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Surveillance and Control of Emerging Diseases in Ukraine

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Introduction. Ukraine has a large agricultural sector, diverse climatic and geographical regions, and a need for effective surveillance and control of infectious animal diseases. The State Service of Ukraine for Food Safety and Consumer Protection (SSUFSCP), which includes the state veterinary service, is responsible for animal disease surveillance, cooperation, and notification to the World Organization for Animal Health (OIE). However, the ongoing military aggression of Russia has significantly impacted the veterinary laboratory network in Ukraine. This is an unprecedented situation requires awareness and study impact on the activities of veterinary laboratories.
Methods. We analyzed open data and reports on SSUFSCP's activities on infectious disease surveillance and control in Ukraine. Additionally, anonymous interviews were conducted with 85 laboratory professionals from all regions of Ukraine between October 2022 and March 2023.
Results. The SSUFSCP employs both passive and active surveillance methods for animal disease surveillance. Active surveillance involves targeted sampling and testing of animals or products of animal origin based on an extensive network of state veterinary laboratories. The State Research Institute for Laboratory Diagnostics and Veterinary and Sanitary Expertise in Kyiv provides methodological support for the laboratory industry and serves as a reference laboratory. The state laboratory network consists of 152 laboratories, including 21 regional which are best equipped, have microbiological, serological and molecular genetic divisions, 109 inter-regional, and 22 district laboratories, which are accredited according to DSTU-ISO 17025. Each region has from 2 to 8 laboratories of different levels, but the general trend is to unite laboratories. The laboratories conduct serological tests for bovine leukemia and brucellosis on all cattle annually, and selective testing for other diseases such as leptospirosis, foot-and-mouth disease, spongiform encephalopathy, chlamydia, listeriosis, paratuberculosis, salmonellosis, Aujeszky's disease, African swine fever, and infectious anemia in horses etc. In addition, veterinary laboratories conduct diagnostic tests to identify infectious agents during disease outbreaks, such as rabies, African swine fever, and others, and meet the diagnostic needs of veterinarians in the livestock sector.
According to the anonymous survey, the war significantly impacted the veterinary laboratories in Ukraine. 11.9% of veterinary laboratories were under occupation or in the combat zone, 15.3% temporarily stopped working, and 8.3% suffered damage and loss of equipment. Only 49.4% of laboratories did not experience staff loss due to refugee situations, while 32.9% did not experience difficulties with reagents, 43.5% did not experience a lack of funding, and 48.2% did not change their workload, while 14.1% increased. The war caused stress and complicated the work of the majority of laboratory staff.
Conclusions. Veterinary laboratories in Ukraine play a vital role in the surveillance and control of infectious animal diseases. They are responsible for diagnostic testing, identifying infectious agents, and monitoring disease outbreaks. Despite the ongoing Russian aggression, the state laboratory network has shown sustainability and has continued to achieve its tasks. However, the war has significantly impacted the operations of veterinary laboratories, and further efforts are needed to maintain their effectiveness.