

**CAPABILITIES**

# Infectious Disease

## Stopping Threats Before They Occur

Technology and equipment is vital for establishing organ-specific infection models, studying immune responses and developing diagnostic assays. Machine learning and “deep learning” at this facility helps in drug repurposing, conducting outbreak investigations, reporting communicable disease and ensuring safety and effectiveness of novel drugs and vaccines. We serve as a critical liaison between stakeholders during disasters, biosecurity and emerging threats.

**CAPABILITIES**

# **Molecular Biology**

## Genome Sequencing for a Healthier Future

Our state-of-the-art molecular lab enhances our ability to study and control outbreaks—allowing us to detect emerging diseases and develop critical vaccines. Through next-generation sequencing instruments, our scientists can produce the genomes necessary to understand pathogens that threaten our world.

**CAPABILITIES**

# **Newborn Screening**

## Early Detection Saves Lives

Newborn screening is crucial to identifying potentially life-threatening health issues in our youngest Oklahomans. New technology has made it possible to detect disorders earlier so we can treat them earlier. Our state-of-the-art equipment reduces false-positives and eliminates false-negatives so that Oklahoma's newborns have the greatest chance at a healthy life.

**CAPABILITIES**

# **Agricultural Research**

## Tracking and Treating Diseases

Animal, plant and environmental health are integral components of public health. Our One Health approach allows us to monitor animal and crop health—preventing disease outbreaks that can begin in our food supply. Early identification and containment will not only preserve Oklahoma’s agriculture sector but protect citizens across our country from environmental hazards and food-borne pathogens.

**CAPABILITIES**

# Biorepository

Collect. Preserve. Discover.

Proper biological samples (human, plant and animal) allow us to study the biology of a disease—enabling us to prepare for the next outbreak. From collection kits to analytical support systems, our biorepository system and technology enables Oklahoma to create one of the largest biorepository facilities in the country.

**CAPABILITIES**

# Bioinformatics

Faster Treatment. Powerful Prevention.

Data is one of the most effective means to address and respond to disease outbreaks. Our combination of Google Cloud and local computational infrastructure enables our team to handle complex datasets faster than ever before. Our staff partners with industry practitioners and academic researchers to build innovative computing models—allowing for faster treatment and more powerful prevention.

**CAPABILITIES**

# Public Health Education

## Training Tomorrow's Leaders

Having a modern, high-performing public health laboratory staffed by talented and dedicated public health professionals and scientists is paramount to ensuring the health and well-being of Oklahomans. Through partnerships with our educational institutions and global health organizations, we're creating a pipeline of future health professionals and scientists. Tomorrow's public health leaders train here.

**CAPABILITIES**

# **Accessioning**

## Smarter Systems for Increased Testing Efficiency

Accessioning serves as the front door for the routing and tracking of bio specimens. Bio specimens accessioned into our facility are tracked using a robust Laboratory Information Management System (LIMS) to ensure that each specimen is tagged with patient data and tracked throughout the workflow. A high functioning LIMS allows us to automate our work and increase overall testing productivity.