

Rapid Detection of HUMAN AND ANIMAL DISEASE THREATS

Background

The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) has provided superior and timely diagnostic testing services to the veterinary industry for over 50 years. In addition to routine diagnostic testing, TVMDL responds in the event of high-consequence animal disease outbreaks. 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.

The Importance of Rapid Detection

Viruses will continue jumping from wild or domesticated animals to humans, making disease surveillance 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.

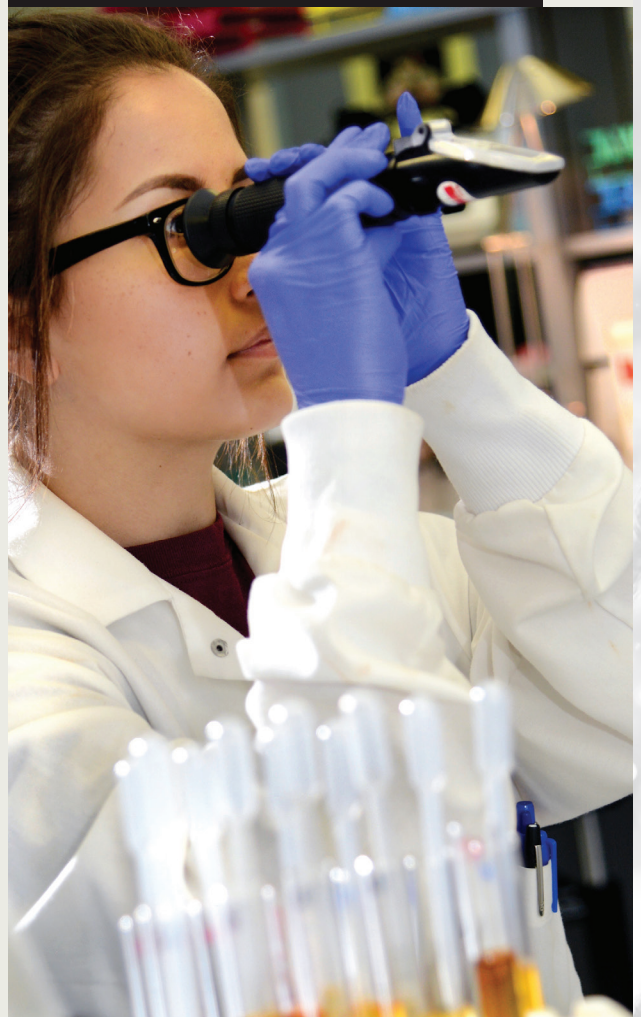
Funding for this program will invest in professionals, tools and training programs for diagnostic laboratory specialists to augment existing staff and replace expected loss of expertise. Sample-handling automation and robotic tools will allow machines to take over routine and repetitive testing procedures,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



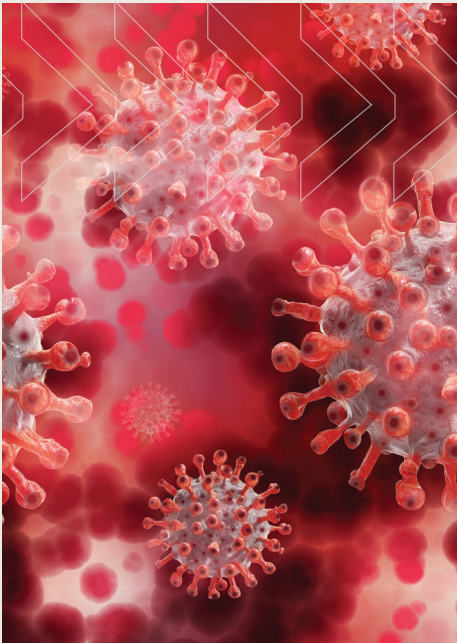
REQUESTED AMOUNT
(BIENNIAL)

FY 2022-23 EXCEPTIONAL ITEM

\$3.35 million, 11 FTE



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The Need for Accurate and Rapid Diagnostic Testing

The COVID-19 pandemic has 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. TVMDL also established partnerships with local human health care providers to use the agency's laboratory space and equipment to accomplish high-throughput testing.

The response to COVID-19 illustrates 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 timely and effective communication of disease data to decision-makers.

Objectives

- Build a veterinary diagnostic workforce specifically trained to detect the early signs of an animal or zoonotic threat.
- Employ equipment that ensures accuracy, enhances the turnaround time for high-throughput testing and helps analyze and report results.
- Ensure the capacity to conduct human testing during pandemic situations and produce viral sampling kits when needed.

Requested Funds Will

- Employ 11 full-time employees, including:
 - > Five laboratory professionals
 - > Two veterinary trainees
 - > Three technical positions
 - > One support staff member
- Implement state-of-the-art equipment, including:
 - > Two automated liquid-handling robots
 - > Sample-preparation robots
 - > Barcoding instrumentation
 - > Computer-to-instrument interfacing software
 - > High-throughput testing platforms
 - > Analysis and reporting software

For more information, contact:

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