies and methods of molecular diagnostics, genotyping of pathogens and their transmitters
- **15.** Improvement of the system of epidemiological monitoring of bacterial zoonotic transmissible infections (tick-borne relapsing fevers, tick-borne spotted fever rickettsioses, coxiellosis and bartonellosis) in the Russian Federation



#### **Innovations**

- **16.** Development and creation of experimental prototypes of diagnostic kits based on genetic technologies
- 17. Studying genetic predisposition to multifactorial diseases



#### **Immunopathogenesis**

18. Clinical and epidemiological, immunopathogenetic aspects of the current course of acute and chronic infections in children and adults, improvement of patient management tactics and disease prevention

#### **KEY ACHIEVEMENTS**

#### The Technology of Genetic Editing Elements Application

To address epidemiological issues of deciphering outbreaks of infectious diseases, finding and identifying the causative agent, as well as detecting specific bacterial genes, a technology has been developed for applying elements of the CRISPR/Cas system genetic editing. The solution can be used to create methods for diagnosing newly emerging infections

#### Detection of Pseudomonas aeruginosa antibiotic resistance gene

TThe technology is based on the application of the CRISPR/Cas system and is designed to combat bacterial pathogens that threaten human health. The new system was included by Rospatent (RF patent No. 2743861) in the top five medical inventions in Russia following the results of Q1 2021.

#### **Detection of John Cunningham virus DNA**

A method for producing the preparation of the CRISPR/Cas ribonucleoprotein complex can be used to detect the genome of the John Cunningham virus (JCpyV) in ultra-low concentrations. Patent of the Russian Federation No. 2747819 was ranked 3rd in the winners list of the Rospatent nomination "Top 100 Best Inventions of Russia" and included in the "Prospective Inventions" database

#### **Next Generation Sequencing (NGS) Techniques**

New primer panels have been created, including 20 pairs of primers for amplifying the S-protein gene and 98 pairs for amplifying the complete SARS-CoV-2 genome

- PARuS algorithm for genotyping both genomic and fragmented sequencing results -System for semiautomatic analysis of SARS-CoV-2 fragmented sequencing results with visualization of
- GEM:CoV-2 genome, which will allow for detailed analysis of chromatograms

Primer panels allow skipping the expensive ligation stage during sample preparation, and, together with the conveyor for their maintenance, allow obtaining genome-wide or fragmented sequences of the SARS-CoV-2 virus in the shortest possible time. Currently, they are applied to monitor strains of the causative agent of COVID-19 at the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor, all data obtained are uploaded to the **VGARus platform** 

The creation of the patent service and the stimulation of innovative solutions have resulted in an increased number of registered intellectual property rights authored by employees of the Institute. In 2021, 20 patents were granted, including 6 internationally registered inventions and 7 patents with regard to SARS-CoV-2 research. 37 computer programs and 9 databases have been registered, including those relating to the new coronavirus infection (COVID-19)

#### **KEY ACHIEVEMENTS**

The Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor is carrying out an extensive work on ensuring sanitary and epidemiological well-being in relation to a number of socially significant infectious diseases. With the direct participation of the Institute's specialists, a national system of epidemiological surveillance of HIV infection was developed, as well as a system for monitoring and evaluating activities on countering the HIV spread in Russia

The molecular genetic characteristics of HIV are being studied, and the system for monitoring the circulation of resistant HIV strains, diagnosis and prevention of the antiretroviral drug resistance spread is being improved:

# National Database of HIV Resilience



# AmpliSens® Resist Software



#### TO ANTIRETROVIRAL DRUGS

Allows identifying new genetically resistant HIV variants and developing drugs for effective treatment, as well as provides actual monitoring of HIV resistance spread trends

Allows adjusting treatment regimens for HIV patients and analyzing drug resistance of: HIV-1, hepatitis B virus, and hepatitis C virus

The Institute has developed and put into production 41 domestic test systems for the diagnosis of HIV and comorbid conditions and 3 sample panels for laboratory quality control diagnostics that are not inferior in characteristics to foreign analogues and have a significantly lower cost

The "Hepatitis" analytical platform for collecting, systematizing, and analyzing information received by Viral Hepatitis Monitoring Reference Center of the Institute is in the process of development and testing. Preparations are underway for the launching a federal e-register of patients with viral hepatitis B, C and Delta in the territory of the Russian Federation

#### CONTRIBUTION TO THE FIGHT AGAINST THE COVID-19 PANDEMIC

In order to ensure the sanitary and epidemiological well-being of the Russian Federation population in the face of the spread of new coronavirus infection (COVID-19), the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor has been actively involved in conducting various anti-epidemic measures aimed at combating COVID-19, simulating the development of the epidemiological situation in Russia

#### Method for Determining Three Lines of the OMICRON Strain of SARS-CoV-2 Virus

The new solution identifies all gene variants of the Omicron strain. When determining one of the key mutations, N501Y, it became possible to differentiate the BA.1 and BA.2 lines by three mutations: del69-70, del143-145, and ins214

#### New Classification of COVID-19 Clinical Forms

A classification of the new coronavirus infection (COVID-19) clinical forms has been developed, and a number of clinical features of the course of disease has been described

#### **SARS-CoV-2 RNA Detection Diagnostic Kits**

The new kits made it possible to drastically reduce the testing time without increasing the cost and buying additional equipment:

- AmpliSens® SARS-CoV-2-N501Y-IT
- AmpliSens® SC2-IT

- AmpliSens® Cov-Bat-FL
- AmpliSens® COVID-19-FL
- AmpliSens® SARS-CoV-2-IT





#### CONTRIBUTION TO THE FIGHT AGAINST THE COVID-19 PANDEMIC

The Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor monitors the evolution of the novel coronavirus infection (COVID-19) causative agent in the territory of the Russian Federation and the CIS countries as part of Decree of the Government of the Russian Federation dated March 23, 2021 No. 448 "On Approval of Temporary Procedure for the data provision on decoding the genome of the novel coronavirus infection (COVID-19) causative agent"



#### **VGARus (Virus Genome Aggregator of Russia)**

For the purpose of epidemiological surveillance, a domestic platform has been created to collect data on the genome of SARS-CoV-2 virus strains circulating in the territory of the Russian Federation. More than 130,000 genome sequences have been recorded in the database

Currently, regional institutions of Rospotrebnadzor transfer samples to the Institute for sequencing without the use of hard copy. The platform allows for generating weekly epidemiological reports for each constituent entity of the Russian Federation, analyzing the circulation of SARS-CoV-2 gene variants throughout country's territory



#### **Analytical Platform on the New Coronavirus Infection (COVID-19)**

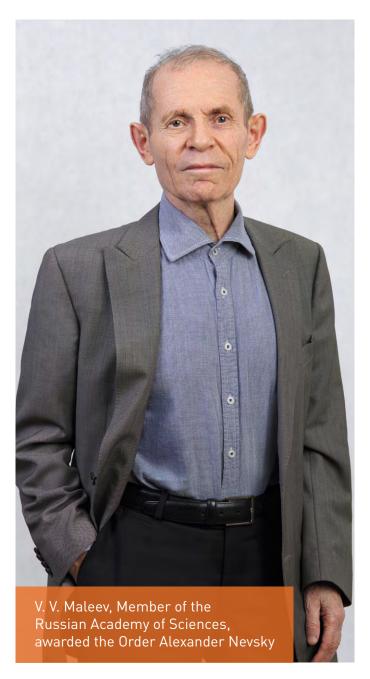
A modern tool has been developed for conducting a prompt and retrospective analysis of the epidemiological situation in the territory of both individual constituent entities of the Russian Federation and the country as a whole



#### Rospotrebnadzor Integration Platform

In order to obtain, accumulate and process data on PCR diagnostics of the novel coronavirus infection (COVID-19) and transfer it to the Public Services Portal of the Russian Federation, the integration platform was created. Based on Decree of the Government of the Russian Federation dated March 27, 2021 No. 452 "On Obtaining COVID-19 Test Results through the Public Services Portal," more than 100 million test results were transferred to the Unified Portal of Public Services. Integration with the "Travel without COVID-19" mobile app has been provided

### ACCOMPLISHMENTS OF THE INSTITUTE'S EMPLOYEES



For a major contribution to the organisation of activities aimed at preventing and controlling the spread of the novel coronavirus infection (COVID-19), employees of the Institute have been awarded:

- Pirogov Order 16 employees of the Institute
- Medal of Luke of the Crimea 5 employees of the Institute
- Order for Merit to the Fatherland II degree 1 employee of the Institute



#### ACCOMPLISHMENTS OF THE INSTITUTE'S EMPLOYEES

**6 award winners** of the State Award of the USSR and the State Award of the Russian Federation in Science and Technology:

- "For the development and implementation of new methods for pseudotuberculosis diagnostics, prevention and treatment", 1989
- "For a series of papers in etiological diagnostics, clinical symptoms and etiological therapy of previously unknown infectious diseases [mycoplasma pneumoniae infection, legionellosis, pneumocystosis, rotavirus infection]", 1997
- "For the development of a strategy for obtaining reverse transcriptase inhibitors of the human immunodeficiency virus and the creation of phosphazide a new medicinal product for human use", 2000

# **21 award winners** of the Award of the Government of the Russian Federation in Science and Technology:

- "For the development of treatment methods for cholera and other acute intestinal infections", 1996
- "For the development of the peptide medicinal product 'Imunofan' and its practical use in pathogenetic therapy", 1999
- "For the development of technology, organisation of industrial production and implementation into medical practice of finished dosage forms of the new domestic medicinal product Cycloferon", 2003
- "For ensuring the biological safety of the air in various spheres of human life through the use of an innovative domestic disinfection technology involving exposure to electrostatic fields [Stream]", 2017

### 2 award winners of the Award of the Government of the Russian Federation in Education:

 "For a set of interdisciplinary textbooks 'Infectious Diseases and Epidemiology' (3 textbooks) for students of General Therapy and Nursing Care Departments of medical universities and for students of medical schools and colleges", 2009

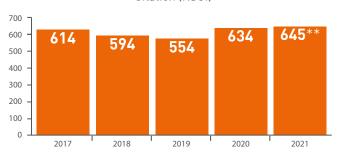
### 1 award winner of the Award of the City of Moscow in Medicine:

• "For the development and implementation of new diagnostic and therapeutic methods in dermatovenereology in practical healthcare", 2017

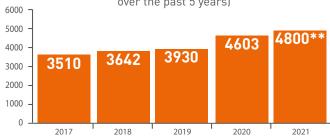
#### SCIENTOMETRIC PARAMETERS

The institute's employees are among the Top-100 most cited Russian scientists in the category "Medicine and Healthcare"\*

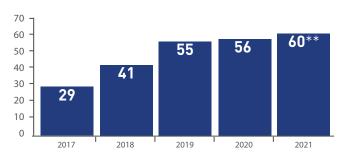
Publications authored by the Institute's employees indexed in the Russian Information and Analytical System of Science Citation (RSCI)



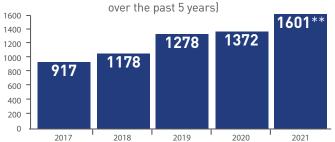
Total citation rate of publications authored by the Institute's employees in the RSCI (papers published over the past 5 years)



Publications authored by the Institute's employees indexed in Web of Science



Total citation rate of publications authored by the Institute's employees in Web of Science and Scopus (papers published



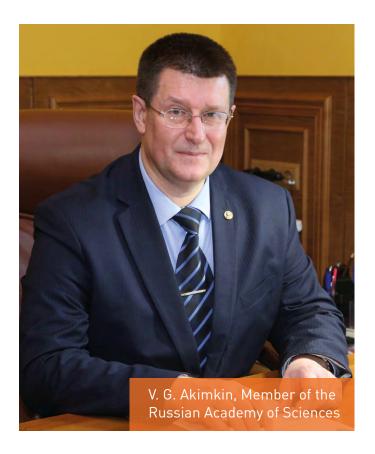
96 - the h-index

 $240^{**}$  – the total impact factor of the journals that have published articles authored by the

Institute's employees in the international systems WoS, Scopus

**1,297**\*\* – the citation rate of publications in Web of Science

#### THESIS BOARD



The Dissertation Committee chaired by **Vasily Gennadievich Akimkin**, Director of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing, Doctor of Medical Sciences, Professor, Honoured Physician of the Russian Federation, holder of the Award of the Government of the Russian Federation in Science and Technology, Member of the Russian Academy of Sciences

Thesis Defence Board D 208.114.01 was established in Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing by Order of the Higher Attestation Commission under the Ministry of Science and Higher Education of the Russian Federation No. 2059-2007 dated 5 October 2009

The Board admits for defence Candidate's and Doctoral Theses in the following specialities: 14.02.02 **Epidemiology** (medical sciences) and 14.01.09 **Infectious Diseases** (medical sciences)



**15 to 20** Candidate's and Doctoral Theses are defended annually, out of



which **5 to 7** are
Theses of the Institute's employees

#### FEDERAL PROGRAMMES

The Institute is actively involved in: the implementation of the May Presidential Decree on National Goals and Strategic Objectives for the Development of Russia until 2024; the "Ensuring Chemical and Biological Safety of the Russian Federation" state program; conducting research and development work within the framework of the Federal Targeted and International Programs; and fulfilling annual state orders for the supply of modern diagnostic products under state contracts and civil law contracts

In particular, it is engaged in implementation of Decree No. 1875 of the Government of the Russian Federation dated December 27, 2019, as part of the federal project "Development of Advanced Infrastructure for Conducting Research and Development in the Russian Federation" of the "Science" national project



#### FEDERAL PROGRAMMES

As part of the implementation of the "Ensuring Chemical and Biological Safety of the Russian Federation" State Program and the strategy of the Federal Project "National Sanitary Shield — safety for health", the Institute conducts research, development, and manufacturing application of new assay kits developed using the LAMP technology

In accordance with Decree No. 2535-r of the Government of the Russian Federation dated October 26, 2019, the World-Class Genomic Research Center for Biological Safety and Technological Independence was established within the "Biological Safety and Ensuring Technological Independence" area of the Federal Scientific and Technology Program for the Development of Genetic Technologies for 2019—2027



### INTERNATIONAL SCIENTIFIC ACTIVITY

- Scientific and practical assistance to foreign countries in terms of epidemiology, diagnostics, treatment, and prevention of COVID-19
- Activities to strengthen national laboratories in Eastern Europe, Transcaucasia, and Central Asia to combat the spread of antimicrobial resistance
- Scientific cooperation with the Republic of Guinea and the Socialist Republic of Vietnam to combat extremely dangerous and natural focal diseases
- Cooperation in the field of prevention of infections associated with the provision of medical care with leading institutions in Eastern Europe, Central Asia and Japan
- Work as part of WHO international teams:

on the development and analysis of the WHO COVID-19 Clinical Platform for Global characterization and management analytical database

on updating A living **WHO guideline on drugs for COVID-19** for patients with COVID-19

in the WHO COVID-19 Clinical Network Knowledge Exchange

on updating the Clinical Management of COVID-19: Interim Guidance



#### INTERNATIONAL SCIENTIFIC ACTIVITY

- International cooperation with UN and WHO agencies in terms of HIV/AIDS prevention in Eastern Europe and Central Asia
- Cooperation with the World Bank in order to develop the "Knowledge Platform" in the area of "Combating the spread of antibiotic resistance of microorganisms in food products and food raw materials"
- Continuing collaboration with the Food and Agriculture Organization (FAO) of the United Nations
  within the agreement on ensuring the "Assessment of National Capabilities and Laboratory Support
  for Surveillance of Antimicrobial resistance (AMR) in Armenia, Belarus, Kazakhstan, Kyrgyzstan, and
  Tajikistan (Using the ATLASS Tool for Assessing Laboratories and AMR Surveillance Systems of the
  FAO)"
- Specialists from the countries of the Association of Southeast Asian Nations (ASEAN) are trained in the Institute's training facilities to apply modern molecular genetics technologies to ensure the biological safety of the population





# Genomic Research Centre

#### GENOMIC RESEARCH CENTRE

Based on Decree No. 680 of the President of the Russian Federation dated November 28, 2018 "On the Development of Genetic Technologies in the Russian Federation" and Decree No. 479 of the Government of the Russian Federation dated April 22, 2019 "On Approval of the Federal Scientific and Technology Program for the Development of Genetic Technologies for 2019—2027", the **World-Class Genomic Research Center for Biological Safety and Technological Independence** was established

#### AREAS OF SCIENTIFIC RESEARCH

- Development and implementation of genetic technologies for the creation of a new generation candidate gene therapy medications
- Development and implementation of genetic technologies fto create prototypes of a new generation diagnostic products
- Creation of a domestic platform for the production of CRISPR/Cas system components

In 2021, new approaches were developed to detect single copies of the antibiotic resistance gene (Metallo- beta-Lactamase) of *Pseudomonas pneumoniae*, John Cunningham virus DNA, and SARS-CoV-2 virus RNA in a reaction after pre-amplification

Methods developed based on the CRISPR/Cas targeted genome editing system have been patented. New technologies make it possible to detect single nucleic acid copies of the infectious disease agent genome after preliminary amplification in DNA/RNA preparations isolated from biological samples

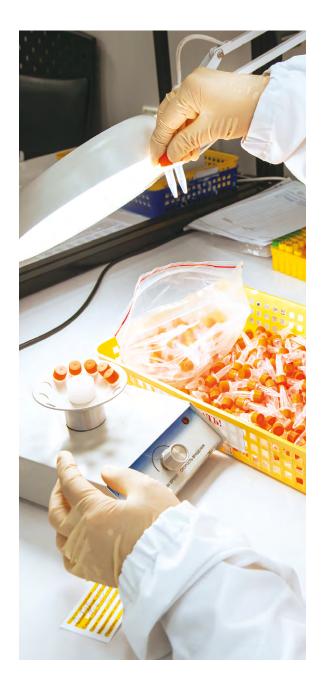
Currently, in Russia there are no registered highly sensitive genomic editing technology-based means of field and laboratory indication and identification of pathogenic biological agents. The developed technologies can be used to develop highly sensitive and high-tech experimental prototypes of new generation diagnostic systems based on genetic technologies to improve methods for diagnosing infectious diseases, including the development of methods for diagnosing existing and newly emerging infections

Employees of the Institute received 6 international and 9 Russian patents for inventions, and the research results were published in top-rated international journals. The monograph "Genetic Technologies" has been published in Russian and English



# Manufacturing

#### RESEARCH AND PRODUCTION COMPLEX



The Research and Production Laboratory (RPL) was established in 2001 by Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing to improve and develop new diagnostic methods for socially significant infections

The primary goal of the Institute is the integration of innovative proprietary developments and advanced methods of molecular diagnostics into the system of sanitary and epidemiological surveillance

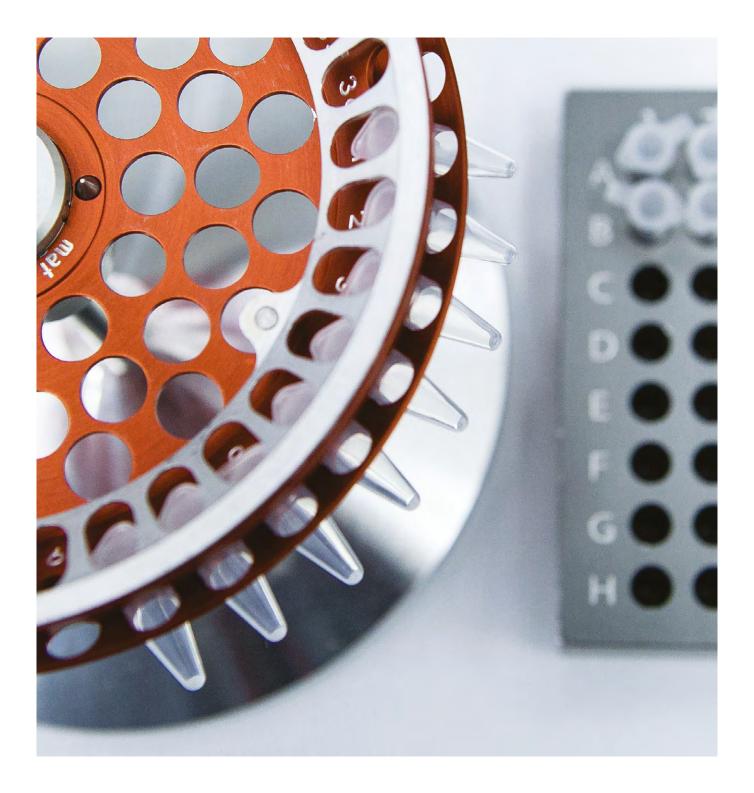
#### RESEARCH AND PRODUCTION COMPLEX

Full-cycle production

**20** years of experience in manufacturing medical devices for *in vitro* diagnostics

#### Functional areas:

- Enzyme production area
- Nucleic acid isolation reagents production area
- Upper and lower mixtures production area
- Selective culture media production area
- Biochip production area
- Lyophilised sample area
- Control sample and panel area
- Dispensing, labelling and content packaging area



#### **EQUIPMENT**

State-of-the-art processing lines for automatic filling and closing of reagents into vials and microtubes

Processing lines for automatic labelling of manufactured products

Reactor system for automating the preparation of reagent solutions

Fermenter system for obtaining biomass of microorganisms with desired properties

State-of-the-art freeze dryers

Refrigeration state-of-the-art complex and deep-freezing equipment

Processing line of industrial plotters for printing immunochips on various platforms

Modern chromatographic equipment complex, modern centrifuges, etc





#### THE RESEARCH AND PRODUCTION COMPLEX TODAY



As part of the Federal Targeted Investment Program (FAIP), the construction and commissioning of the largest laboratory and production facility in Russia, with a total warehouses area of about 5,000 m², was completed in 2015

The commissioning of new production facilities allows the production of innovative domestic products in the field of molecular diagnostics to be scaled up to 800,000 reagent kits per year

# DIAGNOSTICS OF SO CIALLY SIGNIFICANT DISEASES

The Institute produces reagent kits to diagnose infectious and non-infectious human diseases:

- HIV and HIV-associated infections
- Viral hepatitis
- Reproductive organ infections
- Papillomavirus infections
- TORCH-infections
- Herpesvirus infections
- Purulent septic infections
- Respiratory tract infections
- Intestinal infections
- Neuroinfections
- Particularly dangerous and zoonotic infections
- Tuberculosis
- Parasitic infestation
- Genetic markers of antibiotic resistance
- Genetic polymorphisms

### THE RESEARCH AND PRODUCTION COMPLEX TODAY

All the production process areas are automated and equipped with the best, state-of-the-art foreign and domestic equipment

Full automation of the filling, fermentation and labelling processes using state-oftheart processing equipment from Germany, Denmark, Great Britain, Italy, Spain and the USA ensures the quality of the products remains consistently high

A Quality Management System certified by a European notified body is implemented through the production process

Due to its wide range of products and practical and research facilities, Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing possesses a production process that is unique in our country

At present, the Institute is developing methods for molecular epidemiology of infectious diseases that are indispensable for decoding all manifestations of the epidemic process and is also working on the creation of modern diagnostic products and vaccines





#### THE RESEARCH AND PRODUCTION COMPLEX TODAY

State-of-the-art diagnostics of infectious diseases is the first step towards their successful treatment. Currently, the Institute is developing reagent kits for the detection of antibiotic resistance genes in various microorganisms, mutations causing HIV resistance to antiretroviral agents, HBV and HCV resistance to antiviral agents and genetic polymorphisms in human genes

Today, Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing is one of the largest high-tech import-substituting biotechnological production facilities in Russia manufacturing state-of-the-art diagnostic products

The use of the high-quality products manufactured by the FInstitute as part of the import substitution policy of industrialisation currently being implemented in our country makes it possible to completely substitute similar imported products in all areas in which they are used in Russia thanks to new production capacities, ensure significant savings for the state budget during the annual purchasing of products for national and local needs and enhance the level of biological safety in the country

The diagnostic products are of high quality, not inferior to those of foreign manufacturers while remaining cost-effective for consumers

#### **CUSTOMERS**

The products of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing are widely used in the clinical diagnostic laboratories of the Ministry of Health of the Russian Federation; the institutions of the Federal Penitentiary Service, the Federal Medical-Biological Agency and private healthcare centres; blood bank institutions; Centres for AIDS Prevention and Control and Rospotrebnadzor's institutions



### PRODUCTION IN FIGURES

## PRACTICAL RESULTS



have been obtained in the execution of the National and Federal Targeted Programmes on Developing the Pharmaceutical and Medical Industries

## RUSSIAN STATE-OWNED ENTERPRISE,



#### HOLDING A CERTIFICATE OF CONFORMITY

of reagent kits as per Directive 98/79/EC of the European Parliament and of the Council on *in vitro* Diagnostic Medical Devices, which allows labelling of the devices produced with the CE marking

## >100



using reagent kits developed by the Institute



>3000



## CLINICAL DIAGNOSTIC LABORATORIES, MEDICAL CENTRES

and state institutions apply the results of the Institute's research and development in their daily operations

>200

>40

reagent kits v

veterinary test systems



HAVE BEEN AUTHORISED/ CERTIFIED FOR THE DIAGNOSTICS

of various human and animal diseases



#### **NAMES**

of reagent kits for in vitro diagnostics

## PRODUCTION IN FIGURES



#### **TOTAL AREA**

of the laboratory and production building



#### **PRODUCT ITEMS**

are produced annually



of reagent kits have been AUTHORISED ABROAD



Quality Management System conforms to

GOST ISO 13485-2017 и ISO 13485:2016





PROPRIETARY REGISTERED

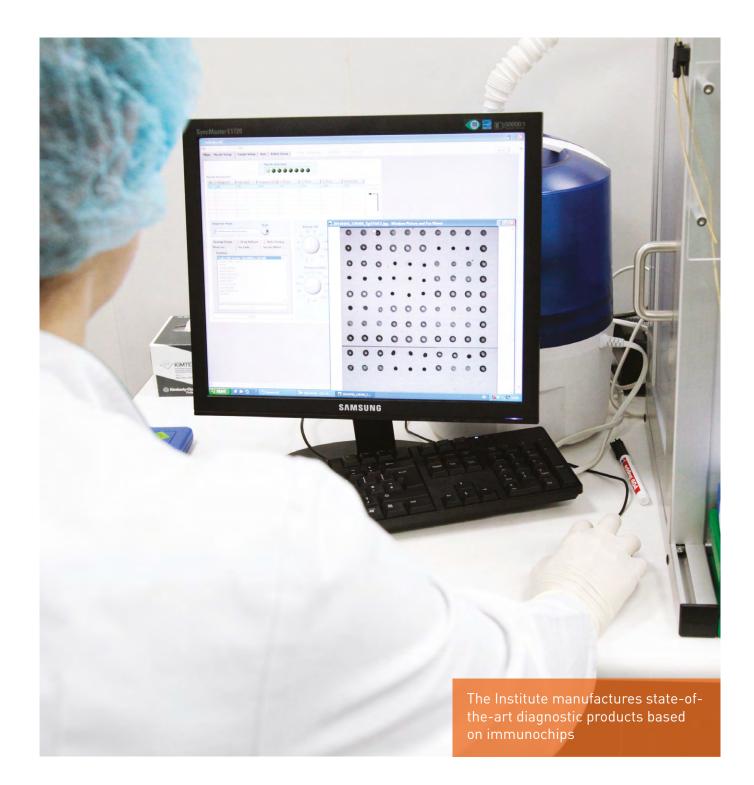
trademarks

## Export to 50

#### **COUNTRIES WORLDWIDE**

of the products manufactured by the Institute's Research and Production Complex





### **ACCOMPLISHMENTS AND RESULTS**

The Institute's highly experienced staff and advanced scientific facilities allow for a quick and effective response to the emergence of an epidemic. The Institute develops new diagnostic kits that are promptly put to use in clinical and laboratory healthcare practice and make it possible to prevent the occurrence of dangerous diseases in a timely manner

Diagnostic kits manufactured by Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing have been authorised for use in foreign countries

A range of unique molecular biological products has been implemented in the practice of healthcare and sanitary and epidemiological surveillance to diagnose the most important socially significant and new zoonotic infectious diseases based on various amplification and sequencing methods, including next-generation sequencing technologies (NGS). New diagnostic products based on immunochips are being developed. An immunochip for the serological diagnostics of tick-borne borreliosis has been authorised and is already used in clinical and laboratory practice. A whole range of new immunochips intended for the diagnostics of HIV infection, parenteral hepatitis and syphilis, TORCHinfections and particularly dangerous and zoonotic infections is currently being put into production



#### MANUFACTURE IN TERMS OF THE COVID-19 PANDEMIC



Since the start of the pandemic, the production output of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing has amounted to more than 1,900,000 reagent kits for the diagnostics of various infectious diseases, which equates to about 215,000,000 determinations. This includes the production of reagent kits for more than 41,000,000 tests for the detection of SARS-CoV-2 RNA, reagent kits for nucleic acid extraction for more than 60,500,000 tests and reagent kits for obtaining cDNA on a DNA matrix for more than 47,500,000 tests\*

Most PCR tests for the detection of SARS-CoV-2 RNA in Russia have been performed using reagent kits developed and manufactured by Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing

In March 2020, we promptly renewed authorisation for the **AmpliSens® Cov-Bat-FL** reagent kit with an expanded scope for the detection of the RNA of coronaviruses that cause severe respiratory infections: MERS-Cov (Middle East respiratory syndrome coronavirus) and SARS-Cov-related viruses (Severe acute respiratory syndrome coronavirus, Severe acute respiratory syndrome coronavirus-2), using the real-time polymerase chain reaction method (Real-Time PCR)

The Institute was the first in Russia to launch the production of a reagent kit for the assay of COVID-19 pathogen by RTPCR – **AmpliSens® COVID-19-FL** 

## MANUFACTURE IN TERMS OF THE COVID-19 PANDEMIC

The Institute has started to manufacture the **AmpliSense® SARS-CoV-2-IT** assay kits which make it possible to detect SARS-CoV-2 RNA by the loop-mediated isothermal amplification method (LAMP)

**Every fifth study** by PCR method for the determination of SARS-CoV-2 RNA in Russia was performed using the **AmpliSense® Cov-Bat-FL** assay kit, **every second** one was performed using the assay kits for nucleic acid extraction and RNA reverse transcription (RIBO-PREP and REVERTA-L) developed and manufactured at the Institute

To implement measures to prevent the spread of the novel coronavirus infection (COVID-19), assay kits were supplied to more than 40 countries:

- by Decree No. 863 of the Government of the Russian Federation dated April 3, 2020 4,980 "RIBO-PREP" and "REVERTA-L" assay kits\* for 498,000 tests
- by Decree No. 1280 of the Government of the Russian Federation dated May 15, 2020 10,000 "RIBO-PREP" and "REVERTA-L" assay kits\* for 1,000,000 tests
- by Decree No. 3201 of the Government of the Russian Federation dated December 3, 2020 5,000 "AmpliSense® Cov-Bat-FL" assay kits and 10,000 "RIBO-PREP" and "REVERTA-L" assay kits for 1,000,000 tests
- by Decree No. 1964 of the Government of the Russian Federation dated July 16, 2021 2,500 "AmpliSense® Cov-Bat-FL" assay kits and 5,000 "RIBO-PREP" and "REVERTA-L" assay kits for 500,000 tests
- by Decree No. TG-P12-18062 of the Government of the Russian Federation dated December 9, 2021 5,740 **AmpliSense**® assay kits for diagnosis of various infectious diseases
- by Decree No. 318 of the Government of the Russian Federation dated February 25, 2022 "AmpliSense" COVID-19-FL" assay kits for 395,000 tests\*

While implementing Decree No. 507 of the Government of the Russian Federation dated April 15, 2020, and No. 1065 dated 15.06.2022, and in accordance with Decrees No. 1659 dated June 23, 2020, and No. 1339 dated May 24, 2021 of the Government of the Russian Federation, the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor supplies **AmpliSense**® reagent kits to the subjects of the Russian Federation for 24,379,100 tests\* to conduct a complete PCR analysis and detect the novel coronavirus infection (COVID-19) causative agent

In accordance with Decree of the Government of the Russian Federation No. 213 dated February 10, 2022, the Institute manufactures and delivers to the Russian regions **reagents needed to determine mutations of the SARS-CoV-2 virus** (Omicron version) – N501Y, del69-70, Ins214EPE, del143-145, L452R, and P681R – in laboratory conditions

\* Data as of July 31, 2022



## Laboratory tests

Laboratory and Diagnostic Center of the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor is one of the recognized leaders in the market of laboratory services and molecular technology in Russia. It was among the first to perform investigations applying modern molecular genetics methods, such as real time PCR, NASBA, sequencing, pyrosequencing, and hybridization methods

Laboratories are fitted with modern equipment of leading world and domestic manufacturers: Abbott, Roche, Bio-Rad, Beckman Coulter, Siemens, Sysmex, etc. The latest laboratory, information, medical, and logistical technologies are involved

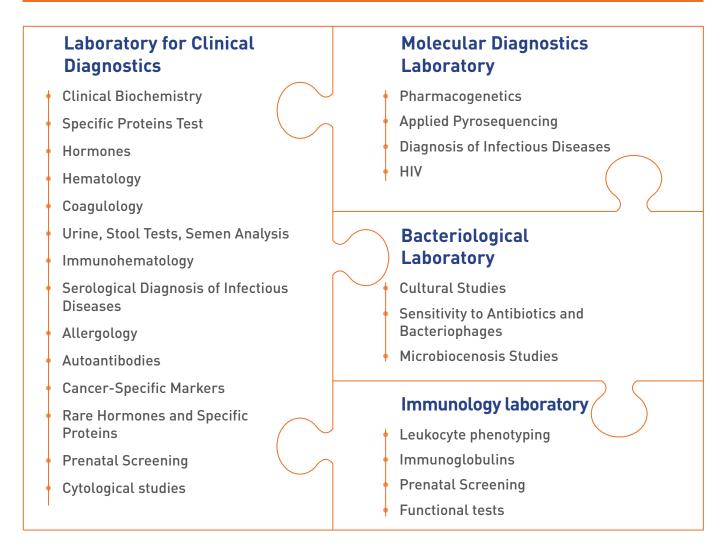
The quality management system meets the requirements of international standards ISO 9001:2015 "Quality Management Systems — Requirements" and ISO 15189:2012 "Medical Laboratories — Requirements for quality and competence"

The quality control system for laboratory tests includes internal and external controls. Internal control is a daily routine aimed at maintaining the stability of analytical systems. This include, e.g., regular measurement of control materials and determination of acceptable measurement errors. External control implies a participation of the Institute laboratory in interlaboratory comparison tests that allow for checking the correctness of the obtained results and for comparing the results obtained in different laboratories

One of the first Russian laboratories to confirm the high quality level of its research with the International external quality assessment scheme KIMMS (Key Incident Monitoring and Management Systems) regularly participates in the Federal System for External Quality Assessment of Clinical Laboratory Studies (FSVOK) and in renowned international external quality assessment systems: EQAS (External Quality Assurance Services), VQC (Viral Quality Control), RIQAS (Randox International Quality Assessment Scheme)



#### LABORATORY AND DIAGNOSTIC CAPABILITIES



#### LABORATORY INFORMATION SYSTEM

All laboratory units are connected by the unified information system. When the tests are ready, the patient receives an SMS message with the order number and a link to view the results in personal account Corporate clients can create orders, view and print the test results through the web-version of the personal account: office.cmd-online.ru



**VARIOUS LABORATORY TESTS** 

are performed at the CMD (Molecular Diagnostics Centre) annually

> 1 500



TYPES OF TESTS



CITIES WITH CMDs



CITIES WITH CMDs



NEW FORMAT CLINICS
CMD Medical Clinic



> 4 600 000
CLIENTS ANNUALLY



PCR TESTS FOR COVID-19 since the start of the pandemic





#### **B2B SALES DEPARTMENT**

#### Reliability

- The Impeccable Reputation of the Federal Budget nstitution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor
- Multilevel Quality
  Assurance System
- In-House Software for Order Registration and Management
- Management system quality corresponds international standards

#### **Opportunities for Our Customers**

- Direct Communication with Laboratory Medical
  Officers
- Control of the Preanalytical Stage of Sampling
- Automated Tube Fitting and Barcode Printing

#### **Personalized Services**

- Flexible Pricing Policy
- Wide Range of Laboratory Tests
- High Quality Consumables
- Marketing Support to Increase Sales of Healthcare Facilities/Clinic



#### RETAIL SECTOR



#### **Our Advantages**

- Our own scientific database allows us to quickly introduce advanced achievements and developments of the Institute leading scientists into clinical practice
- Affordable price due to in-house solutions
- Diagnostic tests, many of which are unique, are performed only in our laboratory
- The laboratories are fitted with the up-to-date equipment from leading manufacturers
- All laboratory processes are automated
- Marketing support
- Training and education of employees
- A personal manager will solve your issues at all stages of cooperation

## The Quality of Our Services

is guaranteed by the use of modern diagnostic methods, highly qualified medical personnel respecting the interests of the patient, compliance with the requirements of current legislation in terms of laboratory medicine, and the availability of a certified quality management system



# Clinical activity

### **CLINICAL ACTIVITY**

#### CLINICAL DEPARTMENT OF INFECTIOUS PATHOLOGY

was established in 1967 and for more than 55 years it has been conducting scientific research in the main areas:

- Development of new and improvement of existing methods of infectious diseases prevention and treatment
- Investigation of the infectious diseases clinical course features, including new and recurring infections
- Investigation of the immunopathogenesis of infectious diseases and life-threatening conditions that are complications of the underlying disease



Currently, the staff of the clinical department of the Institute vaccinate the population against COVID-19, participate in the organization and provision of medical care in the «red zones» of hospitals in Moscow and Russia regions, as well as neighbouring countries

Within the framework of the Rospotrebnadzor sectoral program «Problem-oriented scientific research in the field of epidemiological surveillance of infectious and parasitic diseases», work continues on the following topics:

- Clinical, epidemiological, and immunopathogenetic aspects of the acute and chronic infections current trends in children and adults, optimization of patient management tactics and disease prevention, including Covid-19
- Clinical and pathogenetic substantiation and improvement of therapeutic programs for the preservation and restoration of the human microbiome in widespread infectious diseases

### **CLINICAL ACTIVITY**



monographs clinical guidelines

**6** guidances 15 tutorials



**THESES** 

**CREATED** 

**PUBLISHED** 



THE CLINICAL DEPARTMENT OF INFECTIOUS PATHOLOGY continues to work



**RUSSIAN PATENTS** in 2016-2021





**ARTICI FS** 

published in top-rated international and Russian periodicals

#### CLINICAL RESEARCH UNIT

Participates in conducting the latest clinical infectious diseases trials, as well as in educational and professional activities of the Institute

#### Scientific Research Focal Area

Development and implementation of clinical trials in the most promising areas of the pharmaceutical industry with regard to infectious diseases treatment

Currently, studies are underway on vaccination against hepatitis B, multicenter clinical trials of antiviral drugs, and monoclonal antibodies used to treat novel coronavirus

All clinical trials of new drugs are carefully analyzed by the Unit specialists for safety and efficacy, based on the principles of evidence-based medicine



# Educational activity

## **EDUCATIONAL ACTIVITY**

Educational programmes are an important focus of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing. The Institute operates the All-Russian Training Centre for the Molecular Diagnostics of Infectious Diseases to provide advanced training of HCPs in clinical laboratory diagnostics

#### TRAINING CENTRES FOR MOLECULAR DIAGNOSTICS IN THE FOLLOWING CITIES:



EDUCATIONAL EVENTS
ANNUALLY

> 90

including events within the Continuing MEDICAL EDUCATION PROGRAMME (for more than 25,000 SPECIALISTS)





USE THE LABORATORY FACILITIES OF THE INSTITUTE

to conduct training in molecular diagnostics in Russia



## **EDUCATIONAL ACTIVITIES IN FIGURES**

In 2022, The Institute organised **5** scientific and practical conferences with the international participation of more than **20,000** specialists; **11** scientific and practical online seminars attended by more than **24,000** people

Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing regularly conducts training events on HIV epidemiology, immunoprophylaxis of infections, clinical and laboratory diagnostics

## THE INSTITUTE OFFERS THE FOLLOWING RESIDENCY AND FELLOWSHIP TRAINING PROGRAMMES:

- Epidemiology
- Infectious diseases
- Paediatrics
- Clinical medicine ("Infectious Diseases" speciality)
- Medical and preventative care ("Epidemiology" speciality)



#### **CALENDAR OF EVENTS FOR 2023**

#### **CONGRESSES AND CONFERENCES**



### March 27-29

XV Academician V. I. Pokrovsky Annual National Congress on Infectious Diseases

«Infectious Diseases in Modern World: Evolution, Current and Future Threats»

## **April 27–28**

Congress with International Participation «Molecular Diagnostics and Biosafety 2023»

## September 20

Research-to-Practice Conference dedicated to the 60th anniversary of the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor

#### October 26-27

IV National Research-to-Practice Conference with International Participation

«Modern Immunoprophylaxis: Challenges, Opportunities, and Prospects»

#### October 30-31

III Annual Conference on Infectious Diseases «Pokrovsky Readings»

## November 23-24

Congress with International Participation

«Control and Prevention of Healthcare-Associated Infections (HCAI-2023)»

### December 5-6

Research-to-Practice Conference

«Epidemiological surveillance for HIV infection»

#### **CALENDAR OF EVENTS FOR 2023**

Educational project for the 60<sup>th</sup> anniversary of the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor

#### TRAINING CYCLE ON SOCIALLY SIGNIFICANT INFECTIONS

## **January 25**

#### Webinar

Evolution of COVID-19: Clinical and immunological aspects, diagnosis, and therapeutic approaches

## February 15-16

#### Webinar

Influenza and acute respiratory infections: diagnosis, therapy, and prevention

#### March 15

#### Webinar

Treatment room. What does a nurse need to know?

## April 12

#### Webinar

Transmissible infections: diagnosis and analysis of clinical cases

## **May 17**

#### Webinar

Current problems of diagnostic, prevention, and therapy of acute intestinal infections

#### **June 7-8**

#### Webinar

Modern problems of immunoprophylaxis of infectious diseases

## September 6-7

#### Webinar

Microbiota and antibiotic resistance

#### October 11

#### Webinar

Modern methods in epidemiology

### November 15-16

#### Webinar

Diagnosis and treatment of urogenital and intrauterine infections

#### **December 13**

#### Webinar

Viral hepatitis: epidemiology, diagnosis, and current treatment options

## CALENDAR OF EVENTS FOR 2023

The institute holds its events principally to increase the knowledge and professional skills of doctors on current issues of epidemiology, diagnosis, and treatment of infectious diseases. The scientific agenda of events is developed by leading scientists and clinicians of the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor and submitted to the Commission on Evaluation of Training Activities and Materials for Scientific Medical Societies

## DOCTORS OF VARIOUS SPECIALTIES ARE THE TARGET AUDIENCE OF THE EVENTS

- Allergology and Immunology
- Bacteriology
- Virology
- Infectious Diseases
- Clinical Laboratory Diagnostics
- Preventive Medicine
- General Medical Practice (Family Medicine)

- Healthcare Management and Public Health
- Paediatrics
- Emergency Medical Care
- Social Hygiene and Organization of State Sanitary and Epidemiological Service
- Therapy
- Epidemiology





# Publishing activity

### PUBLISHING ACTIVITY

The Editorial and Publishing Unit was created in 2019. The tasks of the Unit include the publication of mass media, as well as scientific papers, information, reference and advisory materials containing the results of the scientific activities of Federal Budget Institute of Science «Central Research Institute of Epidemiology» of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing

The Unit's structure comprises editorial groups of two platinum, international, peer-reviewed, open-access scientific and practical journals founded by the Institute and the All-Russian Public Organisation All-Russian Scientific and Practical Society of Epidemiologists, Microbiologists and Parasitologists. The Unit is staffed by highly qualified specialists: literary editors, scientific translation editors, proofreaders, desktop publishing specialists and bibliographers

The editorial groups actively cooperate with leading national and foreign scientists — authors and reviewers of scientific publications. The manuscripts are subject to double-blind peer review. In 2021-2022, more than 160 reviewers were involved to provide peer reviews of articles

#### MAGAZINE PUBLISHED BY THE INSTITUTE



### PUBLISHING ACTIVITY

#### "JOURNAL FOR MICROBIOLOGY, EPIDEMIOLOGY AND IMMUNOBIOLOGY"



The oldest Russian journal published since 1924. It covers actual problems of world science and provides synthesis of the latest research results with regard to microbiology, virology, epidemiology, vaccinology, immunobiology, and prevention and control of infectious diseases. The interdisciplinary approach allows for integrating of advanced scientific knowledge in related specialties, a broad view of the problems of fundamental and applied infectiology, and an integrated approach to the creation of biomedical technologies

The journal is included in the SCOPUS international bibliographic database and is included by the State commission for academic degrees and titles (VAK) in the "List of Peer-Reviewed Scientific Publications" in the following fields of knowledge:

- 1.5.10 Virology (Medical and Biological Sciences)
- 1.5.11 Microbiology (Medical and Biological Sciences)
- 3.2.2 Epidemiology (Medical and Biological Sciences)
- 3.2.7 Clinical Immunology, Allergology (Medical and Biological Sciences)

#### "VIROLOGY ISSUES" JOURNAL



Published since 1956, the journal introduces readers to the latest achievements of Russian and world virology. The articles are devoted to the study of viruses and viral diseases of humans, animals, and plants. It also covers the issues of medical and veterinary virology, molecular ecology of viruses, molecular epidemiology, immunology, infectious diseases, molecular biology of viruses, genetic, cell and protein engineering, and biotechnology

The journal is included in the SCOPUS and MEDLINE international bibliographic databases and is included by the State commission for academic degrees and titles (VAK) in the "List of Peer-Reviewed Scientific Publications..." in the following fields of knowledge:

- 1.5.10 Virology (Medical and Biological Sciences)
- 3.2.2 Epidemiology (Medical and Biological Sciences)
- 3.1.22 Infectious Diseases (Medical and Biological Sciences)



## CMD Central Medical Clinic

## CMD CENTRAL MEDICAL CLINIC

Since 2001, the clinic has been successfully operating on the basis of the Federal Budget Institution of Science Central Scientific Research Institute of Epidemiology of Rospotrebnadzor. It specializes in the diagnostic and treatment of infectious, endocrine, immune and other diseases

Consultative reception is conducted by doctors and candidates of medical sciences, Board Certified in the following specialties:

- Obstetrician-Gynecologist
- Cardiologist
- Allergist-Immunologist
- Neurologist
- Gastroenterologist
- Pediatrician

- Hepatologist
- Therapist
- Dermatovenerologist
- Urologist-Andrologist
- Specialist in Communicable Diseases
- Endocrinologist

At the clinic, you can have your health fully examined, as well as make unique tests and comprehensive laboratory tests and perform a variety of diagnostic tests, such as:

- Ultrasound Diagnostics
- ECG, Exercise Stress Test, Holter, 24- Hour Blood Pressure Monitoring
- Colposcopy
- Elastometry (Fibroscanning)

- Spirometry (Respiratory Function)
- Allergy Testing (Allergen Skin Tests)
- Dermatoscopy With Photofixation
- Cardiotocography (CTG)

Preventive Vaccination against Infectious Diseases in Children and Adults

# Federal Budget Institute of Science **«Central Research Institute of Epidemiology»**of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing

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