Overview: TEPHINET and FETP-Frontline Implementation across Latin America and the Caribbean
Context
In February 2016, the World Health Organization (WHO) declared the Zika virus outbreak a Public Health Emergency of International Concern (PHEIC). The Latin America and Caribbean (LAC) region was most affected. In response to the outbreak, the U.S. Government allocated a portion of the funds remaining from the Ebola outbreak response to the LAC region.

As an implementing partner to the Centers for Disease Control and Prevention (CDC), TEPHINET received funds to help countries build sustainable capacity for detecting and responding to the threat of Zika by developing in-country expertise to detect disease outbreaks locally and prevent them from spreading. One of the major components of all the projects was the implementation of a frontline, or basic-level, 12-week field epidemiology training program (officially known as FETP-Frontline) to rapidly and efficiently train health workers with an emphasis on conducting Zika disease surveillance, identifying microcephaly and Guillain-Barre syndrome, and ensuring FETP-Frontline graduates are ready to respond to Zika and other vector-borne outbreaks at the country level.

Project implementation began in September 2016 with TEPHINET providing technical oversight and ensuring quality in the implementation of the project in each country.

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BRAZIL

Context
Brazil had a well-established, advanced-level two-year FETP, EpiSUS, which is hosted by the Ministry of Health (MOH) in Brasilia, and supported states and municipalities with field investigation. With the Zika outbreak it became clear that the MOH needed to build workforce capacity at the regional and local levels.

TEPHINET’s Role
Working with the MOH, TEPHINET helped to devise strategies to strengthen Zika prevention and response in Brazil. It was determined that TEPHINET would help Brazil’s MOH implement the base level of the FETP three-tiered “pyramid” model of training by implementing FETP-Frontline. This approach became the EpiSUS-Fundamental Pilot Project. TEPHINET recruited three resident advisors (EpiSUS-Advanced graduates with experience in teaching and mentoring) and one administrative coordinator to support EpiSUS-Fundamental.

Project Objectives
The main objectives of the EpiSUS-Fundamental Pilot Project were two-fold:
• Train at least 150 surveillance officers acting at the regional and local level.
• Expand EpiSUS-Fundamental based on the results of the pilot to other country states.

Results
IMPLEMENTATION
• EpiSUS-Fundamental was implemented in seven states: Amazonas, Ceará, Distrito Federal, Goiás, Minas Gerais, Paraná, Pernambuco.
• The first cross-border FETP Frontline training in the Americas was conducted involving Brazil, Colombia and Peru.
• Two mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

BY THE NUMBERS
(through March 31, 2018)

<table>
<thead>
<tr>
<th># Cohorts</th>
<th># Grads</th>
<th># Current Trainees</th>
<th># Outbreaks Grads Have Participated in</th>
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</thead>
<tbody>
<tr>
<td>13</td>
<td>277</td>
<td>325</td>
<td>34</td>
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SUSTAINABILITY
• Development of a three-year implementation plan is currently underway that will allow for the expansion of EpiSUS-Fundamental to all states in Brazil.
• The MOH has established a partnership with a private hospital to plan an extension of EpiSUS-Fundamental with the expectation of graduating 4,500 additional trainees by 2022 to serve throughout the country.
Context
Baseline assessments of Caribbean countries indicated that there were gaps within their in-country surveillance systems for detecting Zika and vector-borne diseases. The Caribbean Public Health Agency (CARPHA) partnered with TEPHINET and worked with the Ministries of Health (MOH) to address these gaps.

TEPHINET’s Role
Working with the health ministries in the Caribbean sub-region, TEPHINET helped to implement FETP-Frontline. The ministries appointed national country coordinators to support program implementation. TEPHINET recruited a resident advisor and a program assistant based at CARPHA to oversee FETP-Frontline implementation, and TEPHINET also provided technical support for program implementation.

Project Objectives
The main objective of FETP-Frontline in the Caribbean was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:
• Conduct cross-cutting Zika-specific disease surveillance.
• Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
• Respond to new Zika and other vector-borne disease outbreaks.

Results
IMPLEMENTATION
• FETP-Frontline has been implemented in four countries: Grenada, Trinidad and Tobago, Jamaica, and St. Vincent and the Grenadines.
• Two mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

BY THE NUMBERS
(through March 31, 2018)

<table>
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<tr>
<th>COUNTRY</th>
<th># Cohorts</th>
<th># Grads</th>
<th># Current Trainees</th>
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<tbody>
<tr>
<td>Trinidad and Tobago</td>
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<td>55</td>
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<tr>
<td>Grenada</td>
<td>1</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>St. Vincent and Grenadines</td>
<td>1</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

SUSTAINABILITY
• In Trinidad and Tobago, the MOH is planning to allocate financial resources for implementation of future FETP cohorts.
• CARPHA is in discussions with TEPHINET and the Pan-American Health Organization (PAHO) about adopting Frontline trainings as level one training for the entire region.
• TEPHINET is participating as an observer in the Training Advisory Committee, a sub-committee of the CARPHA Technical Advisory Committee.

The Frontline FETP project has contributed to revitalizing the process and outcomes of public health workforce development in the Caribbean. Response to unusual events has improved, with a quick turnaround time in mitigating the effects of these events.

-Dr. Laura-Lee Boodram (Resident Advisor)

The FETP Frontline project has left a lasting impression in the field of Public Health in Trinidad and Tobago. It has provided a mechanism for multidisciplinary relationship-building and creation of networks to support the achievement of health goals for our people. We are sure that FETP is here to stay in Trinidad and Tobago.

-Dr. Vishwanath Andy Partapsingh (Principal Medical Officer, MOH)
COLOMBIA

Context
TEPHINET worked with the National Institute of Health (INS) of Colombia to implement the FETP-Frontline pilot project in country. Due to the Zika outbreak and an increased number of microcephaly cases, the departments of Santander, Atlántico and Cundinamarca were the selected sites for the initial implementation. In the second phase of implementation, three new departments were identified for surveillance strengthening at the local level: Norte de Santander, Chocó and Vichada.

TEPHINET’s Role
Besides providing technical support for the implementation of FETP-Frontline, TEPHINET also recruited two resident advisors and a program coordinator, based at INS, to support the implementation process. The resident advisors and the program coordinator were FETP-Advanced graduates with experience in teaching and mentoring.

Project Objectives
The main objective of the FETP Frontline program in Colombia was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:

- Conduct cross-cutting Zika-specific disease surveillance.
- Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
- Respond to new Zika and other vector borne disease outbreaks.

Results

IMPLEMENTATION
- FETP-Frontline was implemented in Santander, Cundinamarca, Atlántico, Norte de Santander, Chocó and Vichada, and one additional cohort was trained in collaboration with the Colombian national armed forces.
- The first cross-border FETP Frontline training in the Americas was conducted involving Brazil, Colombia and Peru.
- 12 mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

BY THE NUMBERS
by the Numbers (through March 31, 2018)

<table>
<thead>
<tr>
<th># Cohorts</th>
<th># Grads</th>
<th># Current Trainees</th>
<th># Outbreaks Grads Have Participated in</th>
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<tbody>
<tr>
<td>7</td>
<td>63</td>
<td>152</td>
<td>15</td>
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SUSTAINABILITY
- INS is working to ensure that FETP-Frontline will be adopted as part of workforce development in order to strengthen health surveillance services.
- INS has trained 25 mentors at the national level and more than 30 at the departmental level to take over future Frontline cohorts to build capacity at both levels.
DOMINICAN REPUBLIC

Context
With the emergence of the Zika virus, the Dominican Republic recognized a need to strengthen the capacity of its Field Epidemiology and Laboratory Training Program (FELTP) in order to better detect and prevent emerging vector-borne diseases at the local level.

TEPHINET’s Role
TEPHINET recruited a resident advisor to support the implementation of the FETP-Frontline and provided technical support to the program implementation.

Project Objectives
The main objective of the FETP Frontline program in the Dominican Republic was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:
  • Conduct cross-cutting Zika-specific disease surveillance.
  • Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
  • Respond to new Zika and other vector borne disease outbreaks.

Results

IMPLEMENTATION
• Four FETP-Frontline cohorts have been implemented, with participants from all provinces across the Dominican Republic.
• Four mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

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<tr>
<td></td>
<td>4</td>
<td>40</td>
<td>47</td>
<td>20</td>
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SUSTAINABILITY
• The First National Epidemiology Conference was organized with project support in Santo Domingo in May 2018.
• Discussions are being held with the MOH about including Frontline training as part of the standard FETP training.
• As part of its national capacity-building efforts, the MOH is collaborating with TEPHINET and the CDC on the design and development of the FETP-Advanced training curriculum.
ECUADOR

Context
Ecuador approached the CDC with interest in building and strengthening their national surveillance capacities at the local level. The opportunity was identified to collaborate with the MOH, and an agreement was negotiated for establishing the basic-level field epidemiology training program. Ecuador did not have an established FETP prior to this initiative and took the initial steps to implement FETP-Frontline in March 2017.

TEPHINET’s Role
TEPHINET provided technical assistance from the beginning of the planning stage up to the graduation of the first two cohorts.

Project Objectives
The main objectives were to establish an FETP-Frontline program in order to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:

- Conduct cross-cutting Zika-specific disease surveillance.
- Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
- Respond to new Zika and other vector borne disease outbreaks.

Results

IMPLEMENTATION
- Cohorts established in Guayaquil, Portoviejo, Riobamba and Ibarra

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<tr>
<th># Cohorts</th>
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<th># Current Trainees</th>
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<tr>
<td>5</td>
<td>56</td>
<td>75</td>
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</table>
Context
The Ministry of Health (MOH) in Haiti wanted to identify a strategy to strengthen the country’s capacity for surveillance and response to Zika at the local level. Intermediate and basic-level FETP already existed in Haiti, and Haitian fellows could participate in FETP-Advanced through the Central American Regional FETP.

TEPHINET’s Role
TEPHINET and CDC-Haiti worked with the Directorate of Laboratory and Research Epidemiology (DELR) to pilot the FETP-Frontline training strategy. TEPHINET assisted with the hiring of an FETP-Frontline program coordinator and a part-time administrative assistant to oversee implementation activities. The program coordinator received technical assistance from TEPHINET and CDC-Haiti.

Project Objectives
The objectives of the pilot were to:
- Strengthen the country’s health institutions at the regional/local level.
- Reinforce existing resources in epidemiology by involving doctors, nurses and other health professionals in surveillance.

Results
IMPLEMENTATION
- Four cohorts have been established in Port-au-Prince.
- Implementation of the four cohorts has been conducted in close collaboration with the faculty of medicine at the University of Haiti.
- Two mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

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<tr>
<td>5</td>
<td>75</td>
<td>151</td>
<td>19</td>
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PARAGUAY

Context
The country had a well-established FETP-Advanced program. During the Zika epidemic, the Ministry of Public Health and Social Welfare (MSPBS) and the Directorate-General for Health Surveillance (DGVS) requested support to improve their surveillance and epidemiological capacities.

TEPHINET’s Role
TEPHINET helped with hiring a resident advisor, a national technical assistant and an administrative coordinator to carry out day-to-day implementation activities. The planning process for the implementation of FETP-Frontline in Paraguay was conducted in close collaboration with the CDC and TEPHINET.

Project Objectives
The main objective of FETP-Frontline (PEEC-Basico) in Paraguay was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:

- Conduct cross-cutting Zika-specific disease surveillance.
- Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
- Respond to new Zika and other vector borne disease outbreaks.

Results

IMPLEMENTATION

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<tr>
<td>8</td>
<td>108</td>
<td>180</td>
<td>57</td>
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SUSTAINABILITY
- It is intended to make PEEC-Basico a long-term training program within the DGVS to further strengthen surveillance at the local level.
- The Pan-American Health Organization (PAHO) has demonstrated interest in funding a cohort under their project “Gran Chaco Paraguayo.”
- The DGVS/MOH released a ministerial order that requires surveillance officers to be PEEC-Basico graduates.

The communities involved in the projects became aware of the reality of the situation, were organized, and, together with government agencies, planned education activities on the risks of acquiring the disease due to the vector’s presence and on how to carry out prevention interventions.

The projects also assisted the involved communities to be better prepared for any future public health emergencies that we will face as a global community.

TEPHINET is a good partner because we share similarity in values and ideals; because there is trust, commitment, transparency and communication between the parties, key important elements of teamwork; and because they support the strengthening of national health care systems and improving health practices by providing health professionals with the necessary tools to conduct their research work.

– Dr. Malvina Páez, DGVS Advisor, MOH
Context
Peru had an established yet inactive FETP-Advanced program under CDC-Peru which they are now aiming to reactivate. In order to strengthen country health surveillance at the local level, CDC-Peru decided to implement FETP-Frontline.

TEPHINET’s Role
To meet the need for skilled surveillance in-country, the Ministry of Health (MINSA), CDC-Peru, CDC-USA and TEPHINET participated in a working session to discuss implementation of PREEC-Primera Linea. TEPHINET helped to hire a resident advisor (graduate of the PREEC-Advanced training) to carry out the day-to-day implementation activities to supervise and provide day-to-day implementation activities with technical support from TEPHINET.

Project Objectives
The main objective of the FETP Frontline program in Peru was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:
- Conduct cross-cutting Zika-specific disease surveillance.
- Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
- Respond to new Zika and other vector borne disease outbreaks.

Results
IMPLEMENTATION
- Peru established ten cohorts in Iquitos, Yurimaguas, Ica, Cusco, Ayacucho, Huánuco, Piura and Jaén.
- Two mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

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<tbody>
<tr>
<td>PERU</td>
<td>10</td>
<td>118</td>
<td>314</td>
<td>104</td>
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</table>

SUSTAINABILITY
- CDC-Peru is planning to request, under their annual budget allocation, funding for the continuation of PREEC-PL (Frontline training).
URUGUAY

Context
The country identified a need to strengthen their health surveillance system. Through a partnership with the MOH, CDC, and TEPHINET, four cohorts of FETP-Frontline were implemented in country as a pilot experience.

TEPHINET’s Role
A planning meeting was held with the MOH, CDC, and TEPHINET to plan and launch training in Uruguay. TEPHINET helped to hire a resident advisor, one national epidemiologist and two part-time administrative assistants to carry out the day-to-day implementation activities. TEPHINET and the CDC provided technical assistance during this process.

Project Objectives
The main objective of FETP-Frontline in Uruguay was to develop in-country expertise to detect disease outbreaks locally and prevent them from spreading, including:

- Conduct cross-cutting Zika-specific disease surveillance.
- Detect and investigate Zika-related public health diseases and events (microcephaly and GBS).
- Respond to new Zika and other vector borne disease outbreaks.

Results
IMPLEMENTATION
- Four national cohorts were implemented in Montevideo covering 18 departments out of 19 total (Rivera is the only department not covered), achieving strong country coverage.
- Three mini-grants were awarded to FETP trainees to conduct studies related to Zika surveillance and vector control.

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<tbody>
<tr>
<td>5</td>
<td>73</td>
<td>115</td>
<td>8</td>
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</tbody>
</table>

SUSTAINABILITY
- Discussions are ongoing with the Ministry of Public Health for the implementation of FETP-Intermediate training.
- The Ministry is conducting an internal analysis of the allocation of resources for the implementation of one Frontline cohort either annually or bi-annually.
This project was made possible through support provided by the Bureau for Global Health, U.S. Agency for International Development, under the terms of an Interagency Agreement with the United States Centers for Disease Control and Prevention. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

TEPHINET would like to recognize the active involvement of the FETP teams (resident advisors and mentors) in encouraging their trainees and graduates to submit abstracts to the 10th TEPHINET Regional Scientific Conference of the Americas.