

HIV Laboratory Training in Russia Focuses on Quality Control Procedures

In virtually every field of medicine, clinicians depend on accurate laboratory results to determine the best treatment regimen for each patient and help ensure positive outcomes. The precision of laboratory tests is especially important for patients with HIV/AIDS; for them, a laboratory mistake can mean the difference between life and death. Currently home to more than 1 million people living with HIV/AIDS (PLWHA), Russia is in the midst of initiating wide-scale antiretroviral treatment to patients who need it. As a result, demand for accurate, timely laboratory testing has significantly increased.

In response to Russia's need to upgrade current laboratory practices and procedures as a means to improve the quality of treatment and care available to PLWHA, AIHA—with financial support from USAID and in collaboration with University Research Co. LLC (URC)—hosted a training course on laboratory diagnostics in HIV/AIDS February 6-10 in Saratov. More than 20 technicians and other professionals from HIV laboratories at AIHA's HIV/AIDS care and treatment partnerships in Orenburg, Saratov, St. Petersburg, and Togliatti attended the event. Lab workers from Chechnya, Irkutsk, and Krasnodar also attended thanks to support from the World Health Organization (WHO).



Workshop trainer Galina Tsyganova, lab specialist with the PCR Department at Moscow's Research Institute of Epidemiology, performs a master PCR test while Vera Vodneva, lab technician from Irkutsk AIDS Center, and Genadyi Gladilin, head of the Chair of Clinical Laboratory Diagnostics at the Saratov State Medical University, observe the procedure. (Photo courtesy of Elena Vovc)

During the five-day training, participants learned some of the most advanced methods of laboratory diagnostics used to monitor HIV/AIDS, various co-infections, and the effectiveness of antiretroviral therapy. Other topics covered included issues related to laboratory quality assurance and quality control; the proper use of personal protective equipment and biologic safety cabinets; and diagnostic methods such as flow cytometry for measuring CD-4 counts and polymerase chain reaction (PCR) testing to determine viral load. In addition, sessions focused on methods of interpretation of the Western Blot assay for HIV antibodies, the selection and handling of specimens for analysis, and the testing and reporting of lab results to better manage HIV and common opportunistic infections, including tuberculosis.

Harvey George, director of diagnostic laboratories at the Massachusetts State Laboratory Institute and a member of the Association of Public Health Laboratories (APHL), joined leading Russian experts from the Federal AIDS Center and Federal Research Institute of Epidemiology as faculty for the workshop. The curriculum used for the training was developed by the Kiev-based Regional Knowledge Hub for the Care and Treatment of HIV/AIDS in Eurasia in collaboration with APHL and the Federal AIDS Center. It is based on the latest HIV laboratory services protocols issued by APHL, WHO, and the US National Institute of Health and Centers for Disease Control and Prevention.



Workshop participants attend a session on quality control procedures. (Photo courtesy of Elena Vovc)

According to Tatiana Logunova, head of the Saratov AIDS Center laboratory, the training elucidated the most important issues that lab workers need to know to operate accurately and efficiently. "Especially important for us were issues related to the standardization of lab procedures and quality control," she says explaining that, although these topics are fundamental in assuring correct testing performance and results, they are only cursorily covered by the basic courses currently provided at medical education institutions in the region.

Noting that approximately 120 patients will soon start receiving antiretroviral therapy in Saratov, Logunova acknowledged that for this therapy to be effective, the laboratory must provide timely diagnosis of HIV and its associated pathologies while at the same time monitoring treatment compliance, drug resistance, and the efficacy of treatment antiretroviral regimens. To do this effectively, she points out, a laboratory must have in place a clear organizational structure, standardized methods, quality control and follow-up programs, as well as working equipment. "All these issues were discussed in-depth at this last workshop, and for us that was really helpful," she concludes, saying that the skills she and her colleagues gained by attending the workshop will be an important building block supporting the quality of this endeavor.