


# CDC Driven Progress





 Infectious Diseases Travel Fast and Far	 CDC Driven Progress	 Rapid Outbreak Response	 Sustainable Investment in GHS	 Multisectoral Solutions	 The Road Ahead
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**Over the course of five years of GHSA, all 17 CDC-supported countries have improved their capacity to prevent, detect, and respond to infectious disease threats.**

All 17 GHSA countries have increased capacities in at least one indicator in each technical area compared with baseline estimates. Fifteen countries have increased capacities in four or more technical areas compared with the baseline.

## Key Achievements in Five Years of GHSA

	Laboratory Systems	Surveillance Systems	Workforce Development	Emergency Management and Response
 <p><b>Result</b></p>	<p><b>11</b> countries demonstrated successful detection and reporting of antimicrobial resistant pathogens in the last 12 months</p> <p><b>10</b> countries can conduct laboratory tests to detect national priority pathogens that cause disease, outbreaks, or death</p>	<p><b>10</b> countries can connect disease surveillance data with laboratory data</p> <p><b>6</b> countries have established event-based surveillance in communities and health care facilities</p>	<p><b>All 17</b> countries established or expanded their program to train disease detectives</p> <p><b>14</b> countries have two levels of Field Epidemiology Training Program (FETP) or comparable programs available to public health staff</p>	<p><b>All 17</b> countries have a Public Health Emergency Operations Center (PHEOC), and each country has sent personnel to be trained at CDC’s Public Health Emergency Management (PHEM) Fellowship course</p> <p><b>9</b> of these PHEOCs can activate for a response within 120 minutes of identification of a new public health emergency</p>
 <p><b>Why it Matters</b></p>	<p>Confirming a diagnosis with laboratory results allows health workers to respond rapidly with the most effective treatment and prevention methods, reducing spread of disease and deaths</p>	<p>Effective disease surveillance along with rapid laboratory diagnosis enables countries to quickly detect and stop outbreaks and continuously respond to potential risks</p>	<p>To maintain global health security capabilities, countries need a disease detective workforce that can quickly investigate potential outbreaks and take swift action</p>	<p>PHEOCs bring together experts and stakeholders to efficiently and effectively coordinate response to an emergency or public health threat</p>

## Stories of Foundational Improvements in Global Health Security

### Laboratory Systems: Motorcycles Help Speed Diagnosis in Liberia

Before the West Africa Ebola Virus Disease (EVD) epidemic, Liberia had no system in place for getting clinical samples from remote areas to diagnostic labs – a journey that could take as many as eight hours on public transportation or over difficult terrain. Through Riders for Health, motorcycle couriers offered Liberia an innovative solution for safely getting samples from local clinics to diagnostic labs. With support from the CDC Foundation, U.S. Agency for International Development (USAID), the World Health Organization, and CDC, riders were trained in infection prevention and control, and in motorcycle safety and maintenance. Before Riders for Health, only 25% of samples in Liberia reached a laboratory within 24 hours. Today, that number has increased to about 80%.

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### Laboratory

*“Strong laboratory networks are one of the keys to global health security. Continued investment in laboratory systems that can detect priority pathogens allows for life-saving, rapid response.”*

— Scott J. Becker, Chief Executive Officer, Association of Public Health Laboratories

## Surveillance Systems: Detecting Multidrug-Resistance in Pakistan

In 2015, Pakistan was experiencing an outbreak from an unknown pathogen. CDC identified *Candida auris*, a life-threatening, multidrug-resistant fungus, as the cause and quickly alerted Pakistan health authorities about the threat. CDC worked with the Pakistan National Institute of Health (NIH) to implement a pilot program of laboratory-based surveillance for *C. auris*, providing on-site training to pilot hospitals and the NIH on identifying infections and determining whether they are resistant to treatment. With CDC support, pilot hospitals have begun reporting suspected cases and sending samples to Pakistan NIH for testing. Pakistan’s NIH Microbiology and Field Epidemiology & Disease Surveillance Division monitored reported cases to stop outbreaks faster. Pakistan plans to increase the number of surveillance sites once the pilot program is complete. More robust identification and surveillance will help contain the spread of *C. auris*, particularly the most drug-resistant strains, many of which have been found in Pakistan.

### Surveillance

*“Partnerships and investment in surveillance networks are critical to preventing, detecting and responding to the next disease threat.”*

– John Auerbach, President and CEO, Trust for America’s Health

## Workforce Development: Informing Decision-Makers in Vietnam



From March to April 2019, surveillance staff at the Tay Nguyen Institute of Hygiene and Epidemiology (TIHE) in Vietnam's Central Highlands noted increased dengue cases in Gia Lai province. A recently trained FETP fellow and member of the TIHE surveillance team joined the Gia Lai provincial rapid response team to investigate the dengue outbreak. By applying what she learned in the FETP training, the recent FETP fellow was able to collect essential data and

conduct data analysis related to the dengue outbreak. Through Vietnam's newly established network of EOCs – developed in part with the support of CDC– the surveillance team could compile, analyze, and interpret the data while working within TIHE's EOC. Workforce development, as exemplified by FETP training, along with Vietnam's newly established public health infrastructure and data sharing, continue to help inform public health decision makers and guide the country's response to disease outbreaks.

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### Workforce

*"Sustained investment in frontline health workforce teams is foundational to global health security. Highly-trained and well-supported epidemiologists, nurses, midwives, community health workers, physicians, pharmacists, veterinarians and other frontline disease detectives must coordinate and collaborate to rapidly prevent, detect and respond to emerging and re-emerging health threats."*

– Vince Blaser, Director, Frontline Health Workers Coalition Secretariat, IntraHealth International

## Emergency Management and Response: Controlling Crimean-Congo Hemorrhagic Fever (CCHF) in Uganda

In a part of the world already fighting to contain EVD, CCHF may be initially misidentified as EVD, highlighting the need for effective surveillance and laboratory testing to correctly diagnose and contain the infectious pathogen before it spreads. In Uganda, when an alert of suspected CCHF cases in two regions was received, CDC-trained scientists at the Uganda Virus Research Institute (UVRI) National Reference Laboratory confirmed CCHF through molecular diagnostics within 24 hours. In each instance, health facilities were able to use national surveillance and reporting systems to immediately report the cases to Uganda's PHEOC, which in turn quickly mobilized national rapid responders to collect samples and provide technical assistance to healthcare workers. As a result of U.S. Government investments in the Ministry of Health's infection prevention and control activities and viral hemorrhagic fever diagnostics, Uganda has developed the ability to rapidly act to contain deadly outbreaks, including that of CCHF and EVD.

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### Emergency Operations/Preparedness

*"Functional, exercised emergency operations capacity is a critical component of global health security. CDC's critical support to countries around the world has enabled improved preparedness for biological events, whether naturally occurring, deliberate or accidental, which threaten public health and international security."*

– Beth Cameron, Vice President, Nuclear Threat Initiative

Examples of CDC-driven progress span the globe. Visit [GHS in Action](#) for more information.

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Rapid Outbreak Response »

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