ISWAVLD 2023

International Symposium of the World Association of Veterinary Laboratory Diagnosticians

29 JUNE-1 JULY 2023 Congress Centre Lyon

Towards the veterinary diagnostics of the future

Main topic : Feedback on the role of veterinary laboratories in the COVID-19 crisis

Challenges and Lessons Learned by Veterinary Diagnostic Laboratories during the COVID-19 Pandemic

YODER C. [2], SIROLLI M. [2], CHRISTOPHER-HENNINGS J. [5], MAIN R. [3], SOL PEREZ M. [2], MAHERO M. [2], BRODERSON B. [4], PABILONIA K. [6], TORRISON J. [1]

[1] Longhorn Vaccines and Diagnostics, LLC, Bethesda, United States; [2] University of Minnesota, St. Paul, United States; [3] Iowa State University, Ames, United States; [4] University of Nebraska, Lincoln, United States; [5] South Dakota State University, Brookings, United States; [6] Colorado State University, Fort Collins, United States

Introduction: This study aimed to document the unique hurdles faced by veterinary diagnostic laboratories (VDLs) during the COVID-19 pandemic. Human laboratories were asked to work at surge capacity while facing struggles with supply chain shortages, staffing shortages, and additional biosecurity efforts. Because of these strains to the testing system, VDLs were enlisted to add testing capacity for SARS-CoV-2. This resulted in several millions of samples being tested in VDLs exemplifying the One Health concept. In addition to the struggles seen in human laboratories, VDLs faced challenges in dealing with human samples, maintaining pre-pandemic veterinary diagnostic capacity, obtaining and navigating the required certifications to perform human diagnostics, and implementing data management and reporting systems to meet regulatory compliance. Documenting and describing these problems will help VDLs prepare for a future zoonotic pandemic or foreign animal disease event.
Methods: A survey was developed and distributed to all 61 directors of American Association of Veterinary Laboratory Diagnostic Laboratories. The survey asked participants to identify challenges, feedback on challenges experienced, lessons learned, and laboratory demographics. Laboratories certified by the National Animal Health Laboratory Network (NAHLN) and had Clinical Laboratory Improvement Amendments (CLIA) certification were also asked to compare prescribed protocols.
Results from the survey were tabulated and themes identified. This information was then presented to a focus group of six VDL directors to discuss, elaborate on, and clarify comments made by survey participants.
Results: The cross-sectional survey had a 35% response rate with 25% of VDL directors completing the entire survey. Based on quantitative responses, free text responses to open ended questions, and focus group discussion, challenges were identified in four distinct areas: 1) staffing, 2) equipment and supplies, 3) testing, and 4) communications. Quantitative results indicated the top challenges for VDLs were staffing (82%), changes in sources of testing supplies (79%), testing-related supply issues (76%) and testing challenges (76%). VDLs indicated that planned or implemented changes included improving communication, creation of a small stockpile of supplies, increased capacity of robotic systems, recruitment and training of additional staff, re-evaluation and expansion of already existing stockpiles, and improved manning of switch boards.
Conclusions: The ability of VDLs to adapt quickly and successfully test a new pathogen under a different regulatory structure (CLIA) should be encouraging for future pandemic or foreign animal disease (FAD) events. Findings indicated that NAHLN and United States Department of Agriculture support to ensure sufficient stockpiles of non-perishable supplies, and equipment are important in preparing for future events. Finally, helping external stakeholders understand the role VDLs can play will enhance preparations for a future FAD or zoonotic disease pandemic. Veterinary Diagnostic Laboratories should be at the table within the incident command structure routinely to provide clear guidance on VDL capacity, procedures, and testing/surveillance capacity.