

Genomics

Who We Are

EMERGING INFECTIOUS DISEASES & HEALTH

SECURITY (EIDHS) is a global team with over 140 dedicated staff in our HQ and in-country working in over 30 countries worldwide. Combined, we bring over 1,000 years of experience tackling challenges in global health security and emerging infectious diseases. Our team is committed to strengthening health security capacity across the world.

FHI 360 is an international nonprofit working to improve the health and well-being of people in the United States and around the world.

We have over half a century of experience designing and implementing large, complex international health projects and are operating in more than 60 countries including the U.S.

Genomics



EIDHS addresses emerging pandemics, epidemics, and outbreaks with genomics expertise that integrates complex aspects of outbreak control, prevention, preparedness, and detection. Our offerings include genomic sequencing, antimicrobial resistance (AMR) surveillance, and genetic detection capabilities. Our strategy harnesses local and global resources to further develop low and middle-income countries' (LMICs) advanced molecular diagnostic and surveillance capacities.



Our genomic sequencing work is a critical component of clinical microbiology that supports infection control, informs epidemiological investigations, and characterizes evolutionary viral responses to vaccines and treatments. These capabilities — combined with our broad expertise, ability to work with multiple partners, significant global footprint, and strengthened by our family of companies — make EIDHS uniquely positioned to address global outbreaks. Our experience includes countering outbreaks to fight persistent and emerging health threats like avian influenza, H1N1 pandemic influenza, Middle East Respiratory Syndrome, COVID-19, and Ebola virus disease.



Our work builds on over 15 years of experience enhancing the capacity of countries to improve their diagnostic and surveillance systems to detect priority diseases. Our global team has the capabilities to support:

- Detecting and characterizing identified bacterial and viral pathogens in clinical samples
- Molecular sequencing to identify variant outbreaks and genes for resistance and virulence
- Genealogy to understand isolates' genetic similarity to determine transmission dynamics
- Bioinformatics to build capacity to collect, analyze, and use data such as experience with Basic Local Alignment Search Tool (BLAST)

Our Services



Providing technical training and mentoring for molecular epidemiology, genomic sequencing, and data analysis skills that foster local technology leaders' use of applied tools



Drafting standard operating procedures for genomic detection and sequencing



Conducting laboratory assessments for molecular biology and genomic services, and establishing laboratory workflows



Designing and establishing laboratories including procurement of critical laboratory equipment



Strengthening molecular and genetic characterization of AMR and bacterial pathogens' virulence factors

OUR WORK

Maldives

We supported the Maldives government to strengthen their COVID-19 genomic sequencing capacity through a first of its kind facility that identifies SARS-CoV-2, reduces reporting delays, and has rapidly developed targeted outbreak responses. Technical assistance allowed the necessary refurbishment of an existing laboratory and procurement of critical equipment for sequencing that led to the rehabilitation of the new laboratory space and laboratory certification for SARS-COV-2

This included evaluating the physical infrastructure and condition of existing equipment, preparing the architectural design, monitoring the refurbishment work, installing and training laboratory personnel in use of the Illumina technology, and developing standard operating procedures (SOPs).

Our Impact

EIDHS offers sustainable solutions for strengthening country, regional, and global capacity to meet persistent health challenges. Our genomics work:



Increases countries' understanding of transmission dynamics and how outbreaks are spreading



Provides strategic interventions that help prevent and control outbreaks' occurrence and spread



Reduces turnaround time for laboratory results



Improves targeted drug treatment for viral and bacterial pathogens



Identifies prevalent viral variants to define vaccines that can be used in a country



Detects, characterizes, and source tracks zoonotic pathogens from animals, either livestock or wildlife, and environmental sources