

Training Programs to Accelerate Public Health

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Description

In 1980, the U.S. Centers for Disease Control and Prevention (CDC) partnered with the World Health Organization (WHO) and the Thailand Ministry of Public Health to launch the first Field Epidemiology Training Program (FETP) outside North America in Thailand. Many countries have since developed national FETPs with support from WHO, CDC, and other partners; regional initiatives and networks have adapted the original approach and focused on epidemiological health workforce capacity building within their regions.

Epidemiologic Intelligence Service

This initiative began over 40 years ago when CDC recognized that its successful training model for developing epidemiologic competence among the national public health workforce, the Epidemiologic Intelligence Service (EIS), could be shared globally to benefit all countries. In the EIS model, physicians and other health professionals received an intensive 3-week course in epidemiology and biostatistics, and then were assigned for two years to public health units at CDC or placed in state health departments. During each assignment, an experienced field epidemiologist mentored the trainee in attending to incoming surveillance data, disease outbreaks, other immediate threats to public health, and issues arising in ongoing public health programs. This model had at least two notable outcomes. The public health workforce became competent in applying epidemiology to its ongoing work. The investigations done by the trainees had immediate consequences in improving surveillance and data use, curtailing disease transmission from outbreaks and epidemics, and modifying public health programs to respond to changes in the epidemiologic situation. The global application of the EIS model became FETP, which was first adopted independently by Canada in 1975. This model, now referred to as Advanced FETP, devotes at least 75% of the two-year program to mentoring field activities. In more recent years, FETPs have evolved to include an additional two tiers: a three-month (Frontline); and a 9-12-month (Intermediate) program to meet disease surveillance and response needs at all levels of countries' public health systems (André and Lopez, 2017). Field epidemiology competencies vary by tier, based on criteria, thus FETP-Frontline graduates do not replace graduates from FETP-Intermediate or FETP-Advanced, without further training.

However, Frontline addresses a critical need for surveillance, data quality, and case investigation skills at the community and the lower levels of the public health system. Since 1980, FETPs have graduated tens of thousands of disease detectives from all three training tiers in more than 80 countries.

Ebola Virus Disease

Support to FETP by host country governments, U.S. Government agencies such as CDC, and multilateral organizations have significantly enhanced global health security by building a global workforce with skills in surveillance, data use, and outbreak detection and response. For example, the Government of Guinea launched its FETP in 2016, after the 2014-2016 Ebola Virus Disease (EVD) outbreaks. Since then, it has graduated 179 staff from the Frontline, i.e., district-level, program and 16 from the Intermediate program, in addition to ten Advanced FETP graduates who participated in the regional West Africa program in Burkina Faso. These disease detectives have played leading roles in the response to the 2021 EVD outbreak in the southeastern part of the country, including alert validation, case investigations, active case finding, contact tracing, and data management. Their contributions led to successful follow-up of >95% of EVD contacts, an essential component of successful EVD response. On June 19, 2021, Guinea's Ministry of Health officially declared the outbreak over after 23 cases and 12 deaths in a To date, cases have been limited in number and confined to a single prefecture (WHO, 2021a), contrasting greatly with the 2014-16 outbreak, which spread over 3 countries, sickened over 28,000 and killed 11,000 in West Africa.

Neighboring countries have also mobilized FETP graduates to conduct intensified surveillance and investigation of suspect cases along their borders. In addition, Guinea's FETP trainees and graduates have supported concurrent outbreaks of vaccine-derived poliovirus, measles, Yellow Fever, and COVID-19, which might otherwise threaten to overwhelm the country's health system. Guinea's robust response to the recent EVD outbreak cannot be attributed to FETP alone, but a competent field epidemiology workforce is required to complement quality surveillance, emergency management systems, laboratories, and other critical health security functions.

FETP trainees and graduates have been mobilized to support COVID-19 preparedness and response activities in their countries. In a March–April 2020 survey of 65 FETPs around the world, 85% of programs reported FETP trainee engagement in COVID-19 response activities, and 98% of programs reported graduate engagement (unpublished data; publication in process). For both trainees and graduates, the most common pillar of engagement was surveillance a core competency of field epidemiology training. This pandemic and the varied national-level responses have reinforced the need for countries to invest in a trained public health workforce. We have learned that epidemiological skills are valuable assets and those other skills and disciplines such as data science need to be part of modern field epidemiology training. This pandemic and the varied national-level responses have reinforced the need for countries to invest in a trained public health workforce. We have learned that epidemiological skills are valuable assets and those other skills and disciplines such as data science need to be part of modern field epidemiology training.

We have also seen evidence of measurable impact of FETP. Previous work has demonstrated the correlation between FETP and key indicators of surveillance quality as well as improved timeliness and frequency of outbreak reporting. The manuscripts in this supplement highlight and demonstrate the importance of FETP trainees and graduates in the public health architecture and the manifold ways in which FETPs prepare for and respond to all public health threats and emergencies.

While the impact of FETP has been substantial, periodic large and complex infectious disease outbreaks, including COVID-19 (WHO, 2021b) and Ebola, remind us that more work is needed to strengthen the field epidemiology workforce capacity through FETP. More work is also needed to institutionalize FETPs within national governments so that programs are sustained and more consistently play leading roles in responses to public health threats. A global group of public health experts and leaders recently coined the term FETP Enterprise to describe the “totality of the leaders, funders, implementing partners, government agencies, and other stakeholders engaged in this global effort, along with associated workforce competency targets, standards, agreements, technologies, etc. that undergird this work.” This group also developed the Global Field Epidemiology Roadmap to chart a path to build and strengthen high-quality field epidemiology training in all countries, while addressing longstanding challenges and expanding partnerships. Most importantly, the Roadmap calls for high-level leadership through a Strategic Leadership Group (SLG) to ensure accountability and progress for these priorities. We (RM and ISF) have agreed to co-lead the SLG. This senior leadership from the U.S. CDC and WHO signals a high-level commitment from our respective agencies and formalizes our partnership for a program that we see as one of the most important for all countries’ ability to achieve International Health Regulations (IHR) core capacities and to ensure global health security.