



Boots on the Ground

Haiti's Field Epidemiology Training Program Quarterly Newsletter

Issue 1 · March 2018

AT THE FRONTLINE OF PUBLIC HEALTH IN HAITI

Welcome to *Boots on the Ground* – an Information Sharing Initiative for FETP-Haiti



By: Dr. Marie Greta Roy Clément, Haitian Minister of Public Health

I am honored to launch the first edition of the Haiti Training Program in Field Epidemiology (FETP-Haiti) newsletter called "Boots on the Ground". This program, which began in April 2011, is a collaboration between the Ministry of Public Health (MSPP) and the Centers for Disease Control and Prevention (CDC-Haiti). The main objective of this training is to strengthen the capacity of epidemiologists in the prevention, detection and control of threats in public health. The earthquake of 2010

showed us the importance of having a set of cadres with the necessary skills to deal with emergencies, disasters, and epidemics that so often confront the country.

Since its launch in 2011, FETP-Haiti has trained more than 300 MSPP staff working in the country's ten departments.

This quarterly newsletter will provide an opportunity to share the work done by current and graduate residents of the program. This is important because the recommendations provided by them are the basis of the decisions taken by the Ministry. In addition, the scientific community, researchers, health managers, doctors, surveillance officers will find a space for exchange and learning.

I hope this newsletter will be the first of many others highlighting the important work of these epidemiologists on the ground and that it will be widely disseminated. ■

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Centers for Disease Control and Prevention



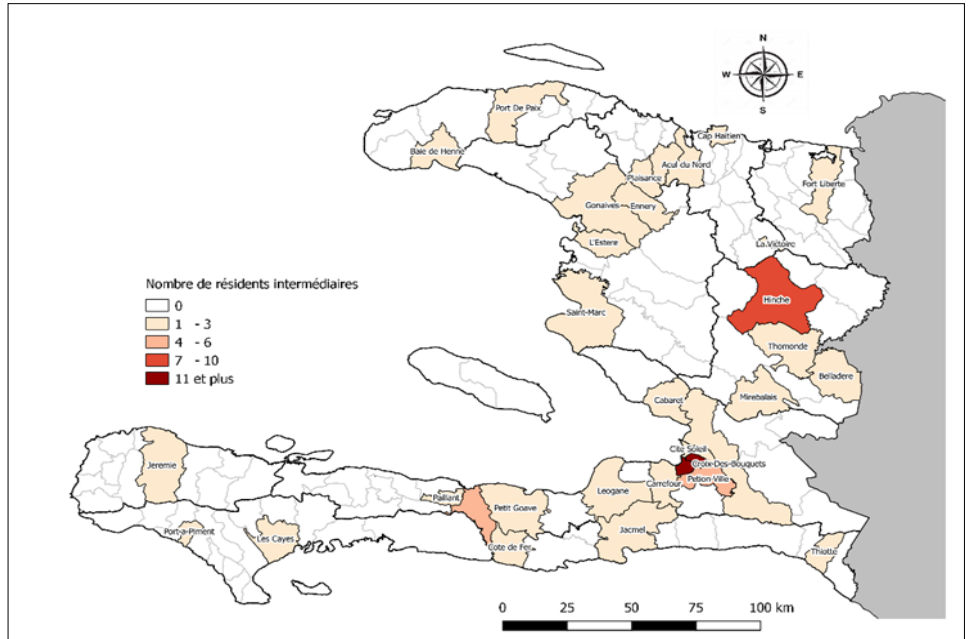


By: Prof. Paul Adrien, MD, MSc, PhD

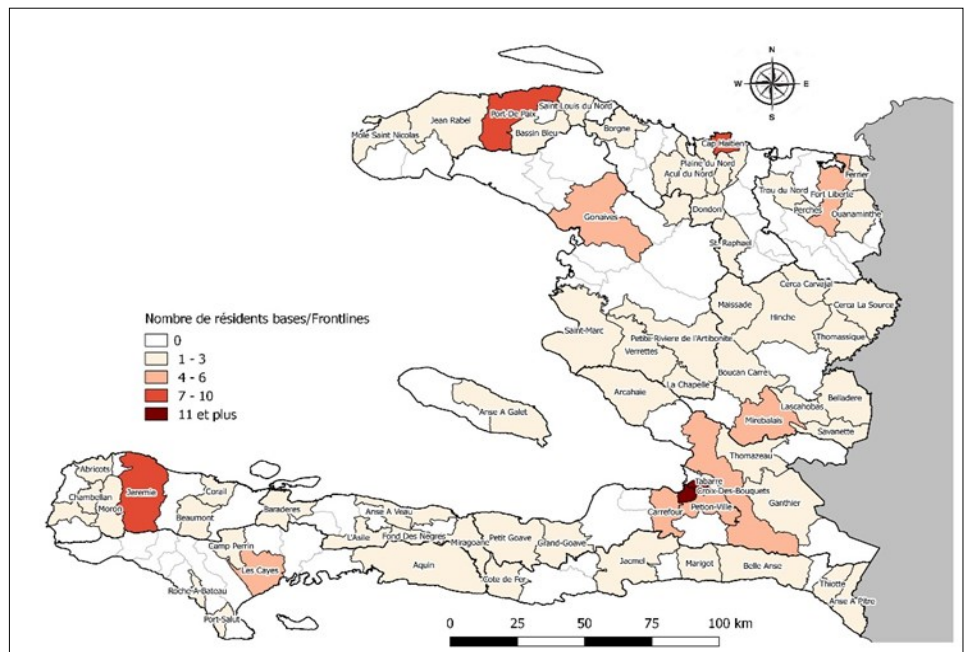
In the aftermath of the devastating earthquake in Haiti in January 2010, one of the best opportunities offered to the Haitian Ministry of Public Health (MSPP) by the US Government through the U.S. Centers for Disease Control and Prevention (CDC) was the successful implementation of the Field Epidemiology Training Program (FETP) in Haiti. In fact, this training program, which is grounded in evidence-based public health decision making, has been paramount in the ongoing challenging development context of the National Health Information System (HIS) capacity and its ability to anticipate appropriate responses to disease outbreaks nationwide. I am very proud of this opportunity to introduce this first issue of the FETP-Haiti newsletter dedicated to knowledge sharing initiatives to inform students, fellow residents, scholars and decision makers about reliable, available health information and the main achievements of the Haiti-FETP team on the ground. This document will also highlight MSPP's contributions to the worldwide efforts to strengthen the Global Health Security Agenda (GHS) and beyond. I sincerely present my best congratulations to the Haiti-FETP team for this hard and relevant work. I warmly invite and welcome all of you distinguished readers to be part of this amazing and exciting scientific initiative. ■

- Dr. Adrien is the former Director of Haiti's Directorate of Epidemiology, Laboratory, and Research (DELR)

Distribution of FETP-Haiti Intermediate Graduates by Communes, Haiti, 2017



Distribution of FETP-Haiti Basic/Frontline Graduates by Communes, Haiti, 2017



Source: FETP-Haiti database



FETP-HAITI: Six Years of Boots on the Ground

By: Lauren Bailey, CDC Haiti

From the 2015 Zika virus outbreak to the 2016 Hurricane Matthew response, Haiti Field Epidemiology Training Program (FETP) residents and graduates are on the frontline of public health action in Haiti. The U.S. Centers for Disease Control and Prevention (CDC) and the Haitian Ministry of Public Health and Population (MSPP) first introduced the FETP in Haiti in 2011. After the devastating 2010 earthquake, the need for a robust epidemiological workforce equipped to address emergency responses and disease outbreaks became a priority.



FETPs conduct a field investigation during the 2016 Hurricane Matthew response in Jeremie.

CDC has worked with Ministries of Health around the world since 1980 to train health professionals to prevent, detect and respond to emerging public health threats through the FETP. The FETP curriculum in Haiti focuses



The 2015 FETP-Haiti Intermediate cohort at DELR.

on disease surveillance, understanding case definitions, disease screening and notification, data synthesis and analysis, conducting case investigations, and responding to epidemiological outbreaks. FETP residents are also trained in epidemiological research methods and are a critical driver of public health research in Haiti.

FETP-Haiti initially included three levels; a three-month basic course, a nine-month intermediate level course, and a two-year advanced-level course. The advanced-level course concluded in 2015, and in 2017 CDC and MSPP launched a FETP Frontline course to replace the basic training. In all, nearly 300 individuals have graduated from the various FETP-Haiti courses.

A recent external assessment of FETP-Haiti noted the improvement in surveillance data over the last five years since the program's inception and that an increasing number of outbreaks are being documented and properly investigated. Due to these advancements, Haiti is now able to share surveillance data according to international requirements and in international fora. Additionally, FETP residents and graduates have carried out numerous surveys that are building the evidence

base for public health programming in Haiti.

FETP graduates are a vital component of Haiti's health workforce. They are the *boots on the ground* tracking, containing, and eliminating outbreaks before they become epidemics, and they strengthen the health system through their service to the MSPP as doc-

tors, nurses, veterinarians, statisticians and regional health directors. As frontline responders, they are essential to the health and security of Haiti's people. ■

FETP-HAITI BY THE NUMBERS

- Year Started: 2011
- Total Graduates: 277
 - ◇ Advanced (5)
 - ◇ Intermediate (98)
 - ◇ Basic (124)
 - ◇ Frontline (50)

- FETP Residents by Career
 - ◇ Doctor: 114
 - ◇ Nurse: 81
 - ◇ Computer Scientist: 29
 - ◇ Lab Technicians: 14
 - ◇ Statisticians: 11
 - ◇ Veterinarian: 4
 - ◇ Other: 21

Abstracts Accepted (2011-2017): 25
 Field Investigations in 2017: 62



INVESTIGATION HIGHLIGHTS

Passive Zika Virus Case Surveillance at Léogane, Haiti, 2017

By: Apollon Destine Miracle, 2012 Intermediate FETP graduate

Background: Zika virus is transmitted to people through the bite of an infected mosquito from the *Aedes* genus, mainly *Aedes aegypti* in tropical regions. Léogane commune has the ecologic environmental configuration for Zika virus disease occurrence. The objective of this study is to review all Zika virus suspected cases that have been reported by the 11 health institutions of the Léogane urban area and provide data-driven

recommendations to the local public health authorities.

Methods: A routine passive descriptive surveillance system coupled with community-based sensitization was organized to detect people with Zika virus disease syndrome and refer them to surveillance sites. Demographic, clinical and risk factor variables were collected. All the data were collected on papers and Google forms. The analysis was done using Microsoft Excel and Epi-info 7.

Results: Eight out of the 11 reporting sites (73%) reported suspected cases of Zika. During the first 23 epidemiological weeks 63 suspected cases were reported with an incidence rate of 13/100,000 population. Twenty (32%) of cases were from the Lassalle Health Center, and 12 (19%) of cases were

referred by community health workers. A count of 35 (56%) were female and the 2e Petite Rivière area had the highest proportion of cases 44 (70%). The highest number of cases was recorded during epidemiological week eight and nine; 73% of cases presented with conjunctival hyperemia compared to rash cases (46%).

Conclusion: This Zika syndromic surveillance at Léogane describes a low incidence rate of Zika suspect cases with the insertion of new surveillance sites. It also helped understand the role community health workers could play in such approach. MOH authority should integrate new health institutions into the epidemiological surveillance system to reinforce the response to the Zika virus epidemic. ■

Prevalence of Asthma in Delmas District, 2017

By: Huguens Lacoste, 2015 Intermediate FETP graduate

Background: Asthma is a chronic disease of the airways; the main causes are not completely understood. According to WHO, 235 million people worldwide suffer from asthma and more than 180,000 deaths are recorded every year. It is estimated that the number of people with asthma will grow by more than 100 million by 2025. The prevalence of asthma varies widely in different countries, a prevalence ranging from 20 to 30% has been documented for countries such as Costa Rica, Panama, Peru, and Uruguay. There is limited understanding of the burden of this disease in Haiti. This study aimed to estimate the prevalence of asthma in the population of Delmas in the West department of Haiti.

Methods: This was a cross-sectional study conducted between May and

August 2017 using a semi structured questionnaire developed from previous asthma studies. The study population consisted of any male and female aged two years and over living in randomly selected households (sample size: 959). Prevalence was calculated by the proportion of participants responding that a doctor had told them they had asthma. Odds Ratio (OR)



An investigator surveying a participant in the study.

was calculated to determine association between asthma and identified risks factors using Epi Info 7.

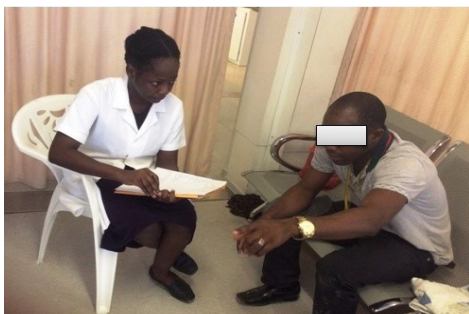
Results: 799 people participated in the study (participation rate: 83.3%), with a sex ratio female/male of 1.6, average age 28 years (2-90), 218 (21.8%) were children, and 581 (72.7%) were adults. 37 individuals (4.6%) had been previously diagnosed with asthma by a doctor with predominance in adults (72.7%), especially female (78.38%) and average age of 27 years (6-89). The estimated prevalence of asthma in Delmas district was 4.6%, the prevalence for both children and adults was respectively (4.1%) and (4.8 %). Of the participants, 45.95% had symptoms during the past 12 months. Findings revealed a significant association between asthma and family history OR: 4.5, [95% CI: 2.3 – 8.3].

Conclusion: The estimated prevalence of asthma in Delmas is relatively low less, than five percent comparing with findings documented in a country such as Costa Rica. We recommend conducting further studies on the genetic factors of asthma. ■

Outbreak of Food Poisoning at Fontamara Orphanage, February 2017

By: Vanessa Jaelle Dor, 2017 Intermediate FETP resident

Background: Food poisoning affects 10% of people each year. In Haiti, the number of reported cases has increased since 2015. On February 11, 2017, there was an alert regarding children who presented digestive, respiratory and neurological signs after a meal at an orphanage in Fontamara, Haiti. Among those children, one arrived in a coma. An investigation was initiated to characterize the cases, determine the likely etiology, identify risk factors, and propose control measures.



Dr. Dor interviews an orphanage employee to learn more about the outbreak.

Methods: FETP residents conducted an institutional and environmental investigation and case-control study. Cases included any person who ate at the orphanage and presented with vomiting, abdominal pain, dehydration, dyspnea, or altered consciousness from February 11 - 13. Controls included asymptomatic persons who ate at the orphanage during the study period. Demographic, clinical, nutritional, and risk factor data were collected through a structured questionnaire. Frequencies and median and odds ratio were calculated. Statistical significance was considered at $p \leq 0.005$. Food, blood, urine, and stool samples were sent to a lab for analysis.

Results: Seven cases were found and seven controls were selected. Median age of cases was seven years [5-15] and 32 years [13-50] for controls ($p=0.01$). Six (85.71%) cases and one (14.29%) control were underweight ($p=0.029$). The attack rate per food consumed was higher for manioc: 70%. Hyperglycemia was found in 71.43% of patients. Toxicological result of manioc examination was not



Children under observation at the treatment center receive a biological exam.

obtained. Factors associated with the intoxication were: age < 10 years and being underweight [OR=36.00, (1.80 - 718.71), $p = 0.014$] for both.

Conclusion: Food poisoning by manioc ingestion was likely the cause of the outbreak. Age and nutritional status influenced the manifestation of symptoms. Biological impossibility to detect cyanide in patients and food samples was a limitation. Education of the orphanage caregivers, and children's enrollment in nutritional program was initiated. Follow-up for long term complications was recommended. ■

IN THE SPOTLIGHT

Dr. Wilnique Pierre

FETP Graduate and Professor



Dr. Wilnique Pierre is a medical epidemiologist and a FETP-Haiti graduate. He joined the FETP Haiti basic course in 2011 and went on to complete all three levels. In 2015 Dr. Pierre obtained a master's degree in epidemiology from the University Of Valle De Guatemala. He has participated in several TEPHINET regional and global conferences and won the award for best abstract at the TEPHINET 8th regional conference. He has also obtained multiple grants for the implementation of epidemiological surveillance in Haiti. Dr. Pierre now works at the Directorate of Epidemiology, La-

boratory and Research (DELR) as Coordinator of Environmental Poliovirus Surveillance and as a professor and mentor to FETP-Haiti.

Interview with Dr. Pierre:

Q: How has FETP-Haiti helped advance your career?

A. Being part of the first cohort of FETP-Haiti, I have come to this point in my career not only through my motivation but also through my devotion, and also because my mentors and coordinators were able to share with me the critical concepts about the

program and taught me how to grow within the Haitian National Health System.

Q: Why is it important that Haiti have a strong public health workforce that includes field epidemiologists?

A: Epidemiology is the backbone of public health in any country. Understanding epidemiologists in the field would allow a more comprehensive understanding of their field activities and provide an early warning of certain diseases and promote the integration of health promotion, disease prevention and control of diseases. ■



Dr. Valérie Chadic

2014 FETP Graduate

Dr. Valerie Chadic is a medical doctor and a graduate of Escuela Latino-Americana de Medicina in Santiago de Cuba in 2008. She previously worked as a health coordinator for five years in West department of Haiti. In 2013, she completed both the FETP-Haiti basic and intermediate level courses and. Dr. Chadic subsequently worked as the research assistant director in the Filariasis and Neglected Tropical Diseases program at St. Croix Hospital-University of Notre-Dame in Leogane and was also the head of the Unit for Preparedness, Response and Surveillance until 2015. As an FETP resident, Dr. Chadic had the privilege to take part in major conferences and

is now better equipped to work in the field of research and respond appropriately to current public health issues. She is currently completing a master's in public health at University of Montreal.

Interview with Dr. Chadic

Q: How did you hear about FETP-Haiti? Why did you enroll in the program?

A: I heard about the program during meetings that I used to attend with colleagues. As research has always been a passion of mine, I thought that this course would be an opportunity for me to better understand the methods and scientific approaches to research in public health in order to better guide decisions.

Q: How have you applied the skills you learned during the FETP to your current career?

A: Prior to returning to school in 2016, I was working as a research assistant in the Filariasis and Neglected Tropical Diseases program, which allowed me to practice almost everything I learned in FETP such as research protocols, coordinating vector disease outbreak response activities, providing training to the team on sample collection and transport conditions, and directing active research on new strains of vector-borne disease. Honestly, I can confess that I initially lacked this practical knowledge to fulfill such a function, but FETP taught me thoroughly from theory to practice the essential elements that enable me to be effective as a researcher.

Q: Why is it important that Haiti have a strong public health workforce that includes field epidemiologists?

A: The field epidemiologist is at the center of the action. When facing an urgent health problem, he/she must collect sufficient data to carry out an intervention and quickly inform the key people in order to protect the

health of the individuals or the population at risk. Epidemiologists play a fundamental role in identifying health problems and they are vital in implementing relevant interventions. So, it is not only substantial that Haiti has more field epidemiologists but also a community of practice in field epidemiology to progress rapidly in the field of research. ■

UPDATES

- ◇ **The Training Program in Epidemiology and Public Health Interventions Network (TEPHINET) is offering a free online Zika and birth defects training: <http://tephinet.org/zika-curriculum>**
- ◇ **TEPHICConnect is a new platform created by TEPHINET to connect all FETPs around the world: <https://tephiconnect.org/>**

MARK YOUR CALENDAR

- ◇ **April 16-18, 2018: Epidemic Intelligence Service Conference in Atlanta, Georgia**
- ◇ **May 16-18, 2018: TEPHINET 10th Regional Scientific Conference in Cartagena, Colombia**



Continuing Education

FETP-Haiti Graduates Participate in Qualitative Research Methods Training Montreal, Canada

By: Nadia Phaimyr In Charles, FETP-Haiti RA

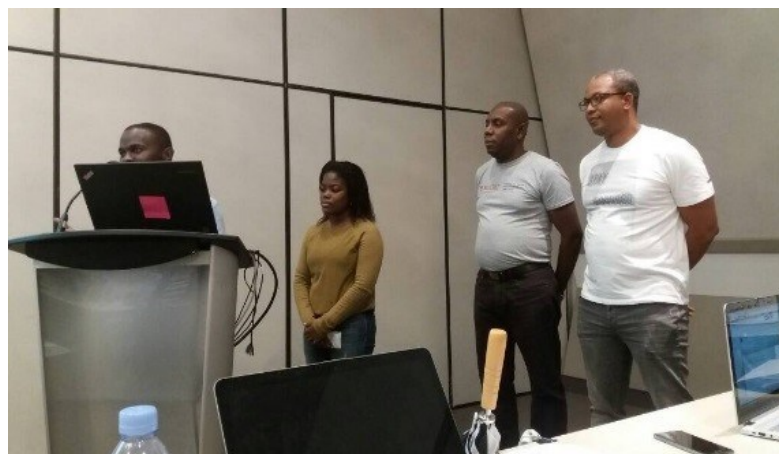
Two FETP-Haiti graduates, Hugguens Lacoste and Apollon Destine Miracle, participated in a training on "Qualitative Methods of Global Infectious Diseases" on June 19-23, 2017, in Montreal, Canada at the McGill Summer Institute in Infectious Diseases and Global Health.

Qualitative research is a critical component of public health research. It helps to assess social and behavioral contexts and complements quantitative research methods. There is growing interest to integrate qualitative methods into traditional research. The course was interactive and combined case studies and practical exercises covering topics such as study designs and methodologies, focus groups and interviews, approaches and methods

for analysis, ethics and evaluation criteria. With the completion of this course we are confident that our two participating FETP-Haiti graduates are well equipped to tackle social and behavioral topics in Haiti. ■



Hugguens Lacoste concentrating on his team's proposal entitled "Determinants of Pulmonary Tuberculosis Diagnostic Delay in South Africa."



Apollon Destiné Miracle (in grey shirt) with his team presenting their proposal on multidrug-resistant tuberculosis (MDR-TB) to course participants.

ACKNOWLEDGMENTS

Boots on the Ground would like to acknowledge and thank the many partners who make FETP-Haiti and this newsletter possible. This program represents the collaborative efforts and expertise of numerous parties who work tirelessly to promote and enhance field epidemiology in Haiti.

- MSPP/DELR: <http://mspp.gouv.ht/newsite/>
- FETP-Haiti: <https://www.cdc.gov/globalhealth/index.html>
- CDC Global Health: <https://www.cdc.gov/globalhealth/index.html>
- CDC Haiti: <https://www.cdc.gov/globalhealth/countries/haiti/>
- TEPHINET: <http://www.tephinet.org/>

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