WORK PLAN OF THE NATIONAL REFERENCE CONFIRMATORY LABORATORY FOR HIV FOR 2026

1. Reference, Diagnostic, and Clinical Laboratory Activities

- The National Reference Confirmatory Laboratory for HIV (NRCL-HIV) performs the definitive laboratory diagnosis of HIV infection in the Republic of Bulgaria through diagnostic, confirmatory, and reference testing, including rapid tests, ELISA, a confirmatory line immunoassay (LIA), real-time PCR, and genotyping by sequencing.
- The Laboratory performs virological monitoring of patients with HIV infection using state-of-the-art molecular methods, namely viral load quantitation (real-time PCR) and genotyping to detect HIV-1 resistance to antiretroviral drugs.
- Serological and molecular testing is performed for the virological monitoring of HIV-1 infection in pregnant women and newborns.
- The NRCL-HIV organizes and conducts an annual national interlaboratory proficiency testing scheme for laboratories in the country that perform HIV testing.
- The Laboratory participates in the international external quality assessment scheme organized by INSTAND, Düsseldorf, Germany.

2. Research Activities

The NRCL-HIV will pursue an active research agenda in collaboration with established national and international research groups and organizations, including the Euroguidelines in Central and Eastern Europe (ECEE) Network Group, the European Society for translational Antiviral Research (ESAR), the Centers for Disease Control and Prevention (CDC), Atlanta, USA, the Università Campus Bio-Medico di Roma, Rome, Italy, and other leading research institutions.

Participation in Research Projects (National and International)

Members of the NRCL-HIV team participate in the research teams of projects funded by the Bulgarian National Science Fund on the following topics:

- "Oxidative Stress and Mitochondrial Activity in T Lymphocytes: Potential Biomarkers for Monitoring Long-Term Antiretroviral Therapy in HIV-Positive Individuals," principal investigator: Assoc. Prof. Radoslava Emilova, PhD.
- "Clinical Significance of Coinfections with Respiratory Pathogens: Etiological Spectrum and Genetic Characterization of Pathogens Involved in Mixed Infections by Next-Generation Sequencing (NGS)," principal investigator: Prof. Neli Korsun, DSc.
- "Antimicrobial Resistance in the Causative Agent of Syphilis (*Treponema pallidum subsp. pallidum*) in Bulgaria," principal investigator: Chief Assist. Prof. Iva Filipova, PhD.

Participation in National Programs of the Ministry of Health

The NRCL-HIV contributes to the implementation of the National Program for the Prevention of HIV and Sexually Transmitted Infections in the Republic of Bulgaria, 2026–2030, by providing reference laboratory support and expert advice.

Planned Participation in National Scientific Meetings

The Laboratory's experts plan to participate in annual national scientific meetings, presenting their research findings, including:

- The National Scientific Conference “HIV/AIDS and Exotic Parasitic and Infectious Diseases”;
- The National Congress of Clinical Microbiology and Infections of the Bulgarian Association of Microbiologists (October 9–11, 2026, Sofia).

The NRCL-HIV organizes and annually hosts the National Scientific Conference on HIV and Coinfections with international participation. The conference brings together leading Bulgarian and international experts in virology, clinical microbiology, infectious diseases, and public health. It provides a forum for presenting and discussing recent scientific advances, good clinical practices, and innovative approaches to the diagnosis, treatment, monitoring, and prevention of HIV infection and associated coinfections. The 10th edition of the conference will be held on December 4–5, 2026, in Sofia.

Planned Participation in International Scientific Meetings

Annual Congress of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID Global 2026), Munich, Germany, April 17–21, 2026;
ESCMID online postgraduate course – lecture “HIV Drug Resistance: Identification & Clinical Management,” November 5, 2026;
Joint ECDC/WHO Europe HIV Network Meeting, Stockholm, Sweden, December 9–11, 2026.

3. Educational Activities

The NRCL-HIV conducts active teaching and training activities aimed at advancing the professional qualifications of healthcare professionals:

- Thematic postgraduate courses, including “Molecular Methods for Viral Diagnosis and Treatment Monitoring of HIV/AIDS”;
- Training and research supervision of doctoral and master’s students;
- Practical and theoretical training of residents in virology and related medical specialties.

4. Epidemic Control Activities

- The NRCL-HIV confirms cases of HIV infection in the country and performs laboratory virological monitoring of antiretroviral therapy in Bulgaria.
- Sequencing and molecular epidemiological studies are conducted on the distribution of HIV-1 subtypes and drug resistance mutations in the country.
- The Anonymous and Free HIV/AIDS Counseling and Testing Office (KABKIS) operates within the NRCL-HIV.
- The Laboratory annually submits epidemiological data on HIV infection to the EpiPulse system of the European Centre for Disease Prevention and Control (ECDC).

5. Expert and Public Information Activities

Prof. Ivailo Alexiev, DSc, is a member of:

- The Expert Council on the Medical Specialty of Virology at the Ministry of Health;
- The State Examination Board for the specialty of Virology;
- The Expert Council on AIDS at the Ministry of Health;
- The Euroguidelines in Central and Eastern Europe (ECEE) Network Group;
- Working groups at the Ministry of Health concerned with the procurement of HIV diagnostic tests;
- The European Society for translational Antiviral Research (ESAR).

Prof. Alexiev is the organizer of the National Scientific Conference on HIV and Coinfections. Prof. Alexiev heads the National Reference Center for Sexually Transmitted Infections and Viral Hepatitis at the NCIPD and participates in the National Reference Center for Antimicrobial Resistance and Antibiotic Consumption.

Experts from the NRCL-HIV take part in public awareness campaigns of the NCIPD, the Ministry of Health, and the Sofia Regional Health Inspectorate aimed at limiting the spread of communicable diseases, with an emphasis on HIV prevention and control. Incidence data are regularly published on the NCIPD website.

Prepared by:
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