TEXAS A&M TVMDL VETERINARY MEDICAL DIAGNOSTIC LABORATORY

RAPID DETECTION OF ZOONOTIC AND ANIMAL THREATS

BACKGROUND:

The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) has been committed to providing superior and timely diagnostic testing services to the veterinary industry for over 50 years.

In addition to routine diagnostic testing, TVMDL is prepared to act in the event of a high-consequence animal disease outbreak. To continue this commitment, TVMDL's workforce must be fully staffed with trained, experienced veterinary diagnosticians who will recognize the first signs of a potentially devastating animal or zoonotic disease threat.

PROTECTING ANIMAL AND HUMAN HEALTH IN TEXAS AND BEYOND

Viruses will continue making the jump from animal (wild or domesticated) populations to humans, making robust surveillance of disease in animal populations critical. A robust surveillance program ensures the detection of critically important diseases that pose catastrophic threats to public health, animal health, food safety, and the economic viability of the $18 billion livestock industry in Texas.

This program will invest in professionals and tools required to provide training programs for diagnostic laboratory specialists needed to augment existing staff and replace expected losses of expertise. Sample handling automation and robotic tools will allow machines to take over routine and repetitive testing procedures, increasing efficiency and freeing the skilled workforce for higher-level tasks, such as data analysis, novel assay development, and communication of information.

THE NEED FOR ACCURATE AND RAPID DIAGNOSTIC TESTING

The COVID-19 pandemic highlighted the need for accurate and rapid diagnostic testing within human medicine. Throughout the pandemic, TVMDL assisted in COVID-19 response by producing viral sampling kits and establishing partnerships with local human healthcare providers to allow high throughput testing using the agency's laboratory space and equipment.

The response to COVID-19 illustrated the direct impact TVMDL can have in responding to disease outbreaks. This request will ensure early, rapid, and accurate detection of human and animal disease threats, potential bioterrorism events, changes in antimicrobial resistance of pathogens as well as the timely and effective communication of disease data to decision makers.

EXCEPTIONAL ITEM REQUEST

$4.93 MILLION

OBJECTIVES

> Build a veterinary diagnostic workforce specifically trained to detect the early signs of an animal or zoonotic threat.

> Leverage existing laboratory automation innovations to maximize human resource and workflow efficiencies.

> Develop epidemiological data analytics and an IT infrastructure for disease reporting and communications.

REQUESTED FUNDS WILL

Employ 11 fulltime employees including:

> Five laboratory professionals
> Two veterinary trainees
> Three technical positions
> One support staff person

Implement state-of-the-art equipment including:

> Automated liquid handling robots
> Sample preparation robots
> Barcoding instrumentation
> Computer-to-instrument interfacing software
> High throughput testing platforms
> Analysis and reporting software