



*Protecting animal and human health through diagnostics*



## Strategic Priorities FY16-20



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# Strategic Priorities FY16-20

## Introduction

The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) is a member of The Texas A&M University System and is composed of two full-service laboratories, one located in College Station and the second in Amarillo, and two poultry laboratories, one located in Center and the second in Gonzales. With our strategic locations, TVMDL is uniquely positioned to serve the animal industries of Texas. TVMDL receives approximately 160,000 accessions and runs an average of 680,000 tests per year. Submissions received in the laboratory originate from Texas, neighboring states, and around the world.

TVMDL employs approximately 100 staff at its College Station location and approximately 30 staff in Amarillo. The Center facility has a staff of eight while the Gonzales laboratory employs five. In its entirety, TVMDL employs over 30 professionals who hold a DVM and/or PhD. Many hold board certifications in their specialty.

While maintaining traditional services to the food animal industries and companion animal owners of Texas, TVMDL is dedicated to developing new diagnostic tools, incorporating state-of-the-art technology, increasing efficiency, and continuing to provide clients with professional expertise to help them solve difficult cases. The laboratory's success can be attributed to a dedicated and skilled professional, technical, and administrative staff and to the professional relationships TVMDL has developed with the Texas A&M University College of Veterinary Medicine and Biomedical Sciences (CVM), practicing veterinarians, industry leaders, and the general public.

Our testing efforts facilitate commerce of Texas livestock by providing tests required for international, intrastate, and interstate movement of animals. TVMDL also provides critical laboratory data necessary to identify disease outbreaks, including emerging, reemerging, and zoonotic diseases, and provides appropriate warnings to individuals and governmental agencies. Early disease detection is a critical contribution by TVMDL to the One Health/One Medicine approach to ensuring public health. Agency income is derived from state appropriations and fees charged for services rendered.

In early 2015, TVMDL began construction on a \$53M, 90,000 sq. ft. new laboratory and agency headquarters in College Station. Estimated completion for the facility is slated for early 2017. This new laboratory will replace the original lab, built in 1967, and will provide much needed upgrades the agency's infrastructure. This new facility will provide state-of-the-art laboratories to perform diagnostics and enhance capabilities for animal owners and veterinarians. It will enable cutting edge veterinary diagnostics and test development and will meet or exceed federal biosafety and biosecurity standards.

There have been a number of major changes in the operational landscape for veterinary diagnostic laboratories in the last few years that have drastically altered the driving forces for these institutions:

- Mandatory federal and state regulatory testing programs, once the backbone of business for TVMDL, have evaporated.
- The advent of reliable, cheap overnight courier systems has opened up access for clients to almost any lab, anywhere.
- Private veterinary laboratories have gobbled up 80% of the market share of companion animal testing and have encroached on large animal testing that was the traditional economic base for state-funded laboratories such as TVMDL.
- Increased ease of movement of people, animals and animal products around the world has greatly increased the risk of introduction of diseases formerly foreign to the US. Some (West Nile Virus, Porcine Epidemic Diarrhea, Avian Influenza) have already landed on our shores while others (Foot and Mouth Disease, African Swine Fever, African Horse Sickness) are only a short plane ride away and poised to do even more economic and health damage to the livestock industries.
- The technological sophistication and therefore expectations of laboratory clientele have increased significantly resulting in a 24/7, on-demand desire for access to laboratory data and services information.



## *Mission*

Our mission is to promote animal health and protect agricultural, companion animal and public health in Texas – and beyond – through excellence in veterinary diagnostic services.

## *Vision*

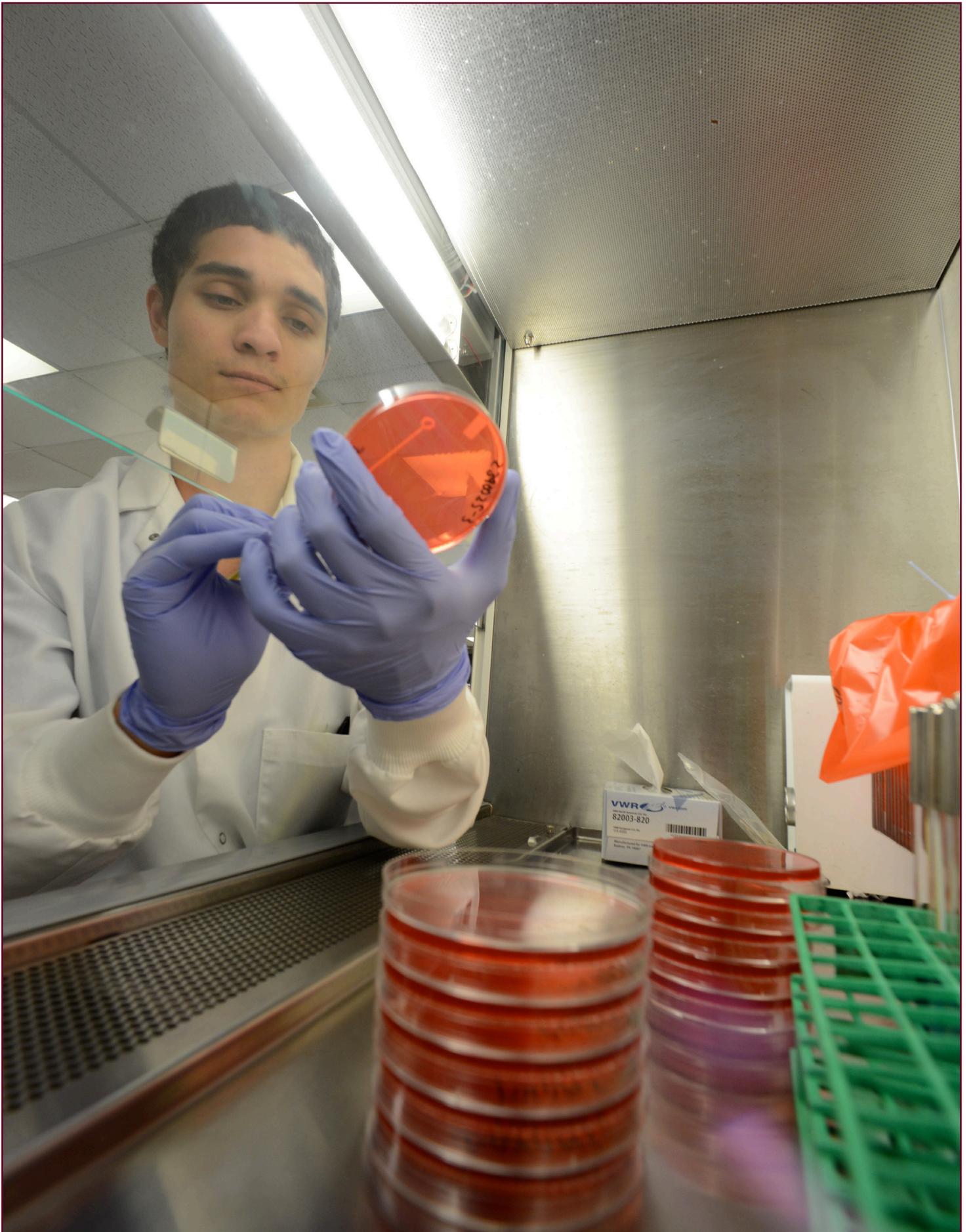
The agency's vision is to be the global leader in providing innovative and state-of-the-art veterinary diagnostic services.

## *Strategic Priorities*

While continuing to focus on our core mission, TVMDL must work to meet the emerging challenges of tomorrow. During the coming five years we will place particular emphasis on a limited number of strategic priorities that will enhance the agency, our employees, our clients and animal health both in Texas and across the globe.

Targeted goals within each priority and preliminary actions to promote progress towards these goals are outlined in this plan. It is important to understand that the details of this plan are expected to be dynamic; as progress is made, new advancements are achieved or resources change, some actions may be removed and others added to better facilitate progress.





# Strategic Priority 1:

## Enhance Foreign Animal and Emerging Disease Preparedness and Response Capacities

As the United States emerges from the most devastating foreign animal disease event in history, the 2014-2015 highly pathogenic avian influenza (HPAI) outbreak, TVMDL recognizes that one of our most critical agency objectives will always be ensuring readiness to respond to a foreign or emerging animal disease (FEAD) within the State of Texas and beyond its borders. The HPAI outbreak that began in December of 2014 and continued until June of 2015 led to the destruction of 50 million chickens and turkeys across 15 states, with economic losses totaling nearly \$1B. While Texas was fortunate that our poultry industry was not affected, TVMDL was nevertheless involved, by providing avian influenza surveillance testing, assessing capacity for response, and participating in readiness exercises. Just as this disease event had abated, TVMDL identified chronic wasting disease (CWD) for the first time in captive white tailed deer in July 2015, and TVMDL was again called upon for rapid disease detection, to enable the containment and eradication response expected by the captive deer industry.

GOALS	MILESTONES AND DELIVERABLES
<p>1.1. Achieve membership in the National Animal Health Laboratory Network as a Level One laboratory.</p>	<p>The NAHLN has recently been restructured, and it is desirable for TVMDL to be named a Level One laboratory under the new structure. Level One laboratories receive higher funding than Level 2 or 3 labs, but are also expected to maintain additional capabilities and capacities for testing. These include the requirement for AAVLD full accreditation status, electronic messaging of test results, maintain high capacity throughput capabilities, provide surge capacity testing to back up other states and provide additional certified personnel to other labs to augment their testing capacity.</p> <ul style="list-style-type: none"> <li>a. Within one year, maintain full accreditation from AAVLD by completing the AAVLD accreditation site visit and obtaining full accreditation.</li> <li>b. Within one year, expand and enhance automated, electronic messaging of test results to fulfill all NAHLN reporting requirements.</li> <li>c. Within 2 years, implement automated sample handling and testing workflow.</li> </ul>
<p>1.2. Strengthen strategic partnerships with animal industry representatives and other state agencies to build disease response protocols and capacities.</p>	<p>Response to a FEAD situation requires a coordinated effort on the part of numerous public and private entities, such as the Texas Animal Health Commission, Texas Department of State Health Services, Texas Department of Transportation, animal industry groups, etc. Establishing good relationships and understandings of needs prior to an emergency situation can greatly facilitate the response in times of crisis. TVMDL will work closely with other entities to plan for, respond to, and mitigate diseases that affect poultry, livestock, and exotic/wildlife species in Texas.</p> <ul style="list-style-type: none"> <li>a. On an ongoing basis, continue to increase understanding of laboratory capabilities amongst disease responders by interfacing with industry officials, providing guided tours of facilities, and serving on disease response working groups.</li> <li>b. On an ongoing basis, continue to provide expert consultation and guidance on laboratory testing issues when called upon by government and industry professionals.</li> <li>c. On an ongoing basis, continue to build collaborative relationships with relevant animal industry partners and government agencies by participating in tabletop and full-scale disease outbreak simulations.</li> </ul>

1.3. Optimize TVMDL's internal processes for case accessioning, testing, and reporting to enable rapid response in an outbreak situation.

A FEAD outbreak will require a rapid transition from normal operations to an accelerated accessioning, testing, and reporting environment, while simultaneously maintaining routine diagnostic testing capabilities. TVMDL will identify strategies to minimize risks to biosecurity and disruption to client services, while improving disease testing and reporting efficiencies.

- a. Within one year, enhance incident command system (ICS) understanding amongst key TVMDL staff by providing training and simulations, to maximize response efforts.
- b. Within one year, deploy mission-critical personnel to visit select veterinary diagnostic laboratories involved in the 2014-2015 HPAI outbreak to learn optimal accessioning/receiving and testing/reporting procedures.
- c. Within two years, update the TVMDL FEAD Response Plan to reflect current best practices and to incorporate changes to operations that will occur with occupation of the new laboratory in College Station.
- d. Within two years, develop Testing and Receiving Response Teams at all TVMDL lab locations and provide training simulations to ensure response readiness.

1.4. Assess IT messaging capabilities and disease response reporting requirements to ensure timely communication of test results to outbreak responders.

During a significant disease outbreak event, automated, real time reporting of testing results and other data is critical to the effort to identify, respond and control the spread of disease. Communications may encompass many different partners and stakeholders including state and federal regulatory authorities as well as industry groups.

- a. Within one year, assess current messaging capability gaps and develop a plan for closing those gaps.
- b. Within one year, identify lines of communication and email group notifications that need to be established.
- c. Within two years, invest in hardware and software needed for enhanced reporting capabilities such as geographic, temporal and spatial analysis of test findings.



## Strategic Priority 2:

### *Achieve an Unparalleled Level of Client Services*

Publicly funded veterinary diagnostic laboratories today operate in an extremely competitive environment. Overnight courier services make it possible for clients to send diagnostic samples to the lab of their choosing anywhere in the country, and clients are no longer necessarily loyal to the diagnostic laboratory lab within their state of residence. In addition, commercial veterinary diagnostic labs are becoming increasingly competitive with public labs, and use strategies that are unavailable to public labs to gain client accounts, such as supplying “free” courier services or placing diagnostic lab equipment in veterinary clinics. Veterinarians and their clients are discriminating in their use of laboratories and do business with those that provide convenience of use and give the highest level of service; price is often a secondary consideration. Over half of TVMDL’s revenue is generated by user fees, requiring the agency to be responsive to the needs of its laboratory clients. Therefore, TVMDL must continually upgrade the client user experience to remain competitive in the modern diagnostic services marketplace.

GOALS	MILESTONES AND DELIVERABLES
<p>2.1. Enhance speed and convenience of the sample submission process to enable TVMDL to become the laboratory of choice for veterinarians within the State of Texas and beyond.</p>	<p>One comment consistently received by TVMDL staff is that while veterinarians prefer TVMDL’s testing services and professional consultation, they use commercial laboratories for the convenient courier services they provide. It is imperative that TVMDL identify ways to facilitate specimen submission in order to remain competitive.</p> <ul style="list-style-type: none"> <li>a. Within one year, launch a pilot courier service program serving the northwest suburban Houston area.</li> <li>b. Within three years, expand courier services throughout Houston, Dallas, Amarillo, and Austin metroplex areas, following the successful pilot program.</li> <li>c. Continue to negotiate competitive rates with all major overnight couriers to maximize customer choices and regional courier coverage.</li> <li>d. Within one year, provide customer service representatives that facilitate courier account set-up, instead of requiring clients to perform these functions for themselves.</li> </ul>
<p>2.2. Optimize the rate at which accessions are received, tested, and reported by exploiting lean process mapping and high-throughput accessioning technologies.</p>	<p>TVMDL’s veterinarian clients conduct examinations of animals and collect diagnostic specimens throughout the day, often preparing samples for shipment or delivery after TVMDL’s normal business hours. Expansion of hours to receive and process samples would speed the delivery of diagnostic results and would also relieve staffing pressure points within the laboratory.</p> <ul style="list-style-type: none"> <li>a. Within one year, analyze the arrival times of specimens and laboratory workflows to determine optimal staffing strategies.</li> <li>b. Within one year, explore the expansion of hours of operation in order to accommodate processing of samples delivered after 5:00 pm.</li> <li>c. Within two years, implement electronic submission and bar-coding technologies to enhance client ease of submission and laboratory accession traceability.</li> <li>d. Within two years, investigate ways to improve consistency of courier delivery times to the laboratory to increase testing workload efficiencies.</li> </ul>
<p>2.3. Adopt a holistic approach to veterinary diagnostic medicine by providing value-added services in lieu of traditional results reporting.</p>	<p>Clients are empowered to make better management decisions when they receive results interpretation, information on disease trends, and testing strategy recommendations, instead of raw data outputs. TVMDL will innovate ways to move beyond the traditional test reports and will provide clients with enhanced data analyses and information.</p> <ul style="list-style-type: none"> <li>a. Within two years, improve the format of laboratory reports, to provide results to clients that are informative and actionable by using business intelligence and data analysis tools.</li> <li>b. Within two years, employ a cadre of Veterinary Diagnosticians that will provide clients with consultation services beyond traditional results interpretation.</li> <li>c. Within three years, recruit an agency Veterinary Epidemiologist to continually analyze laboratory data for disease surveillance and trends and to convey this information to clients for improved herd health management decisions.</li> <li>d. Continue to solicit client input to build useful diagnostic testing packages and test panels to simplify and streamline test requests.</li> </ul>

2.4. Develop new tests that will improve disease surveillance and diagnosis by investing in cutting-edge technologies and testing platforms.

The science behind pathogen detection and disease diagnosis continually evolves, and technologies that were unimaginable only a few years ago are now within reach. TVMDL must partner with scientists from within Texas A&M University as well as the national and international community to identify and validate new technologies that will enable rapid and accurate disease diagnosis.

- a. Continue to research new methodologies that would be suitable for adaptation to the veterinary diagnostic laboratory environment.
- b. Within one year, invest in training of personnel to enable the implementation of new technologies and adoption of novel testing strategies.
- c. Within three years, purchase new equipment and instrumentation with an emphasis on automation and high throughput.
- d. Continue to work with partner laboratories and industry collaborators to share protocols and validate platforms.

2.5. Invest in state-of-the-art laboratory facilities that enhance safety, biosecurity, communication, and ability to serve our customers.

TVMDL prides itself on being a system of four laboratories that are strategically located throughout the State of Texas to best serve the needs of our animal industries. The poultry laboratories in Center and Gonzales are the two newest buildings in the system, but are in need of critical IT and communication upgrades. Construction of the new, state-of-the-art facility in College Station is currently underway and on schedule to be completed by December 2016. The Amarillo laboratory, which opened six years after the College Station lab, is nearing the end of its useful lifespan and will need to be replaced.

- a. Within one year, move into the new College Station laboratory facility.
- b. Within one year, invest in a new data/communication provider for Center and Gonzales, for faster and more reliable internet and phone connectivity.
- c. Within two years, obtain funding approval to renovate or replace the TVMDL Amarillo laboratory facility.



## Strategic Priority 3:

### Implement Comprehensive Workforce Development Strategies

TVMDL's most important resource is its workforce. Just as the agency places a high value on investing in the latest technology, we must put an equal amount of effort towards investing in our staff. Not only are their technical skills important, but their ability to manage and lead must also be nourished. The focus is no longer only on the veterinarian or PhD who interprets results; it must also be on the technicians and other para-professionals that perform the thousands of tests run each day at TVMDL.

Alternative veterinary medicine professions, such as diagnostic medicine, are struggling to develop and maintain a pipeline of professionals to assume scientific and managerial roles in their respective industries. To compete for top candidates, TVMDL must become competitive in compensation and benefits, as well as professional development opportunities and organizational culture.

GOALS	MILESTONES AND DELIVERABLES
<p>3.1. Increase capacity of existing workforce to assume management and leadership responsibilities.</p>	<p>While TVMDL boasts a cadre of well-trained scientific and veterinary expertise, often these professionals have not been exposed to training in management and supervision. Courses exist, but few are specific enough to teach the basics necessary to lead and manage in a veterinary diagnostic laboratory. TVMDL is dedicated to developing managers who can assume leadership roles for our agency both in the short and long-term. With a multi-pronged approach, the TVMDL staff of today will become the agency's leaders of tomorrow.</p> <ul style="list-style-type: none"> <li>a. Within one year, require all current supervisors, and encourage potential supervisors, to complete the TVMDL Supervisor Training Program. Develop and implement supervisor onboarding training for new hires functioning as managers.</li> <li>b. Continue to support both scientific and leadership training opportunities for all professional staff. Endeavor to enroll as many supervisors as possible in the AgriLife Advanced Leadership Program, AgriLife Emerging Leaders Program, TAMU Leadership Institute, and TAMU Group Leadership Forum.</li> <li>c. Within three years, explore the development of a mentoring program for supervisors managing for the first time.</li> </ul>
<p>3.2. Enhance recruitment efforts for TVMDL staff vacancies.</p>	<p>As a state agency, TVMDL struggles to compete with higher paying positions in the private sector. However, employment at TVMDL offers many benefits beyond compensation that would appeal to scientific professionals. TVMDL must codify these benefits and develop strategic methods to recruit the best and brightest in animal health.</p> <ul style="list-style-type: none"> <li>a. Within one year, develop a marketing plan to promote awareness of TVMDL career opportunities. Explore opportunities at career fairs and other face-to-face recruitment events.</li> <li>b. Within one year, enhance the Careers section of the TVMDL website.</li> <li>c. Within three years, identify and package success story vignettes of TVMDL professionals. Highlight employment benefits, advancement opportunities, job stability, benefits of working in an academic environment, etc.</li> <li>d. Continue to participate in the USDA Veterinary Loan Repayment Program as a recruiting and retention strategy for recent veterinary graduates.</li> </ul>

3.3. Continue and expand participation in programs that promote veterinary diagnostics as a career choice.

Ensuring veterinary diagnostic medicine is presented as a career choice for K-12, college students and recent graduates is a key to developing a pipeline of professionals to continue work in diagnostic medicine. Several opportunities exist to reach these potential employees and TVMDL must invest the time and effort required to excite students and share the many opportunities available in veterinary medicine to ensure a succession plan for our agency's leadership and technical positions.

- a. Continue to serve as a training ground for visiting scientists from across the globe. Explore development of an annual TVMDL-hosted training program.
- b. Continue to participate in training opportunities and tour programs for veterinary technician programs, high school veterinary science programs and other life science-based youth efforts.
- c. Explore expansion of the joint TVMDL/CVM residency model for other disciplines besides pathology e.g. microbiology, toxicology, serology.
- d. Continue to invest in further developing the CVM 4th year veterinary diagnostic rotation to expose current veterinary students to diagnostics.
- e. Within two years, create marketing materials targeting K-12, college students and recent graduates that highlight TVMDL careers and veterinary diagnostic medicine as a whole.

3.4. Improve retention of technical and para-professional staff.

The majority and lifeblood of our agency is comprised of technical and para-professional staff that prep and perform most of the tests conducted at TVMDL. It is well known that smaller organizations are impacted by employee departures more than larger organizations and this is certainly true at TVMDL. It is time consuming and expensive to recruit, hire and train new employees. The agency must find a way to improve retention of our technician workforce to increase efficiencies and build a staff of experienced technicians and para-professionals. With a stable workforce, TVMDL can invest its resources in moving the agency forward as opposed to constantly re-building and training its workforce.

- a. Within one year, develop and implement a comprehensive onboarding program for new employees with a focus on agency mission, culture and impact. Build employee's investment in TVMDL's vision.
- b. Within one year, establish standard position descriptions for technician and para-professional staff. Formalize a career ladder for each position with defined parameters for promotion.
- c. Within three years, develop a portfolio of staff incentives and engagement opportunities, including an educational lecture series, award programs, scholarship opportunities, employee celebrations and opportunities to engage with senior management.
- d. Within five years, explore the establishment of a technician-level development program with a focus on helping technicians better understand TVMDL's impact on animal health.



# Strategic Priority 4:

## Expand Business Opportunities

Veterinary laboratories like TVMDL now operate in a very competitive environment. Veterinarians are increasingly running several diagnostic tests in their clinic, while many private labs have become increasingly competitive with the prices and services offered by TVMDL. In addition to this change in our industry, over half of TVMDL’s revenue is realized from test and service fees. This trend of less appropriated dollars is expected to continue in the foreseeable future. These circumstances have converged and TVMDL realized we can no longer afford to operate with an agency mindset; we must think of ourselves as a business. This means pursuing clientele, expanding client services, identifying our competitive advantages and marketing our services and expertise.

GOALS	MILESTONES AND DELIVERABLES
<p>4.1. Increase visibility of TVMDL expertise and services.</p>	<p>With the advent of overnight and next-day shipping, clients across the country – and around the world – have a great number of choices when selecting a diagnostic lab. Conversely, TVMDL truly has no geographic boundaries in which we can realistically recruit clients. Within these new parameters, TVMDL must work to inform veterinarians and producers in Texas and beyond on the many ways TVMDL can benefit their practice and eventually earn their business.</p> <ul style="list-style-type: none"> <li>a. Within one year, expand marketing efforts via trade shows, meetings and conferences across the US and globally, when appropriate.</li> <li>b. Within one year, develop and promote a TVMDL Speaker’s Bureau to provide expert speakers and panelists to educational programs, conferences and training programs focused on animal health, thus exposing more clients to TVMDL’s services.</li> <li>c. Within two years, utilize joint Extension positions and Veterinary Diagnostician positions to act as an education and outreach arm of the agency, marketing our services to existing and potential clients one-on-one or in small groups.</li> <li>d. Continue to invest in marketing and communications technology and talent within the agency to ensure timely, accurate and audience-specific marketing efforts.</li> </ul>
<p>4.2. Increase market share of veterinary diagnostic business from Latin America.</p>	<p>Very few quality-assured veterinary diagnostic labs exist in Latin America. With Texas’ proximity to Mexico, as well as South and Central America, TVMDL has a prime opportunity to reach an untapped market of potential clients. TVMDL and other animal health organizations also have a vested interest in improving the health of livestock populations in order to increase trade opportunity and decrease the risk of foreign and emerging diseases that may cross into our state or region.</p> <ul style="list-style-type: none"> <li>a. Within one year, attend trade shows, conferences and animal health meetings internationally when feasible. Network with Texas A&amp;M University System entities partnering with animal health agencies, officials and organizations in Latin America to increase awareness and foster relationships.</li> <li>b. Within two years, research barriers to Latin American clients using TVMDL, develop solutions and apply direct marketing strategies to potential clients.</li> <li>c. Within three years, ensure key TVMDL staff are educated and available to quickly and appropriately respond to Latin American clients.</li> <li>d. Within three years, increase accessibility of TVMDL resources to a Spanish-speaking audience. Translate website and marketing materials into Spanish when relevant.</li> </ul>

4.3. Implement data-driven decision making.

As TVMDL moves into a business mindset, we must also adopt the use of data points to assist in making strategic business decisions. TVMDL's laboratory information management system contains thousands of data points that can be used to inform marketing efforts and with this data, the agency can take a strategic approach to all marketing efforts, both large and small, to ensure the most efficient and impactful use of our time and resources.

- a. Within one year, install business intelligence tools to capture and analyze caseload and financial data.
- b. Within one year, create pre-programmed reports to deliver real-time information to inform decision-making. Improve the data literacy of TVMDL leadership to ensure data-driven decisions can be made at the section level.
- c. Within two years, establish a standardized, regular process and schedule to evaluate test costs vs. test fees and adjust fees accordingly.
- d. Within three years, identify tests that are financially successful and market appropriately. Establish long-term, seasonal, regional, species-specific trends to increase marketing effectiveness.

4.4. Form strategic partnerships.

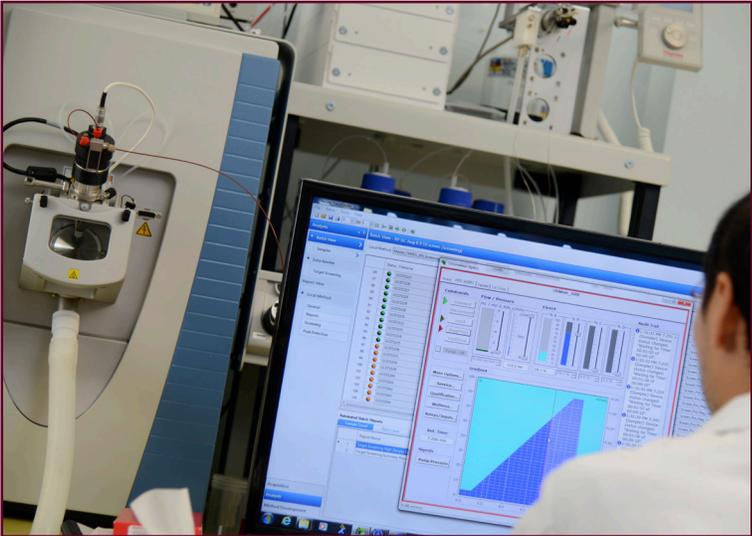
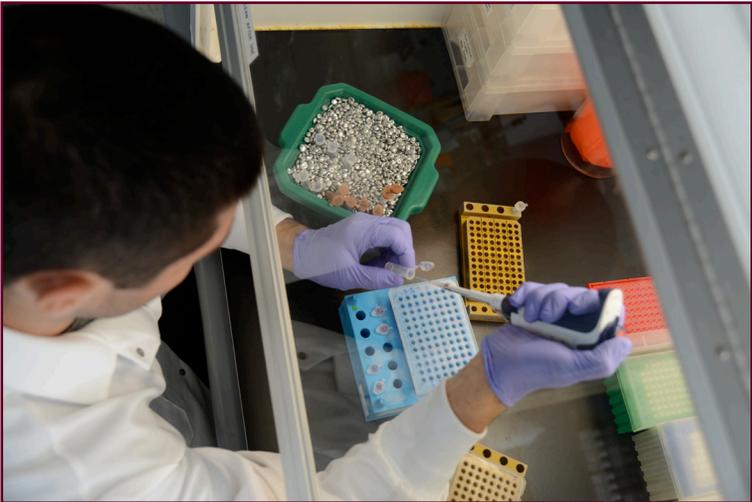
TVMDL clients are varied and range from individual producers or veterinarians to large corporate animal health companies and academic researchers. To maximize our potential clientele, TVMDL should look at corporations, researchers, fellow laboratories and other non-traditional clients and when possible, provide a customized service to support mutual benefits.

- a. Within one year, explore collaborations with private and public animal health organizations to provide contract testing services.
- b. Within two years, begin to develop reciprocal agreements with other veterinary diagnostic laboratories to provide specialty services.
- c. Within two years, develop a strategy to promote services and recruit business from both human and animal health researchers in academia or private industry.
- d. Continue to develop and enhance promotional programs for long term or high volume clients.



# Summary and Conclusion

The TVMDL has a solid reputation as a high quality, dependable source of testing services and related expertise. It is uniquely positioned with the Texas A&M University System to both provide standardized high volume testing as well as the flexibility to meet the diverse and changing needs of clients through research and development of new tests as well as consultation and outreach. It is clear that if TVMDL is going to survive, much less continuously evolve to stay on the forefront of veterinary diagnostic medicine, it must embrace many of the entrepreneurial, nimble strategies of other service-oriented, client-centric organizations. For the foreseeable future TVMDL will remain a critical part of the animal and public health disease detection, response and control infrastructure that protects economic and social wellbeing in Texas, nationally and internationally.







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