

## Alaska's small virology lab has a large impact

Mary Louise Walmsley 17 hrs ago

Some Alaskans may not realize that Fairbanks is the home of the only diagnostic virology laboratory in the state, the Alaska State Virology Laboratory. This public health laboratory has undergone a few name and relocation changes since its inception in 1948 as a federal facility for statewide viral services. This provision was later incorporated into the Alaska Constitution under Article VII, Section 4. The lab has been located on the University of Alaska Fairbanks campus since 1981 but is not a part of the university system. It is, rather, integrated within the state of Alaska Department of Health and Social Services.

The field of public health virology is very specialized. It encompasses familiarity with clinical diagnostics for known viruses as well as accepted research modalities to detect emerging viral threats. The Alaska State Virology Laboratory performs testing that contributes valuable diagnostic and surveillance data for viruses of public health importance such as rabies virus, respiratory and intestinal viruses, viral hepatitis and vaccine preventable diseases, namely, measles, mumps, rubella and varicella zoster viruses. The lab serves as a resource for public health nursing on statewide and national levels, including the Alaska State Epidemiology, medical practitioners, hospitals, military facilities and the Centers for Disease Control and Prevention. The lab is currently engaged in a joint effort with the UAF virology research facility under the direction of Jack Chen, Ph.D., UAF associate professor, and the lab's deputy director. The primary focus of this collaboration is to develop advanced molecular detection methodologies in order to provide timely and accurate detection of viral infectious diseases in Alaska.

As one of our nation's public health laboratories, the state virology lab is part of a network established by the Association of Public Health Laboratories. The association guides state and local governmental health labs that monitor and detect public health threats. Membership in APHL invokes countless opportunities for the state lab to have wide-reaching influence. For the first time in the Alaska State Virology Laboratory's history, the lab manager, Jayme Parker, is a member of the Influenza and Respiratory Pathogen Subcommittee. Alaska's virology lab is one of five public health laboratories in the U.S. represented in this committee. Their objective is to look at infectious respiratory diseases across the country and ensure that enough is being done to understand these pathogens and their overall burden on our health and health care system. Through APHL, Parker has had the opportunity to affect the global community in her role as a National Influenza Center Assessor for CDC. Through her work for DHSS and facing the challenges posed therein, Parker's expertise is used by APHL and CDC in this capacity to influence surveillance of respiratory pathogens abroad. Parker has provided recommendations to various ministries of health to improve virus surveillance in Asian and African countries based on her experience in Alaska. In public health, we understand that viruses do not stop at borders and that improving the health of people across the planet is necessary to secure our own health.

Alaska's laboratory is also focused on "One Health" issues. The One Health model allows scientists from all backgrounds to contribute their expertise toward detection and mitigation of health threats that may result from human, animal and environmental interactions. Two viruses within the One Health scope pose significant threat to the health of Alaskans: influenza A and rabies virus. Influenza A is concerning partially due to circulation of highly pathogenic variants in wild birds that are hunted in Alaska and their ability to reassort with human strains of influenza and cause deadly outbreaks. Influenza vaccination is our best defense against the virus, and the Alaska laboratory is an integral part of our nation's annual influenza surveillance process by submitting data and clinical materials to the CDC for the purpose of contributing to influenza vaccine strain selection for the northern hemisphere. Rabies continues to be a

concern in Alaska because of, but not limited to, the stray dog population in rural communities in close interface with Alaska's rabies reservoir, the red and Arctic fox, thus creating opportunities for human rabies exposures.

This week is Medical Laboratory Professionals Week. As a public health lab, the Alaska State Virology Laboratory is dedicated to identifying viral outbreaks in all Alaska communities. The laboratory's staff is proud to serve fellow Alaskans and visitors to our great state. We thank you for this opportunity to share the important work happening in your community and to honor our fellow clinical laboratorians.

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