



# Strengthening Guinea's Health System Post-Ebola

## CONTEXT

The 2014–2016 Ebola virus disease (EVD) epidemic in West Africa affected large areas of Guinea, with the majority of cases in six regions—Boké, Conakry, Faranah, Kankan, Kindia, and N'Zérékoré. By the end of the outbreak, more than 3,800 people had been infected with EVD, 2,544 people had died, and 1,270 people were officially registered as Ebola survivors, although there are undoubtedly more survivors who are not registered.

Guinea's health system—consisting of 1,386 public health facilities, staffed by 977 doctors and 4,756 nurses and midwives—was severely impacted by the Ebola epidemic. Of 199 health workers who contracted EVD, 109 died.<sup>1</sup> Many people stopped coming to health facilities from fear of being infected. Lack of knowledge and skills among health workers, and the poor condition of Guinea's health facilities, including aging infrastructure and equipment, contributed to the epidemic's virulence.

From 2016 to 2018, the U.S. Agency for International Development (USAID)-funded Advancing Partners & Communities (APC) project, managed by JSI Research & Training Institute, Inc. (JSI), stepped in to work with the Guinea Ministry of Health and its National Agency for Health Security (NAHS), Agence Nationale de Sécurité Sanitaire. APC supported NAHS in its efforts to strengthen the health system post-Ebola; put in place measures to avert a future outbreak; and help survivors gain access to quality health services. APC's Ebola Transmission Prevention and Survivor Services Program addressed three main areas of health service delivery that needed improvement: renovation of health facilities, provision of equipment and medical supplies, and training of medical staff.



*In Maneah, APC supported the health center by renovating the building's infrastructure, providing equipment and medical supplies, and training health care workers. Photo: Kate Litvin, APC*



## ASSESSMENT OF HEALTH FACILITIES SERVING EBOLA SURVIVORS

In December 2016, APC conducted a situational analysis to assess 18 health facilities where a high volume of Ebola survivors sought care. The analysis targeted facilities in the three regions where most survivors live—seven in Conakry, four in Kindia, and seven in Nzérékoré. APC evaluated staff capacity, infrastructure quality, and availability of medical equipment and supplies. The team found major deficiencies.

The majority of facilities were unable to provide essential services for appropriate care of Ebola survivors. Major infrastructure deficiencies included lack of running water, nonworking bathrooms, deficient electrical supply, nonfunctioning windows and interior doors, and lack of air conditioning. Of the 18 facilities, 58 percent had no staff who could identify and correctly treat contagious diseases; 72 percent had no staff who could diagnose or provide support for mental health problems; and 30 percent did not have ophthalmologic services. Despite standards required by government health policy, the services that were available were insufficient in quality or not regularly available.

In addition, APC's analysis revealed that the number of health workers was insufficient; there were not enough specialists who could treat the complications experienced by Ebola survivors; and the distribution of specialists was uneven. In the Kindia and Nzérékoré Regions, there was only one doctor for every 27,000 people, a ratio more than two times lower than the physician density for the entire country.<sup>ii</sup> In the interior of the country, there were no specialists, although Conakry had more than an adequate number of specialists. For example, at the Matoto Health Center in Conakry, there were more health workers and specialists than the patient population required. However, the health workers were not trained in appropriate care of Ebola survivors.

## PROGRAM INTERVENTIONS

### HEALTH FACILITY RENOVATIONS

Based on the situational analysis, APC selected eight high-volume health facilities for renovation in three priority regions of Guinea—four in Conakry, two in Kindia, and two in N'Zérékoré (see Figure 1)—including one health post, three health centers, three medical centers, and one ophthalmology department at a national hospital.

Renovations at these facilities varied depending on the condition of the buildings. In most facilities, APC made repairs and/or renovations to doors, windows, ceilings, walls, floors, and roofing. Renovations also included repainting the interior and exterior of buildings. One facility also received an exterior wall for security; other facilities had air conditioning equipment installed to enable proper storage of medicines and improve work space.

To ensure a steady supply of power, the project improved the electrical systems in six facilities by repairing or replacing wiring and installing solar panels and associated equipment. These electrical systems supply electricity to health facility lighting and equipment critical for patient care.

At any health facility, effective infection prevention and control requires access to a continuous supply of water. APC improved water systems in seven facilities, including repair and/or replacement of internal and external pipes, toilets, and sinks. At one facility, the project improved the drinking water supply by installing a water tower. In another facility, the project repaired an existing borehole that was no longer working, thus resupplying the facility with water.



*Newly installed solar panels at Flamboyants Community Health Center ensure a steady source of electricity for the facility. The solar panels also provide power for the ophthalmology ward's slit lamp, also provided by the project. Photo: Kate Litvin, APC*

## EQUIPMENT AND MEDICAL SUPPLIES

The December 2016 situational analysis also found a lack of essential equipment in the 18 health facilities assessed; the equipment that was available belonged to individual doctors—not to the facilities. Furthermore, there were not enough hospital beds or thermometers, so health professionals could not conduct comprehensive diagnostics of patients visiting the facilities.

In 2017, APC procured medical equipment, including hospital beds and delivery tables, for 14 of the 18 health facilities assessed that see a high volume of Ebola survivors. Equipment also included basic tools needed for diagnostic and patient care, such as stethoscopes, resuscitation devices, surgery kits, thermometers, and umbilical clamps. The project also procured ophthalmology equipment for six facilities, including slit lamps, ophthalmoscopes, vision testing charts, and lens kits. The equipment was delivered to facilities in March and April 2018. NAHS then asked APC to provide medical equipment to an additional nine health facilities in the hardest-hit regions. In June and July 2018, APC supplied hospital beds, delivery tables, and other furniture to the newly designated facilities. In September 2017, the project also handed over laboratory equipment, reagents, and supplies to the National Laboratory of Hemorrhagic Fevers for the semen testing program.



*Dr. Fatimatou Diallo, head of the maternity department at Flamboyants Community Health Center, with a patient who just delivered a baby. The new mother used a delivery table provided by APC. Photo: Kate Litvin, APC*

## TRAINING OF MEDICAL STAFF

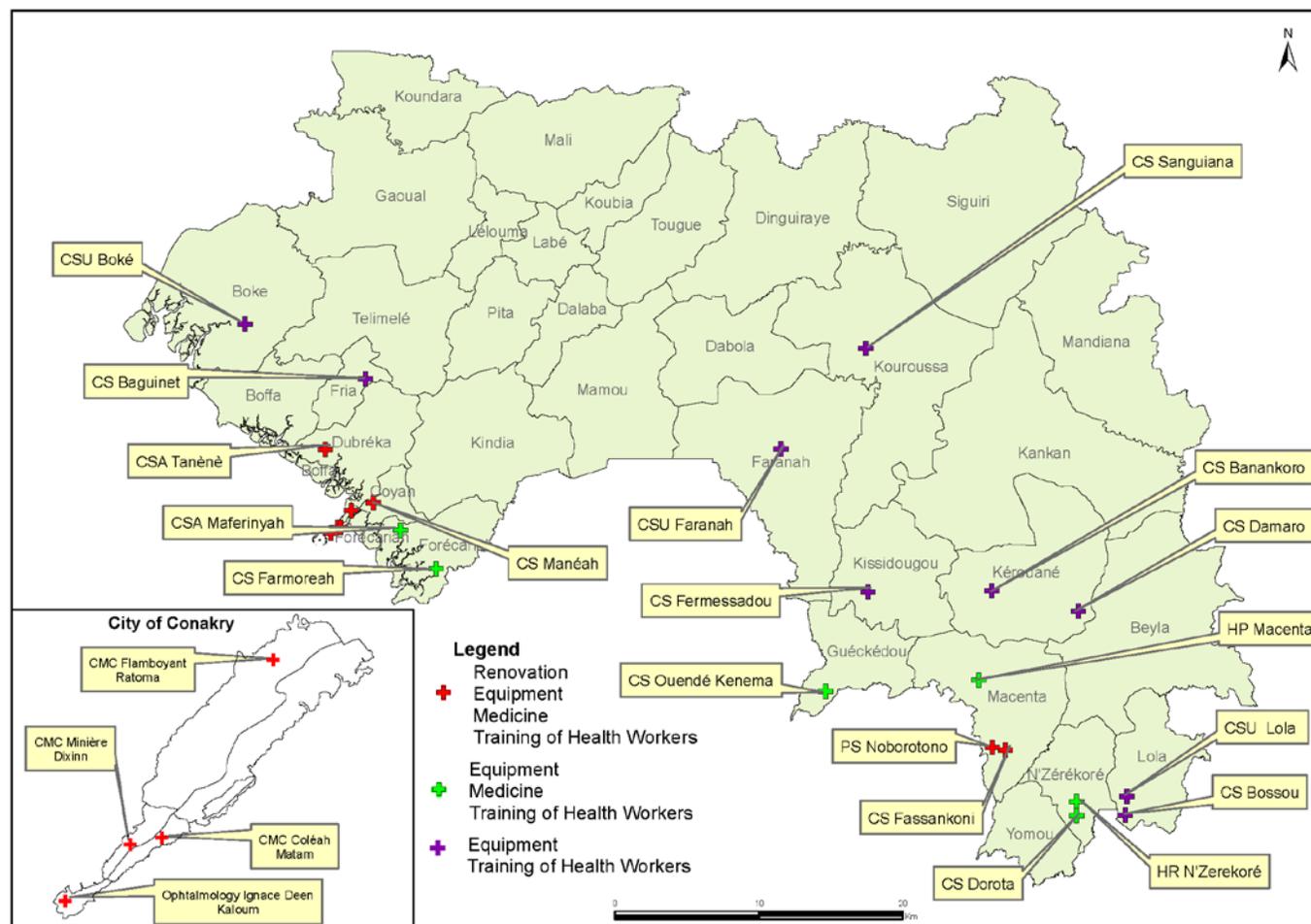
Ebola survivors have reported facing stigma in their communities and at health facilities when they seek care. Many suffer from complications from EVD that require specialty care, such as ophthalmology, neurology, rheumatology, and psychiatry—services that can be difficult to obtain because of a lack of trained medical staff and access to transportation.

In November 2017, APC sub-grantee International Medical Corps and NAHS held a workshop to review the newly-developed clinical guidelines to be used to train health care workers who care for Ebola survivors. Specialists, including ophthalmologists, rheumatologists, psychiatrists, and ear, nose, and throat (ENT) specialists, attended the workshop to discuss Ebola-related complications among survivors, and other illnesses that survivors can face. The new guidelines specified how to conduct diagnostics for an Ebola survivor, provide treatment based on the diagnostics, and how and when to make appropriate referral to specialized care.

As a result of the review, the specialists approved the guidelines for validation by the NAHS. A training curriculum for health care providers was developed based on the approved guidelines for safe, appropriate clinical care and stigma reduction for Ebola survivors. The curriculum addressed ophthalmologic, ENT, neurological, psychiatric, and gyno-obstetrical symptoms, along with referrals for complications to secondary and tertiary care facilities.

By July 2018, International Medical Corps will have trained a total of 166 health care providers from program-supported facilities on the clinical care guidelines for Ebola survivors. The three-day trainings were interactive and oriented toward adult learning. The facilitator asked the audience questions and conducted a pre-test and a post-test to assess participants' gain in knowledge. After the training, participants were instructed to share what they learned with other health workers at their facility. International Medical Corps also supervised trained health care workers to ensure that they practiced what they had learned and shared it with relevant coworkers. In addition, 30 biologists received refresher training on semen collection for Ebola survivors as part of the national testing campaign.

Figure 1. Health Facilities Supported by APC with USAID Funding



## MAINTENANCE AND IMPROVEMENTS

APC provided the head of each renovated health facility with a maintenance plan to keep the new infrastructure and equipment in good condition. The plan included descriptions of how to assign each aspect of maintenance to someone working at the health facility or the district level. The head of each health facility verbally agreed to maintain the improved health facility and the donated equipment. Providing multiple improvements to the same project-supported facilities ultimately increased the level of service at these facilities more than if the project had provided unique improvements to many different facilities.

## CONCLUSIONS

To strengthen the health system following the Ebola outbreak in Guinea, the APC project ensured that these high-volume health facilities have the infrastructure required for basic care, the equipment and supplies needed to diagnose and treat illnesses in Ebola survivors, and that health workers have the skills to provide appropriate care for Ebola survivors. This holistic approach to patient care has improved the quality of health services available to Ebola survivors at program-supported facilities and leaves the sites in a better position to handle the current and future needs of their catchment populations.

The renovations of health facilities, provision of equipment, and training of health workers puts these high-volume sites in a better position to provide high-quality services to survivors and the population as a whole. For example, in renovated facilities with increased access to water, patients can wash their hands as they enter the facility and health workers can wash their hands as needed, thus improving infection prevention and control in the facility. Offices have air conditioners that function, which has notably improved the quality of health workers' working conditions and ensures that medicines are stored at the appropriate temperature. Renovated and improved bathroom facilities are critical for patient comfort and maintaining a clean environment.

The supply of medical equipment and materials to the selected health facilities has increased their ability to provide high-quality care and has created an improved service environment for both patients and staff. The donated equipment has improved health workers' ability to diagnose illnesses and treat patients, which will enable patients to use the facility's services for follow-up and reduce unnecessary referral to other health centers that may be more difficult to reach. This will encourage more patients to visit the facilities, leading to earlier and more effective treatment. Further, International Medical Corps' training provided health care workers with the skills to manage Ebola survivors' treatment without stigmatizing them, and to refer survivors to a higher level for specialized care, if needed. As a result, both health care workers and these facilities are better equipped to manage Ebola survivors' sequelae and are better prepared to manage any potential outbreaks of infectious disease in the future.

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<sup>i</sup>World Health Organization (WHO). 2015. "Origin of the 2014 Ebola Epidemic : One Year into the Ebola Epidemic." Available from: [www.who.int/csr/disease/ebola/one-year-report/virus-origin/en/](http://www.who.int/csr/disease/ebola/one-year-report/virus-origin/en/) (accessed July 19, 2018).

<sup>ii</sup> <https://www.cia.gov/library/publications/the-world-factbook/fields/2226.html>

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