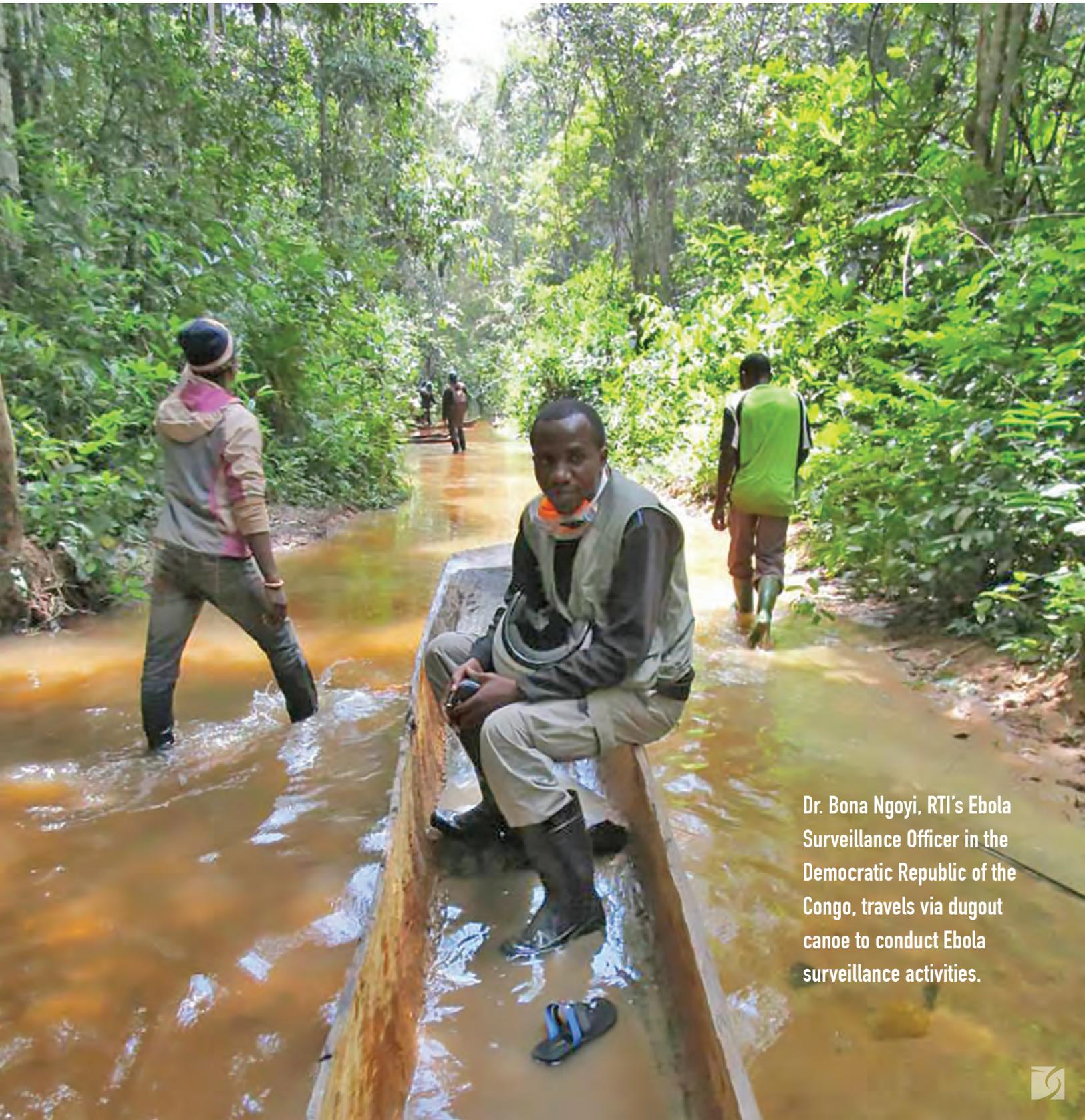


FIGHTING

EBOLA

FROM THE OUTBREAK EPICENTER

RTI INTERNATIONAL'S EBOLA RESPONSE ACTIVITIES
LIKATI HEALTH ZONE, BAS-UÉLÉ PROVINCE, DEMOCRATIC REPUBLIC OF THE CONGO
MAY-JUNE 2017



Dr. Bona Ngoyi, RTI's Ebola Surveillance Officer in the Democratic Republic of the Congo, travels via dugout canoe to conduct Ebola surveillance activities.



Most photos in this document are credited to Dr. Bona Ngoyi and Mr. Christian Tunda, RTI International, or Patrick Adams. They are noted with an RTI logo mark. 

EPIDEMICS CAN TRAVEL FAST

IF ONE COUNTRY IS AT RISK, WE ARE ALL AT RISK

When Ebola moved from West Africa to Dallas, Texas in September of 2014, it showed that borders on a map provide little protection and deadly pathogens are an airport away.

This impact story addresses the realities of fighting an infectious disease outbreak in a place that struggles with serious infrastructure challenges for health, travel, and communications. In response to the May 2017 Ebola outbreak in the Likati Health Zone in Bas-Uélé Province of the Democratic Republic of the Congo (DRC), RTI International worked side-by-side with local first responders, U.S. officials, and global health leaders to contain the outbreak within a matter of weeks.

The United States invests in capabilities to detect and control global epidemics to safeguard America's public health and economy. Thanks in part to those taxpayer investments and on-the-ground support and collaboration, the threat was quickly contained. Will such critical domestic and international support be available next time?

Let's all hope so.



FRAGILE HEALTH SYSTEMS

Like many countries in sub-Saharan Africa, the DRC's fragile health infrastructure lacks sufficient health care personnel and supplies to adequately respond to Ebola and other disease outbreaks.

Estimates indicate that 70% of the DRC has little to no access to health care and many people seek care outside the formal systems with traditional healers or religious leaders, so stopping global health threats when and where they start is challenging. Conversely, countries like the United States are equipped to quickly detect and isolate health threats.

Scarce health care resources and limited access to care can test a nation's ability to independently prevent, detect, and respond to emerging outbreaks. Given these realities, countries like the DRC—and the rest of the world, for that matter—depend on American expertise and global health experts to stop outbreaks where they start.



A birthing room at the Gbatala Health Center in the Likati Health Zone.



Standard supplies in a patient treatment room at the Gbatala Health Center in the Likati Health Zone.



BUSHMEAT

THE DISEASE TRADE

Monkeys, rats, bats, wild pigs, and other types of bushmeat provide a cheap and readily available source of protein for millions of people in Africa who face food insecurity. In sub-Saharan Africa, estimates indicate that people eat about 5 million tons of bushmeat a year, even though most is illegal.

In addition to feeding and sustaining families, bushmeat is important to the DRC's economy. Wild animals from forest areas are captured and sold at markets across the country, including the capital—Kinshasa—and neighboring countries like Cameroon.

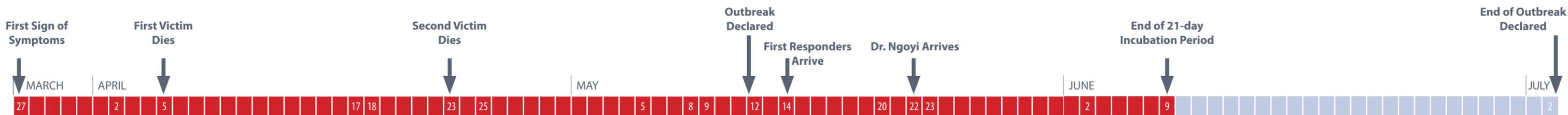
As a food staple and source of income for many families, bushmeat means life. But handling, hunting, or consuming bushmeat can lead to illness or death by creating a pathway for deadly diseases, such as Ebola. Changing these practices involves efforts on multiple levels—first by raising awareness about the risk of contracting Ebola and other diseases from consuming or handling bushmeat and then by disrupting the criminal—but culturally accepted—bushmeat trade.



The Ebola response surveillance team encounters bushmeat hunters on the road to the Ngay Health Center.

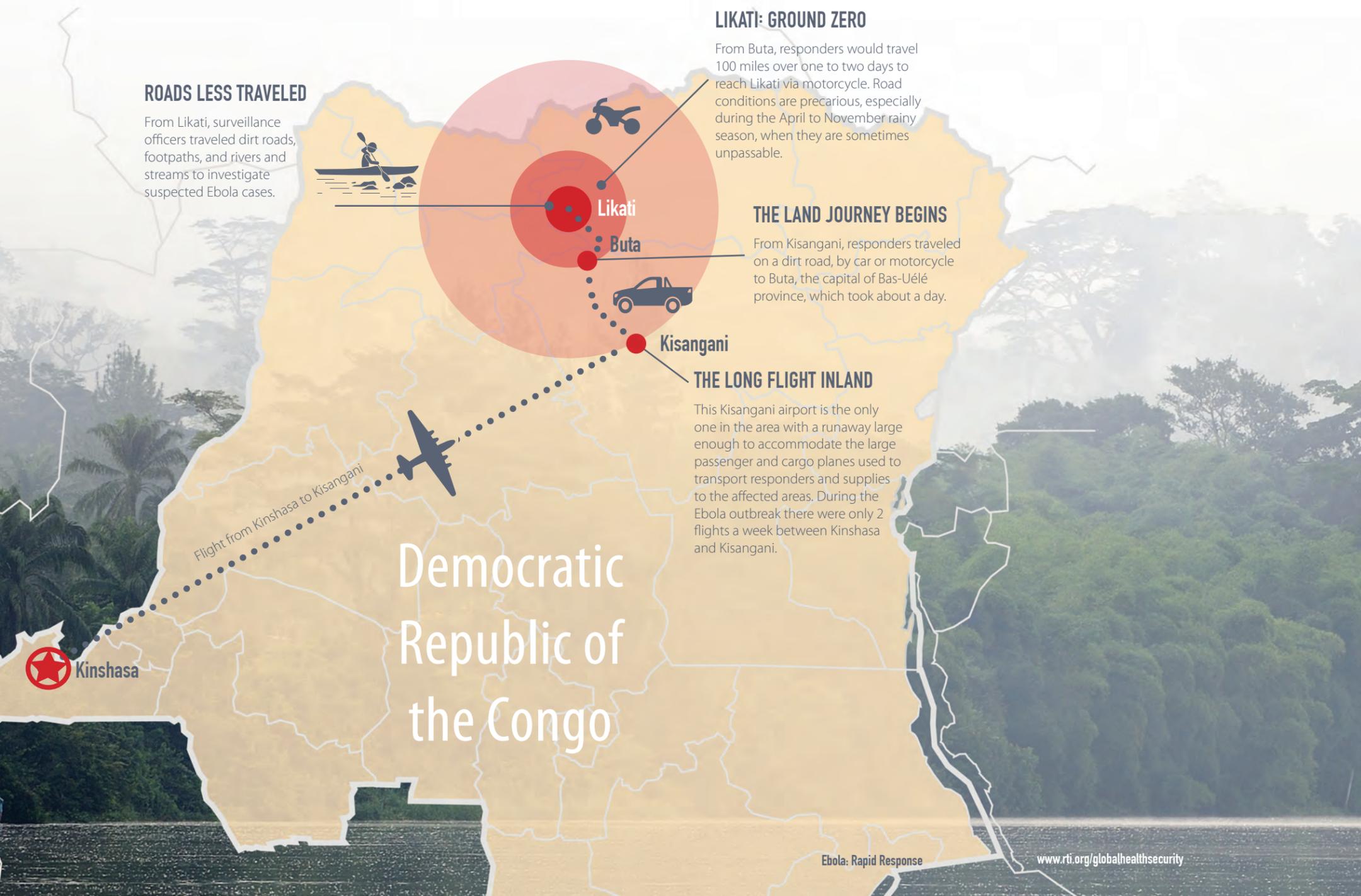
Monkeys, and other types of bushmeat, can be disease vectors that carry and transmit the Ebola virus to humans.





TARGETED RESPONSE = 97 DAYS CRISIS ENDS

THE ARDUOUS JOURNEY TO THE OUTBREAK EPICENTER



- 3/27/2017** The index case, a hunter, begins showing symptoms of Ebola.
- 4/2/2017** The hunter visits a traditional healer, but his condition worsens.
- 4/5/2017** Two men attempt to take the hunter by motorcycle to the hospital, but he dies en route and is returned to his village. His death is not reported to health authorities.
- 4/17/2017** The motorcycle driver begins to show Ebola-like symptoms.
- 4/18/2017** The motorcycle passenger who helped transport the index case begins showing Ebola-like symptoms.
- 4/23/2017** The motorcycle driver presents to the Nambwa Health Center and then is referred to Likati General Hospital. He dies en route and his body is returned to his village for burial.
- 4/25/2017** The motorcycle passenger presents to the Bovabima health post where a blood sample is collected and stored. After several days, his condition improves and he is released.
- 5/5/2017** The local health authorities in Likati investigate a cluster of illnesses and deaths with Ebola-like symptoms. They collect samples from 5 suspected cases.
- 5/8/2017** The Ministry of Health receives an alert of a potential Ebola outbreak from Bas-Uélé health authorities. The outbreak is reported to the World Health Organization (WHO).
- 5/9/2017** Several samples collected from the suspected cases test positive for Ebola at the national reference lab in Kinshasa.
- 5/12/2017** The Ministry of Health releases public declaration of Ebola outbreak in Likati Health Zone. WHO activates the Global Outbreak Alert and Response Network, a collaboration of institutions and networks that rapidly respond to outbreaks of international importance.
- 5/14/2017** First group of Ministry of Health, WHO, and international responders are deployed to Likati.
- 5/20/2017** A mobile lab and Ebola treatment center are established in Likati.
- 5/22/2017** RTI epidemiologist, Dr. Ngoyi, arrives in Likati to assist with the Ebola response.
- 5/23/2017** Active surveillance identifies pig deaths dating back to April in 8 villages.
- 6/2/2017** All contacts complete 21 day monitoring period with no new cases identified. Pending serology results for two suspected cases confirm Ebola infection, with onset dates of April 24 and May 11.
- 6/9/2017** The date that marks 21 days since the last case tested negative for Ebola virus. No additional cases were identified from May 21-June 11, marking the end of the 21-day incubation period.
- 7/2/2017** The Ministry of Health publicly declares the end of the outbreak, following 42 days since the last confirmed case tested negative. The 42 day period, which is twice the maximum incubation period for Ebola, is used to confirm the end of human-to-human transmission.



LOCATING

THE ORIGINS OF THE OUTBREAK

Dr. Bona Ngoyi, a medical doctor and trained epidemiologist, leads RTT's disease surveillance activities in the DRC. As an experienced “disease detective” and alumnus of the DRC's Field Epidemiology Training Program, he was part of a rapidly assembled surveillance team of first responders to the 2017 Ebola outbreak in the Likati Health Zone, located over 850 miles from Kinshasa. Dr. Ngoyi helped the DRC Ministry of Health investigate origins of the outbreak and trace the chain of transmission to understand how the disease spread.

The surveillance team visited remote villages to interview health workers and community members, review health records, investigate reports of unexplained deaths and illnesses in humans and animals, and look for evidence of animal-to-human transmission. This intensive investigation provided clues about how and when the outbreak began. (In this case, pigs were the suspected source of transmission.)

Investigating the Ebola outbreak proved challenging in the remotely located epicenter, where few bridges and no paved roads exist. In many cases, villages are connected only by small footpaths or streams, which become increasingly difficult to use from April to November because of the rainy season.

Dr. Ngoyi crossed small and large rivers on rickety bridges, traveled by motorcycle on poorly maintained dirt roads, and used pirogues—dugout canoes—to reach the remote villages where Ebola cases were suspected and identified. These precarious travel conditions are typical for the region and create another challenge for responding to potential health issues of global concern.



Dr. Ngoyi navigated primitive roads by motorcycle to investigate the origins of the Ebola outbreak in the Likati Health Zone.

Health workers routinely navigate rough terrain—like this makeshift bridge on the road from Kisangani to Likati—to investigate suspected Ebola cases in remote areas.





FIGHTING EBOLA TOGETHER

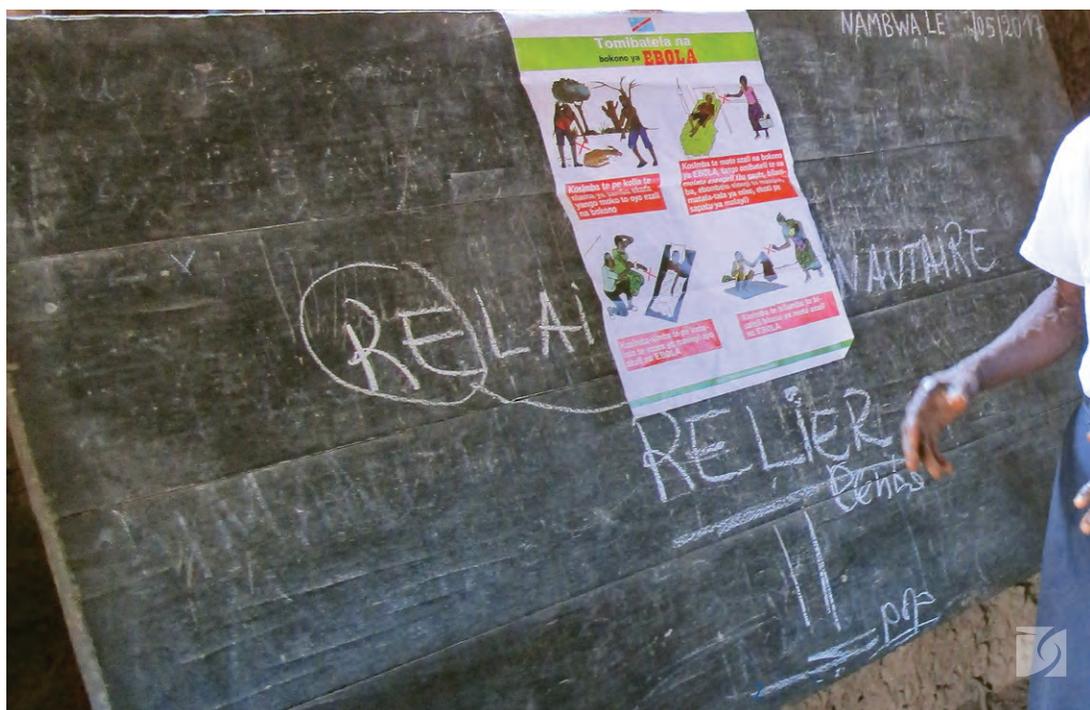
During the outbreak, response partners assessed and strategically adapted to the needs of the evolving Ebola situation. This collaboration helped to quickly contain the Ebola outbreak in the Likati Health Zone within 51 days—an extraordinary and timely response compared to the West Africa Ebola outbreak that claimed over 11,000 lives and took years to contain.

Within days of the May 12 outbreak declaration, experts stood ready to help community health workers investigate cases and track anyone who had come into contact with infected individuals. Over the course of the outbreak, the first responders identified 583 contacts and educated community health workers about how to implement daily contact monitoring to identify and manage new infections safely. The well-coordinated response contributed to rapid containment where only four of the eight cases resulted in death.

To combat the 2017 Ebola outbreak, RTI worked with response partners to train or retrain 98 community health workers across the seven Ebola-affected communities in the DRC. Front-line health workers need to know how to safely work in dangerous situations so they can protect themselves and others while they investigate and fight the spread of life-threatening diseases. Through practical sessions and field simulations, community health workers were trained to identify the signs and symptoms of Ebola so that suspected cases could be quickly detected and reported to health authorities. These workers were also taught how to stop the chain of transmission by tracing “contacts”—people who interacted with suspected cases—and then safely monitor them daily for signs of infection.



A man's feet are sprayed down at a disinfection station run by volunteers trained to prevent infection.



Community health workers learn about Ebola prevention.



SECURING ACTIONABLE DATA

As part of the Ebola Surveillance Committee, RTI helped improve Ebola detection and data management—which enabled local health facilities, laboratories, and the Ebola treatment center to coordinate an effective, prompt response.

In the DRC, only one percent of rural and 19 percent of urban residents have electricity, which creates another infrastructure challenge for addressing global health threats. The city of Likati has no public electricity, and 4 of the 11 communities in the Likati Health Zone don't have any telecommunications capabilities at all. The Ebola Response Headquarters in Likati had two generators installed recently to support office and medical operations, but only from 8 am to 10 pm.

In the latest outbreak, RTI helped build information and communication systems in Ebola-affected areas. These efforts allowed the response team to efficiently manage case data and effectively share information among isolated Ebola-affected communities, the Ebola Response Headquarters in Likati, and the DRC Ministry of Health in Kinshasa. RTI's work included rapidly assessing the existing Ebola response system, identifying weaknesses and gaps in that system, and deploying solutions to address those issues.

Preventing future outbreaks has become RTI's new goal now that the Likati Health Zone outbreak has been successfully contained. RTI continues to work with the DRC Ministry of Health and other partners to improve local knowledge and strengthen information systems for fast and effective surveillance of infectious diseases.



Health workers manage alerts and reports from the community about suspected Ebola cases.



Rapid installation of satellite equipment and solar panels at the makeshift coordination headquarters in Likati allow Ebola response workers to communicate from the remotely located outbreak epicenter.





GLOBAL HEALTH THREATS REQUIRE A GLOBAL RESPONSE

RTI proudly serves as a Global Health Security Agenda implementation partner with the U.S. Centers for Disease Control and Prevention. RTI also collaborates with the DRC Ministry of Health, World Health Organization, and other international partners to make the DRC, Africa, and the world a safer, healthier place.

The United Nations' World Food Programme supports the Ebola response by delivering staff and essential supplies to the outbreak epicenter.

CONTACT US TO LEARN MORE



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