‘STOPing’ Poliovirus with Dedicated Volunteers

By Nellie Bristol & Isra Hussain | JULY 2018

This third installment in our series on U.S. support for global polio eradication discusses the role of the Stop Transmission of Polio (STOP) program in training field epidemiologists to strengthen disease surveillance and response in low-resource settings.

Sewunet Ayan Hassan and Sahro Ahmed travel long distances to deliver polio vaccination in hard to reach areas. Source: UNICEF Ethiopia

Developing Disease Detectives

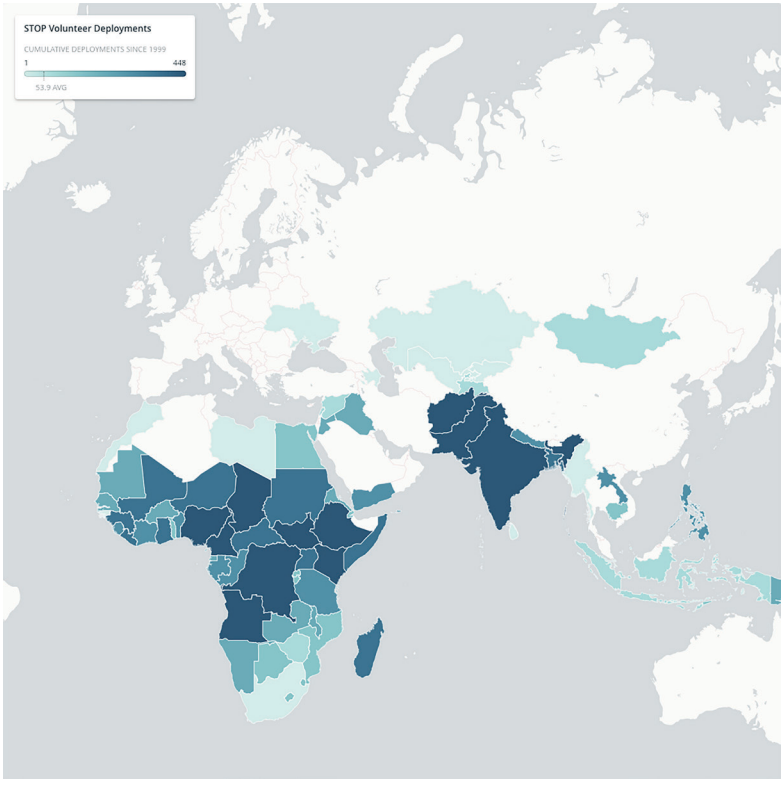
The Global Polio Eradication Initiative (GPEI), led by national governments and global partners, reduced the number of polio cases by more than 98 percent in 10 years, from an estimated 350,000 cases in 1988, when the eradication push began, to 6,227 in 1998.[1] Yet progress began to stall as countries with remaining polio transmission faced challenges including weak immunization systems, lack of resources and political will, conflict, and/or poor program management.

To brainstorm ways to give the program a boost, leadership at the U.S. Centers for Disease Control and Prevention (CDC), one of the pillars of the international effort, called together a group of current and former CDC staffers. Comprised of the agency’s “smallpox warriors,” CDC staff who were pivotal to the success of the world’s first—and to date only—successful eradication of

a human disease, the group recommended providing expert field support to countries that were lagging.

Twenty-five current and former CDC staff volunteered for the job, traveling to remaining polio endemic countries to identify program deficiencies on the ground and at the national and regional levels and suggesting improvements. They found that providing outside expertise brought new ideas and increased motivation, thus improving program performance in low-resource settings.

Seeing the program's value, CDC, with additional support over the years from Rotary International, UNICEF, and the Bill & Melinda Gates Foundation, collaborated with the World Health Organization (WHO) to continue it, drawing in foreign nationals to supplement the program's CDC staff. Named Stop Transmission of Polio (STOP), the program is entering its 20th year and has trained more than 2,000 mostly African health professionals in the valuable skills of polio detection, surveillance, and response along with immunization program implementation and management, data analysis, and effective public health communications. STOPpers have been deployed to more than 75 countries worldwide.



This map shows the total STOP deployments per country since 1999.

The focus of the program has broadened over the years and in addition to training for polio eradication, STOPpers receive skill development in measles and rubella control and in activities to address other vaccine-preventable diseases. STOP alumni have returned to support their country health systems, or with their additional training, gained positions with national and international health organizations providing extra capacity for global disease response.

With renewed post-Ebola focus on global disease control, the need for well-trained epidemiologists, who have undergone high-quality, standardized training and can work urgently and collaboratively in stressful disease outbreak situations, is greater than ever. The Global Health Security Agenda, a U.S.-initiated international effort to bolster national and international disease control capabilities, calls for 1 trained field epidemiologist per 200,000 people,[2] a goal the Africa region misses by 4,000 for its population of 1.2 billion.[3] The value of the program was reaffirmed when current and former STOP

trainees joined other epidemiologists to thwart a potentially catastrophic Ebola outbreak in Nigeria in 2014.[4] And although the number of wild poliovirus-infected countries is now down to three (Afghanistan, Nigeria, and Pakistan), country requests for STOP staff have increased.

> *"I have my own ambitions, but I feel the experience that I will gain from the STOP program will be a valuable tool, not just in my academic prospects, but also overall in my professional career. So, it will be a valuable asset for me to not only strengthen what we have in the country, but also to be a resource for the world."*
> *—STOP 52 Trainee*

But as with other valuable global health assets developed through polio eradication, future funding for STOP is uncertain as eradication is achieved and the GPEI ramps down its financial support. STOP program directors are revamping the curriculum for next year so that while polio tools will remain the top priority until eradication is achieved, STOPpers can gain a broader set of skills they can apply to a wider array of infectious disease. The program meshes with other CDC-supported epidemiology training programs, including National STOP, which trains and deploys people in their own countries, and the Field Epidemiology Training Program,[5] which provides a more intensive training program in-country to help create an even greater cadre of experienced and effective epidemiology field staff..

Health workers depart to designated centers to immunize children in Lagos.
Source: Getty / PIUS UTOMI EKPEI

How It Works

The first STOP team was comprised of experienced CDC staffers who deployed to remote areas with limited communications for three-month assignments. Recruitment opened globally in 1999 drawing in health professionals from a variety of countries.[6] Training early on expanded to measles/rubella and broader immunization management to help countries address deficiencies in those areas. Management training was added to the curriculum in 2013 and 2014 to address identified systemic weaknesses in countries that were still struggling to stop polio transmission.[7] Training is conducted by CDC, UNICEF, and WHO staff. For the bulk of the program's history, training was held in Atlanta, but officials moved the venue to Kampala, Uganda, in January 2017, largely to take advantage of the fact that more STOP participants hail from Africa and are deployed to other countries on the continent.

> "I would like the community, the population, to embrace that immunization is a right and that it becomes for them a need."
> *—STOP 52 Trainee*

CDC is responsible for STOP recruitment, country placement, training, technical assistance, and mission support for STOPpers in the field. CDC-supported WHO headquarters staff in Geneva review applicant resumes, help decide country placements, draw up contracts, oversee deployment of STOP teams, and manage their finances. UNICEF provides communications and country support. WHO and UNICEF country and regional offices handle country requests for STOP deployments, coordinate with country ministries of health, and provide orientation and in-country training. While the number of wild poliovirus-infected countries is now down to three (Afghanistan, Nigeria, and Pakistan), country requests for STOP staff have increased. Requests are submitted to WHO from countries at high risk for polio reimportation, those working on measles and rubella elimination, and those with outbreaks of other vaccine-preventable diseases.

STOP team members boards a canoe to travel through the flooded areas of Chad to vaccinate children.
Source: CDC GLOBAL / Freddy Banza

While original STOPpers were deployed for three-month assignments, the program now holds two training sessions a year, one in January and one in June. Trainees deploy for a year and can reenlist for another year. STOPpers do not receive a salary, but are paid a per diem that supports their living expenses. Other needed resources, transportation to field assignments, laptops, and health insurance are provided by WHO with CDC funding.

> "Once I finish with STOP… I intend to continue my work at a local level or go back to where I was, or I continue working with organizations, but there will be one condition: the family. I'm married, mother of four; three boys and a girl. The girl is only 3 ½ years old."
> *—STOP 52 Trainee*

Application to STOP is highly competitive. For the latest training, 1,500 people applied for fewer than 75 positions. Many successful applicants are physicians and all must have at least five years of experience. Some apply multiple times before they are accepted. While the program can provide a gigantic boost to a STOPpers' career, participants must be willing to leave their families for months at a time and often are assigned to difficult, remote, and sometimes

dangerous locales. The practice of assigning STOPpers to countries other than their own is part of the culture of WHO. International consultants provide a different perspective and can bring innovations and new energy to programs that have stalled. While a few STOPpers had difficulty integrating into established field staffs, the vast majority have been successful, program organizers say. STOP training puts a strong emphasis on listening to staff and understanding the context they will be working in before they begin making suggestions.

> "STOP participants are new to these countries. It is important that they arrive with an open mind, that they listen and observe first before they share the expertise and experiences they bring from their own countries."
> *—A.J. Williams, Public Health Advisor and Team Lead, STOP Program, CDC*

CDC helps build in country public health capacity to meet international standards for global health security.
Source: FLICKR CDC GLOBAL / CDC

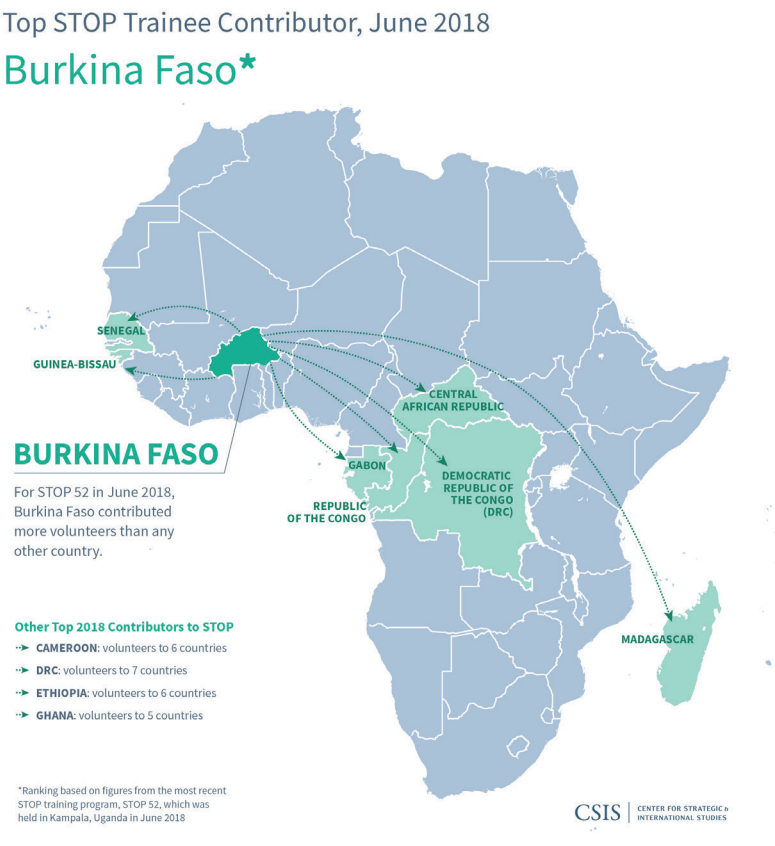
Becoming a STOPper

CSIS Global Health Policy staffers attended STOP 52 training held at the Speke Resort outside Kampala June 4–8, 2018, to get a better look at the program. The full training lasts three weeks. The first week covers skills needed to conduct polio surveillance and immunization campaigns, the second focuses on measles and rubella, and the third week highlights communications and data management. The training involves roughly two dozen CDC staff from various fields along with a several staffers from WHO headquarters in Geneva. Presentations, offered in English and French, covered administrative details STOPpers needed to facilitate their deployments along with discussions on the status of polio eradication and program expectations post eradication. In-depth tutorials were offered on polio surveillance, microplanning, developing effective cold chains, outbreak preparedness and response, and planning a polio immunization campaign. Facilitators walked trainees through polio outbreak response and vaccination campaign case studies.

Trainees in STOP 52 came from 21 different almost all African countries (the exceptions were two participants from Bangladesh and one from Georgia) and will be deployed to 29 countries

STOP 52 Training. Source: CDC

other than their own. For example, one participant from Cameroon was assigned to Afghanistan. Another, from The Gambia, was assigned to Kenya. As with all STOP classes, trainees were largely male: STOP 52 had only five women out of a class of 75. STOP organizers said the disparity was particularly glaring in that STOP class but said females often are a significant minority in all the training sessions. They attribute the lack of balance to the program's requirement of long periods away from families and deployment to dangerous areas that would be even less safe for women.



Map depicting top STOP volunteer contributing countries for STOP 52 in 2018. Source: CSIS

Five STOP 52 trainees interviewed said they heard about the program from others they worked with in the field. One said he was impressed with the engagement and commitment of STOP teams. Most were motivated to apply for the program to gain additional skills and knowledge and to help advance polio eradication. One interviewee spoke movingly of a friend who was paralyzed by polio and about how difficult his life was as a result. All expressed dedication to the goal of polio eradication and to being involved in an important global health campaign.

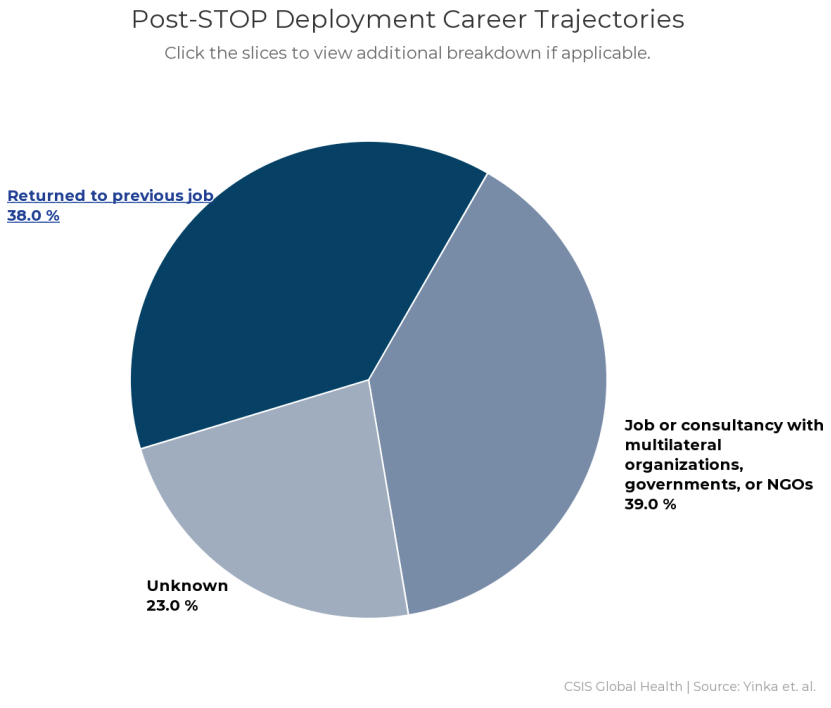
> "And if my experience can help polio eradication, I will be really, really proud and then I can say that I was useful for something in this world."
> *—STOP 52 Trainee*

Vaccinations are provided in Tulugulid, Ethiopia during the Polio NIDs Campaign.
Source: UNICEF Ethiopia

The Future of STOP

While officials at CDC and WHO are complimentary of the STOP program and eager to see its continuation, the program, with a budget of $15 million per year, will face additional scrutiny as polio funding dwindles. While the program's focus remains polio eradication, as the number of cases continues to fall, the emphasis will shift to training epidemiologists who can respond to any disease outbreak and support other programs including routine immunization.

To make a solid case for itself, the STOP program may need to quantify more thoroughly what STOPpers have contributed to country polio programs they were assigned to and where alumni ended up after their deployments to show the global health leadership STOP has fostered. With WHO's current focus on gender equity in global health, the program may need to devise ways to give more women the career advancement opportunity STOP offers.



In addition to funding uncertainties, STOP also will be subject to an administrative shuffle in the future. WHO will need to decide which department will oversee STOP once the polio program, which handles STOP administrative duties, is incorporated back into the larger organization post eradication. The collaboration between CDC and WHO for STOP is an unusual one for WHO since it is providing administrative support for a program essentially funded by an individual country, so program officials will have to work through those issues as well. STOP has become important

to WHO since it now supplies two-thirds of the organization's outside consultants to countries while the number of paid consultants has fallen to one-third of the total.[8] STOP officials see it as a possible model for immunization system strengthening central to WHO's goal of universal health coverage and said that STOP, like the GPEI overall, shows the strength of multilateral partnerships.

> "The WHO has traditionally recruited international consultants who provide needed diversity and different perspectives. Some people have gone back to their countries after their STOP assignments, while others have gone on to work for WHO."
> *—Steve Wassilak, Medical Epidemiologist, Centers for Disease Control and Prevention*

While its future is uncertain, there is no doubt the skills STOPpers gain through the program will remain critical to polio eradication. As the number of polio cases drops, there will be an even greater need for top-notch polio surveillance to ensure the disease is definitively eradicated. Current STOPpers and STOP alumni are fully qualified for the task. In addition, as polio wanes, global health outbreak response capacity still will need to be increased. STOP provides a cost-effective method not only to aid in outbreak response but also to build additional overall global health capacity.

About the Authors

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SPECIAL THANKS TO:

STOP Program Alumni and STOP 52 Trainees

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Steve Wassilak, Medical Epidemiologist, Centers for Disease Control and Prevention

A.J. Williams, Public Health Advisor and Team Lead, STOP Transmission of Polio Program, Centers for Disease Control and Prevention

Endnotes

1) CDC, "Progress Toward Global Poliomyelitis Eradication—1997–1998," Morbidity and Mortality Weekly Report 48, no. 20 (May 28, 1999): 416–21, https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4820a2.htm.

2) Global Health Security Agenda, "Workforce Development Action Package," 2018, https://www.ghsagenda.org/packages/d5-workforce-development.

3) Authors Interview with Dr. Chima Ohuabunwo, executive director, African Field Epidemiology Network (AFENET), June 2018, Kampala, Uganda.

4) Authors Interview with Gena Hill, public health analyst, Centers for Disease Control and Prevention, June 2018, Kampala, Uganda.

5) For more information, see: https://www.cdc.gov/globalhealth/healthprotection/fetp/index.htm

6) Yinka Kerr et al., "Lessons Learned and Legacy of the Stop Transmission of Polio Program," Journal of Infectious Diseases 216, suppl. 1 (2017): S316.

7) Ibid.

8) Authors interview with Brendan Pocock, acting team lead, Human Resources, World Health Organization Polio Eradication Initiative, June 2, 2018, Kampala, Uganda.

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