

Building on Capacity Established through US Centers for Disease Control and Prevention Global Health Programs to Respond to COVID-19, Cameroon

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Sarah Gregory] Hello, I'm Sarah Gregory, and today I'm talking with Dr. Emily Kainne Dokubo, the CDC Country Director for the Jamaica/Caribbean Regional Office. We'll be discussing leveraging CDC global health programs to respond to COVID-19 in Cameroon.

Welcome, Dr. Dokubo.

[Emily Kainne Dokubo] Thank you, Sarah, and good morning.

[Sarah Gregory] You're the former CDC Country Director in Cameroon, you're the current CDC Country Director in Jamaica and the Country Director for the Caribbean Regional Program, and you've worked globally with CDC for nearly a dozen years. Some people may not realize CDC works in countries around the world and how that work benefits people at home in the United States. So how does CDC work globally?

[Emily Kainne Dokubo] Well Sarah, CDC is the premiere public health institution and has been established for over 75 years; we're actually celebrating our 75th anniversary this year. So as part of that, the CDC has a presence in over 60 countries and has used its scientific expertise to help people around the world, really focused on ensuring that people live healthier, safer, and longer lives. Our work group date backs to the late 1950s; in about 1958, the CDC had sent a team of Epidemic Intelligence Service officers, who are known as disease detectives, to work on smallpox and cholera outbreaks in Southeast Asia.

And since then, there have been numerous outbreaks globally that CDC has supported, and we currently have offices in over 60 countries around the world with public health experts from across the agency who are providing specialized scientific and programmatic support to host governments, World Health Organization, Ministry of Health, and other multilateral partners as well as working in collaboration with other US government agencies. And really our focus is on strengthening capacity to be able to ensure that we're strengthening health systems. We're ensuring that there is a fit for purpose health workforce, and that we're able to respond to disease outbreaks and health threats at the source where they occur. And our ability to work closely with ministries of health and partners have really helped us to develop integrated functional and flexible public health systems that are owned by the countries and ensure that they are sustainable.

And through our offices globally, we provide that partnership and support to ministries of health and others on the ground, working to strengthen their public health systems, working to ensure that there are effective responses to health threats. And we also provide support from our headquarters to partner countries on a wide range of priorities. The technical assistance that CDC provides is driven by science data and really based on evidence of what works. And we do this by working closely with the in-country partners who can own the capacity gains that we've

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achieved, and also the work that we provide is designed to address the needs that are identified by our in-country partners and collaborators. So in sum, our approach to global health priorities really puts the focus on host country ownership (host country leadership) and invested in local partnerships and ensuring that we're developing sustainable capacities and sharing our technical expertise globally.

[Sarah Gregory] You're also the CDC lead author of an article that examines how CDC's Country Office in Cameroon supported the local government and health officials to respond to COVID-19. What you did you find doing that?

[Emily Kainne Dokubo] So the CDC office in Cameroon has been established for almost 20 years and has a team of public health experts, both from headquarters assigned to Cameroon and locally engaged staff who work to support the host government and working closely with the Ministry of Health and partners

With the start of the COVID-19 pandemic, we organized the COVID-19 response team, comprised of staff who had previously supported the 2014–2016 West Africa Ebola response and who have also worked on other disease outbreaks, and they were able to apply the expertise that they had from other outbreak responses to support the COVID-19 response in Cameroon. We developed a response plan that was aligned with the Cameroon Ministry of Health COVID-19 national plan and our public health experts were embedded in the National Incident Management System, which is an established command structure to manage emergency responses. And through that, CDC was able to provide that technical leadership and public health expertise in conjunction with WHO, supporting the Ministry of Health's response efforts. And we did this both at a national level and the sub-national level in the different regions of Cameroon.

And CDC COVID-19 Response Team members were able to provide that expert technical support across all pillars of the Incident Management System, including surveillance, laboratory, case management, infection prevention and control. We supported surveillance at points of entry, so when passengers were coming into the country, we helped to develop protocols (standard operating procedures) for their screenings. Also, when we had people crossing the borders into Cameroon. We went out with Rapid Response Teams to investigate outbreaks and really ensured that we were working to prevent further spread of infection and ensuring the health and safety of Cameroonians.

[Sarah Gregory] What other CDC programs played a big role in supporting Cameroon's COVID-19 response?

[Emily Kainne Dokubo] Now, CDC's work globally involves implementation of different global health programs that includes the President's Emergency Plan for AIDS Relief, Global Health Security Agenda, the President's Malaria Initiative. And so CDC, through our work overseas, we've had many programs which served to support the COVID response efforts. Over 40 years ago, CDC developed a Field Epidemiology Training program (or FETP) which trains a global workforce of field epidemiologists or "disease detectives" who are the boots on the ground. They have the skills to collect data, analyze and interpret the data, and also quickly respond to outbreaks before they spread. And in Cameroon, CDC helped to develop that program and helped Cameroon to establish its own FETP program about 12 years ago. To date, there has been over 1,100 graduates and trainees of Cameroon's Field Epidemiology Training Program, and that

health workforce has conducted active surveillance, helped to monitor contacts of cases, and this helps to enable early detection and management of COVID-19 cases.

There was also establishment of a public health emergency operations center in Cameroon, and this required having a well-trained cadre of emergency management experts. And to support that, CDC has a program (a Public Health Emergency Management Fellowship) in Atlanta which helps to build emergency management capacity of international health officials through specialized training, providing mentorship, and providing technical assistance. Eleven senior Cameroonian health officials have been trained through that program in Atlanta, and they had returned to their host country before the start of the COVID-19 pandemic. So they played leadership roles within the National Incident Management System and were essential in standing up Cameroon's EOC and leading different aspects of the COVID-19 response. So what we saw was that the different programs that CDC had put in place and was implementing really brought to there the capacity building efforts that the agency was focused on and helped to support response efforts in Cameroon.

[Sarah Gregory] While we're still talking about CDC, how did they support Cameroon... the testing for COVID-19?

[Emily Kainne Dokubo] So laboratory systems strengthening is a big component of the work that CDC does. And through our PEPFAR program (that's the President's Emergency Plan for AIDS Relief) and Global Health Security Agenda, we worked to strengthen laboratory systems in Cameroon at the national level and the regional reference lab. And so, we saw this really come to bear during the response and really exemplified CDC's presence and long-term work in Cameroon. In 2016, CDC had helped to develop and strengthen the capacity of Cameroon's labs by helping to establish and renovate the National Public Health Labs (NPHL) and that helped to lead to the development of the first National Lab Strategic Plan in 2018, helping to evaluate laboratories and improve their work to meet standards for international accreditation.

And also, through CDC's support, five laboratories in Cameroon had received ISO-15189 accreditation. And this meant that they met international standards for quality management systems and competence for medical laboratories. Those five labs were the first internationally accredited labs in Cameroon and in Central Africa. And so, it made Cameroon among the first countries in Central Africa with COVID-19 diagnostic capacity. And in addition to that, the CDC Cameroon COVID-19 response team also helped to support decentralization of the response to the regional level by providing technical support for COVID-19 testing, and also helping to develop the Ministry of Health's lab strategy and developing a decentralization plan to expand capacity from the national level to a network of laboratories across the country. And this helped to reduce turnaround time for test results. So when people got tested, they did not have to wait for long periods for their test to be sent to a lab that was far off and then wait for days to receive the results. Because of the decentralized approach that CDC had helped the Ministry of Health to put in place, tests were being done in each of the regions across Cameroon and patients were able to get their results back in real time, which helped to guide the care and ensure that we were providing optimal case management and service provision.

[Sarah Gregory] So the COVID-19 pandemic overwhelmed health systems globally and of course adversely impacted health programs as available resources were forced on responding to the pandemic. How did this impact Cameroon?

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[Emily Kainne Dokubo] I think the COVID-19 pandemic underscores the importance of having resilient health systems that are able to withstand any health threats that come, and still ensuring delivery of primary healthcare services. And we saw this globally that many countries were affected and how they were able to provide care to patients, and we saw health facilities overwhelmed and at capacity. In Cameroon, we experienced the same delivery and uptake of health services were reduced as many health facilities were repurposed as COVID-19 treatment centers. And to ensure that the response was decentralized to all the regions in the country, the Ministry of Health designated almost 80 existing health facilities at the national and subnational levels as COVID-19 isolation and treatment centers, and this included reference hospitals for management of more severe and critical cases.

Now, the outcome of this was reduced delivery of primary care and other services that were typically provided in those health facilities. HIV and TB programs also experienced substantial declines in testing, initiation of patients and treatment, and retention of persons living with HIV on treatment as they were reluctant to come to health facilities due to a fear of becoming infected with SARS-CoV-2 (the virus that causes COVID-19).

[Sarah Gregory] What was done then to help HIV and TB patients to gain access to their healthcare and their treatment?

[Emily Kainne Dokubo] Part of CDC's work in Cameroon...we ensure that we were planning ahead. So at the start of the pandemic globally, we knew that we needed to adapt systems to be able to provide care to patients, especially if they were not able to come into health facilities. So what we did was to develop innovative strategies to ensure that there was continued service delivery for clients, and this included having mobile and satellite clinics (so, having mobile vans, clinics set up in the communities) that went out to where people were and not just expecting them to come into the health facilities. We implemented community treatment dispensation, and that meant that we took drugs to patients in their communities and their homes and also ensuring that there was home-based care, as ways to mitigate the impact of the COVID-19 pandemic on the health sector.

We also provided recommendations to the Ministry of Health in conjunction with WHO and other partners on the ground to...for the Ministry of Health to lift restrictions and community activities and to allow differentiated service delivery options, and this included HIV index case testing—so, when you identify someone living with HIV, you'd test their contacts based on the assumption that others who may have been exposed to them may test positive—allowing us to do this in the community, ensuring that we were dispensing antiretroviral drugs and TB treatment in the community, and also allowing collection of blood samples to test for HIV viral load in the community.

Working through our clinical implementing partners, we were able to collaborate with community-based organizations and civil societies to set up satellite health facilities for HIV testing, linkage, and treatment dispensation. And to ensure the quality of programming was maintained, CDC also implemented weekly virtual trainings for clinical program and ensuring data reviews with our implementing partners who were on the ground, and also the health facility staff in the sites that we were supporting. This included holding quarterly virtual review sessions to go over program performance and sharing of best practices across different sites. The Ministry of Health and partners were able to scale up effective strategies across the clinical cascade and were able to support HIV testing for over 1.5 million persons. And in 2021, we were also able to

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identify almost 63,000 HIV positive patients and initiate most of them on treatment. And in early 2022, there were over 390,000 persons living with HIV in Cameroon who were on treatment and were being maintained and receiving those continued quality services in spite of the pandemic.

[Sarah Gregory] You were the Country Director, as we said, for the CDC office in Cameroon when the COVID-19 pandemic began and you helped coordinate work with the Ministry of Health, WHO and other partners. Then, earlier this year, you moved to the other side of the world and are now the Country Director for Jamaica and Regional Director for the Caribbean. What experiences and lessons learned in Cameroon are you using to help your new role in the Caribbean?

[Emily Kainne Dokubo] Part of the success that we have has really been based on the partnerships that we have with the host governments, ministries of health, and other multilateral organizations. Working in Cameroon, we work very closely with WHO, with the Africa CDC, with UNAIDS and UNICEF and other entities. And it really helped us to advance our shared objectives and missions. Having transitioned now to the Caribbean, the same principles apply, really underscoring the importance of engaging host governments through partnerships that are built on mutual respect and working to achieve our shared objectives, focused on strengthening health systems, improving health outcomes for the local population as part of global health security, system strengthening, and improving outcomes globally. It also highlighted the need to ensure that we're working in a collaborative manner with Ministry of Health and partners, and that's another aspect of the work that has helped what we have done globally, helped us to advance our objective.

It has been essential to ensure that the Ministry of Health is playing a lead role and it is central to the efforts, and that international partners and other donors work to support the host country's efforts and priorities. And this is what would ensure that there is sustainability, because we need to have that ownership from the host government. Also, focusing on strengthening local capacity...we don't want to have a model or a system of work where, as external partners, we're coming in and doing the work, and when we leave, the work is not able to continue because we have not built or transferred capacity. So ensuring that there's a fit for purpose workforce, that we're strengthening systems, building systems, helping to improve systems to continue to work even when we are no longer present in that country or investing as much resources, and that the work is able to carry on. That's important to ensure the sustainability of the programs that we put in place. And I think importantly as well is to approach the work with humility and just having the desire to serve others and continue to orient ourselves to why we're doing what we're doing, having a focus on patient-centered care and patient-centered approaches, and ensuring that we're building systems that people would want to come receive care, and that we're taking services to patients and meeting them where they are as a way to ensure that we're delivering quality care.

[Sarah Gregory] You're a physician and a disease detective. When did you know you wanted to become a doctor and an infectious disease expert? And what brought you to CDC?

[Emily Kainne Dokubo] I always knew I wanted to be a doctor from an early age. I was born in Washington, D.C. when my parents were in graduate school, and spent a large chunk of my time traveling overseas and also in my parent's native country of Nigeria. And it allowed me to see just the need in different parts of the world and see how important having good health was and access to healthcare, and that really helped to form and shape my desire to want to work in medicine and public health. When I finished high school in Atlanta, I did my undergrad in New
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Orleans at Xavier University, and this included a year of study abroad in London. In undergrad, my major was biology/pre-medicine, so I was already on that track of wanting to have a career in health.

Following undergrad, I attended medical school at Emory University. And while in medical school, I had a lecture from a professor (a guest lecturer) who came from CDC that was right next door to Emory, and he spoke about infectious diseases and neglected tropical diseases. And that lecture got me interested in public health, and I knew that I wanted to eventually work at CDC and focus on global health. During medical school, I did a dual degree program and obtained a Master's in Public Health at Johns Hopkins University School of Public Health, with a focus on international health and vaccine science as well.

Following medical school and public health school, I then did my residency and fellowship at the University of California San Francisco, and this included international rotations as part of my interest in global health and infectious diseases. And subsequent to that, I joined CDC as an Epidemic Intelligence officer in 2011, focused on global health work. I have been working in the Center for Global Health, initially at headquarters as a subject matter expert supporting countries across the world, but then transitioned to the field and worked to set up the first CDC office in Liberia during the West Africa Ebola outbreak, and then in Cameroon as the Country Director for four and a half years, and now in the CDC Caribbean Regional Office. So my time at CDC really has been one that is a fulfillment of what I've always wanted to do since my early childhood and it's really a great opportunity to be able to serve; to help others in need; to help improve health globally, in the United States and other parts of the world with limited resources; and just as a way of helping to give back. And it really has been a great experience, and it has been a pleasure working for CDC.

[Sarah Gregory] Well, you are incredibly busy, obviously, and I so much appreciate you taking the time to talk with me today.

[Emily Kainne Dokubo] Thank you very much, Sarah. It has been a pleasure talking with you, as well.

[Sarah Gregory] And thanks for joining me out there. You can read the December 2022 supplement article, *Building on Capacity Established through US Centers for Disease Control and Prevention Global Health Programs to Respond to COVID-19, Cameroon*, online at [cdc.gov/eid](https://www.cdc.gov/eid).

I'm Sarah Gregory for *Emerging Infectious Diseases*.

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