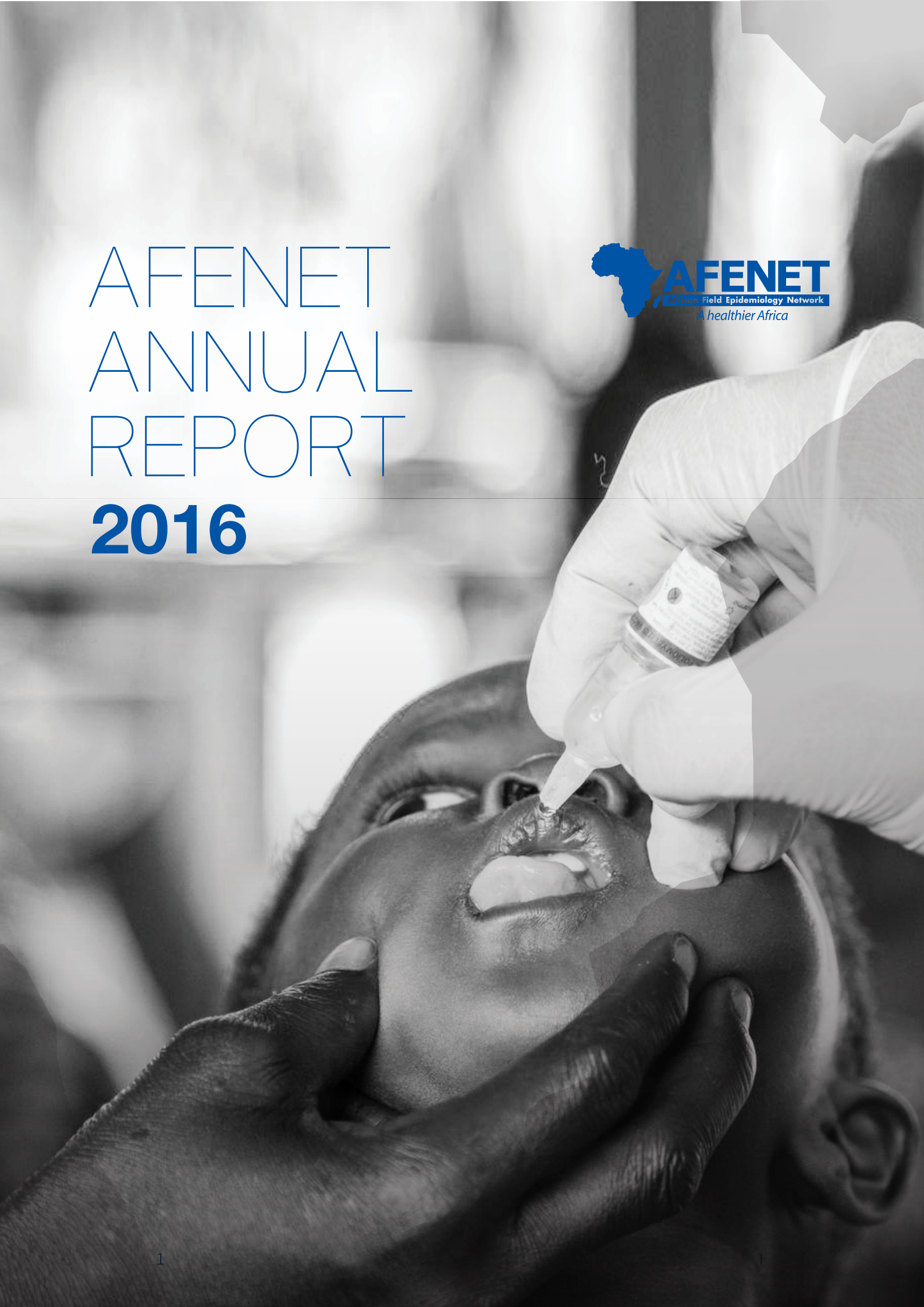


# AFENET ANNUAL REPORT **2016**





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*A Healthier Africa*

#### VISION

A Healthier Africa

#### MISSION

AFENET is committed to ensuring effective prevention and control of epidemics and other priority public health problems in Africa.

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- Rebecca Babirye: Grants Officer/ Epidemiologist
- Humphrey Kabugo: Monitoring and Evaluation Officer
- Olivia Bbombokka : Monitoring and Evaluation Officer
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- Secretariat Staff
- Courtesy photos: FELTP Residents and Program Staff

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# ACRONYMS AND ABBREVIATIONS



AFENET	African Field Epidemiology Network
BL	Burkitt's Lymphoma
HHS	Department of Health and Human Services
DGHP	Division of Global Health Promotion
DGHA	Division of Global HIV/AIDS
DTS	Dry Tube Specimen
ETP	East Africa Training Program
EIS	Epidemic Intelligence Service
Epi	Epidemiology
EMBLEM	Epidemiology of Burkitt's Lymphoma in East African Minors
EQA	External Quality Assurance
FMOH	Federal Ministry of Health
FELTP	Field Epidemiology and Laboratory Training Program
FETP	Field Epidemiology Training Program
IDSR	Integrated Disease Surveillance and Response
Lab	Laboratory
M&E	Monitoring and Evaluation
NCD	Non Communicable Diseases
OGHA	Office of Global Health Affairs
PAMJ	Pan African Medical Journal
SLIPTA	Stepwise Laboratory Quality Improvement Process Towards Accreditation
SLMTA	Strengthening Laboratory Management Towards Accreditation
CDC	U.S. Centers for Disease Control and Prevention
UCTI	Uganda Tobacco Control Initiative
USAID	United States Agency for International Development
VHF	Viral Hemorrhagic Fever
WHO	World Health Organization



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# FOREWORD

I am pleased to present to you this year's annual report which focuses on activities within the African Field Epidemiology Network in the year 2016. This is our ninth annual report, written in the last implementation year of our five year strategic plan, 2011 – 2016.

**1,080**  
graduates from  
the network  
since inception

**Over 360**  
scientific presentations  
were made at the 6th  
AFENET Scientific  
Conference.

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A critical focus of the plan was strengthening indigenous capacity for public health preparedness and response. The threat from emerging and re-emerging pathogens like Ebola, Marburg and MERs among others, has increased interest in global health security, central to which is containment of public health threats at source. A key driver of these efforts is availability of an adequate and competent workforce for effective disease prevention, detection and response efforts. African Field Epidemiology (and Laboratory) Training Programs contribute to this through the 2 year masters training program, the newly introduced 9 months intermediate program and the 3 months Frontline Field Epidemiology Training Program. The latter in 2016 led to a rapid increase in number of competent frontline health workers, for improved disease surveillance and response in communities.

This year, Improving Public Health Management through Action (IMPACT), a program aimed at producing public health managers similar to CDC's Public Health Advisors was piloted in Kenya, with support from CDC. These efforts are complementary to those of the Field Epidemiology (and Laboratory) Training Programs (FE(L)TPs). We are proud to show off alumni associations of our FE(L)TPs, particularly their role in mentoring FE(L)TP residents.



These associations are our first step in partnership with regional and global bodies, to create a Rapid Response Corp that will respond to public health threats within Africa and beyond.

During the five year period of the Strategic Plan, we also set out to provide platforms for our member programs to collaborate and share information amongst themselves and the wider public health community. One of the platforms we utilized is the biennial AFENET Scientific Conference. In 2016, the largest ever AFENET Conference was hosted by the Nigeria FELTP. The Conference was attended by more than 1,000 delegates; more than 360 presentations were made by FE(L)TP residents and graduates, and key note speakers. The Conference also coincided with AFENET's 10th anniversary celebrations.

We provide more highlights of the achievements of the Network through the period 2011 – 2016 in the introduction of this report. On behalf of the Board of Directors, I congratulate our member programs, funders, staff and other stakeholders on these achievements. Our belief in the strength of partnerships has brought us thus far and will spur us all to greater heights during the implementation of the new strategic plan, also developed in 2016.



AFENET Chairman Board of Directors - Prof. Tshimanga Mufuta

---

**AFENET**  
plans to set up rapid  
response teams and  
work closely with  
alumni associations in  
order to create a  
workforce that is  
always available and  
can be deployed to  
countries in crisis.

# EXECUTIVE SUMMARY

The African Field Epidemiology Network (AFENET) aims to strengthen public health systems of African countries, to effectively deal with public health threats. Our activities are premised on six strategic objectives:

- Strengthening field epidemiology capacity,
- Enhancing public health laboratory capacity,
- Strengthening surveillance and outbreak response systems for communicable and non-communicable diseases.
- Advancing the sharing of regional expertise through networking and collaboration
- Documenting and disseminating AFENET's field experiences to stakeholders
- Strengthening AFENET's institutional capacity

The year 2016 marked two huge milestones for AFENET:

1. We marked 10 years of the Network's existence
2. It was the last year of implementation of our five-year strategic plan which had provided a roadmap to achieve the strategic objectives through focused activities.

Celebrations to mark AFENET's 10th anniversary were held during the 6th AFENET Scientific Conference in Abuja, Nigeria. During the event, contributions towards the establishment and growth of the Network by various agencies and individuals were recognized through awards.

Between September and December 2016, we set out to perform a comprehensive end-of-term evaluation of the 2011- 2016 strategic plan. The purpose of the



*By 2016 we recorded  
16 Advanced Field  
Epidemiology  
Laboratory Training  
Programs (FELTP)  
and 18 Frontline Field  
Epidemiology Train-  
ing Programs (FETP)*

evaluation was to assess the relevance, efficiency, effectiveness, impact and sustainability of the 2011-2016 strategy, the results of which ushered in a new plan for the period 2017 - 2021.

By the end of 2016, 1,080 advanced level FELTP trainees had successfully completed training graduated, and a total of 16 advanced level FE(L)TPs established as at the end of December 2015. We recorded over 809 FE(L)TP residents and alumni who were involved in at least 150 outbreak investigations in Africa. We highlight some of the interventions as well as recommendations made to the various Ministries of Health. More on this is presented under individual country sections and the appendices of the report.

2016 marked the last implementation year for the US CDC's International Laboratory Branch. Implemented through the AFENET-Lab initiative, this project supported laboratory strengthening efforts in 7 African and 11 Caribbean countries, in partnership with CDC, National Ministries of Health and other agencies. A key achievement of this project was the attainment of international accreditation under ISO 15189:2007 by five of 17 supported laboratories. Additionally 10 laboratories were certified with stars 1-3 under WHO SLIPTA. We continue to seek opportunities to build on the achievements of this project, in line



Dr Olivia Namusisi – Ag Executive Director AFENET

**10th**  
anniversary  
of the  
network

with our strategic priority of public health laboratory capacity development.

More of the achievements of the AFENET-lab project and other projects within the Network are shared in the report. Through the various reports, our reliance on national, regional and internal partnerships towards achieving our strategic objectives is highlighted.

# HOW DID WE PERFORM?

Highlights of progress  
recorded over  
**10**  
years

**31 African countries** in 2017 from the 4 founding countries in 2005

**16** Field Epidemiology and Laboratory Training Programs

**1500** public health professionals in the 2 year advanced FELTPs

**1000** field epidemiologists trained based on the One Health approach with three main tracks; epidemiology, veterinary and laboratory tracks for the member countries with laboratory components.

**2000** frontline workers trained in the 3 - month Frontline Field Epidemiology Training Programs  
AFENET laboratory initiate operated in seven African and 11 Caribbean countries with Major achievements over the period include: SLMTA mentorships, biosafety and HIV EQAs.

**A total of 274** laboratory personnel were trained through the SLMTA workshops

**5 out of 11** Laboratories internationally accredited by ISO 15189:2007 and **11 labs** were certified with stars 1-3 under the WHO SLIPTA scheme from 2010 - 2016

**AFENET supported** the distribution of HIV-EQA Dry Tube Specimens (DTS) to **1,292 HIV testing sites** between 2010 and 2016

**221 health workers** were trained in Immunization Data Quality Improvement Team in 6 regions, in Uganda. Mentorship was completed in 15 districts, and 1106 Health facilities in 2016

**18 Ghana FELTP** articles were published in its first supplement titled "Strengthening Surveillance, Outbreak Investigation and Response: the Role of Ghana FELTP" in the Pan African Medical Journal.





AFENET  
ANNUAL  
REPORT  
**2016**



# PROGRAM REPORTS

# ANGOLA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Angola Field Epidemiology and Laboratory Training Program (A-FELTP) was established in 2011 as a close collaboration between the Angola Ministry of Health, Agostinho Neto University (UAN) and Army Health Services. The first and second cohort of nine residents each was enrolled in 2011 and 2013 respectively. The program is led by Dr. Julio Leite - Program Director, MOH.



Cohort I graduate, José Catalahali and Dr. Luís Miguel

## Achievements of A-FELTP 2016

- Nine (9) FELTP residents graduated with the Masters in Applied Epidemiology from the 1st cohort

## Didactics and Training

### The Angola FELTP comprises of 4 cohorts:

**Cohort I** was enrolled in October 2011 and comprises of 9 residents (7 Epi and 2 Laboratory) and graduated in March 2015-(6) and March 2016-(3) respectively

**Cohort II** started in May 2013 and comprises of 9 residents (4 Epi and 5 laboratory).

**Cohort III** started in June 2015 comprising of 11 residents (6 Epi and 5 Laboratory).

Residents defended their dissertation in August, 2016.

**Cohort IV** started in May 2016 comprising of 8) Residents (4 Epi and 4 Laboratory).

---

**9 residents**  
of the Angola  
FELTP graduated  
in 2016



### Academic activities: II, III and IV cohort

**Cohort II** residents submitted their dissertations for Public Defense towards attaining their masters in Applied Epidemiology.

**Cohort III** participated in academic activities and attended the module of Advanced Epidemiology and Laboratory Management in Public Health

**Cohort IV-** The students of the IV group started their academic activities on March 28, 2016 and are attending the Maternal and Child Health module.

### Cohort II Monthly Meeting

On 26 July 2016, Cohort II residents participated in the Angola FELTP monthly meeting in which residents made presentations on their theses. Presentations made are as follows:

### Presentations made at the Cohort II monthly meeting

NAME	TOPICS
Dr. Albertina Cardoso	Surveillance of Cholerae Vibrio in Water, Hydrobiological and Vegetable Foods, Luanda, 2015-2016
Dr. Claudete Samutondo	Efficacy and Safety of Artemeter-Lumefantrine, Artesunate-Amodiaquine, and Dihydroartymisin-Piperaquine in the Treatment of Uncomplicated Malaria in Three Province of Angola, 2015
Dr. Joaquina Cambuta	Epidemiological Profile and the Burden of Human Rage, Luanda, 2011 - 2015
Dr. Raidel de Jesus	Epidemiological Profile of Rubella in Angola, 2001 - 2015
Dr. Edson Mayer	Cytopathologic alterations of the women who did the CCU Screening at the National Cancer Control Institute, 2014 - 2015.
Dra. Maria do Rosário Marques	Socio - cultural factors, Sexual and Reproductive Health of women in the PTV program in Luanda: What has changed with Seropositivity

### Outbreak Investigations

#### Major outbreaks investigations by Angola FELTP residents from 2012 - 2016:

Yellow Fever Outbreak in Angola, December,	2015/2016
Malaria Outbreak in Cafunfo, Province of Lunda Norte / 2012, Uíge	2013 and Luanda in 2016
Study of Associated Pathologies to Acute Febrile Syndroms in Luanda Province	22 to 30 May 2015
Human Rabies in 3 municipalities, Luanda	2014
Cholera in the municipality of Lukapa, Province of Lunda Norte, 2012 and in Viana Municipality, Luanda	July 2012
Dengue Outbreak in Luanda	2013
Measles Province in Bengo / 2012 and in the commune of Funda	2013

### A-FELTP Challenges

1. Less publicity for the Master Degree Course on Field Epidemiology and Laboratory Training Program
2. Implementation and dissemination of the Master's Degree Course on FELTP in other Universities.

# DEMOCRATIC REPUBLIC OF CONGO FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Democratic Republic of Congo FELTP was created in 2013 to strengthen the capacity of the Ministry of Public Health and Agriculture. This program is a collaboration amongst: AFENET, CDC Atlanta, USAID, Kinshasa University (School of Public Health) and the Ministries of Health and Agriculture.



DRC FELTP Cohort II Award ceremony

**Program**  
has had 4 cohorts  
since establishment

**81**  
residents  
enrolled  
in total



Trainees from the DRC FELTP taking part in the Ebola Virus Disease outbreak response effort in Guinea

The program's mission is to build a mass of competent health professionals able to effectively prevent, monitor, control and respond to outbreaks and other conditions of public health importance.

### ACHIEVEMENTS

Specific activities include the following:

#### Training:

The DRC FELTP has enrolled 81 residents from 2013 – 2016:

#### In Conakry - Guinea and Boende DRC-Congo:

Since the outbreak of Ebola Virus Disease (EVD), the residents from the program were deployed to support the EVD response in Guinea – Conakry and Boende in DRC-Congo:

#### In Guinea - Conakry

Residents deployed in Guinea participated in the following activities:

Supported the coordination of epidemiological surveillance activities:

Participated in activities such as investigation of rumors, identification of contact and their follow-up.

Supported the implementation of a data management system for contacts and alerts:

Supported activities /campaigns to raise awareness on EVD prevention and control

Supported awareness campaigns.

Supported the training of frontline residents in Guinea.

#### In the Democratic Republic of Congo

Residents deployed in DRC participated in the following activities:

Organization of frontline training courses: 1st, 2nd and 3rd cohorts, in the DRC

Investigation of outbreaks in yellow fever, cholera and measles in the DRC

Evaluation of the response post the measles outbreak.

Supported EVD response in Boende Health Zone, DRC.

Participated in the investigation of monkeypox cases in Ifondo in Congo Brazzaville.

#### DRC-FELTP Challenges

- Aligning training/capacity and funding requirements – doing more with less
- Security challenges - some areas are inaccessible
- Field sites challenges
- Challenges of scale up
- Additional technical and administrative staff
- Sustainability: Limited funding from the host country

**DRC**

has trained  
3 frontline  
cohorts

**Residents  
responded to the  
Ebola Virus  
Disease outbreak  
in Guinea Conakry  
and Boende in DRC  
Congo**



RC-FELTP in Boende /Ebola Response

# ETHIOPIA FIELD EPIDEMIOLOGY TRAINING PROGRAM



The Ethiopia Field Epidemiology Training Program (EFETP) is a partnership between CDC Ethiopia, the Federal Ministry of Health, the Ethiopian Health and Nutrition Research Institute, Addis Ababa University School of Public Health, and the Ethiopian Public Health Association. The program has enrolled seven cohorts of 484 residents and graduated over 98 residents since its inception in 2009.

## Ethiopia FETP Expansion Program

The Program initiated an expansion program to include eight universities in a bid to increase the country's workforce in surveillance and outbreak investigation. The program has now started laboratory and veterinary tracks to boost the already existing epidemiology track. With this expansion, the program enrolled 484 residents into its two year training program in 2016 – 2017. The participating universities include: Mekelle University, Gondar University, Hawassa University, Jimma University, Bahir Dar University, Haramaya University, St. Paul's Millennium Medical College and Addis Ababa University.

## Cohort Enrolment and Graduation

The Ethiopia FETP enrolled 149 Residents in Eight Universities namely AAU 18, Saint Paul's Hospital MMC 22, Gondar university 25, Baherdar university 15, Hawasa University 15, Jimma University 15, Haramaya University 10, and Mekele University 27 as shown below:

## Cohort Enrolment and Graduation

Name of Universities	Enrollment year	Enrollment No	Graduates No as of July 2016	Enrollment 2015-2016	Enrollment 2016-17	Expected graduates in 2017
AA University	2009-2016	116	98	17	18	17 will graduate in 2017
Gondar Uni	2014-2016	54		29	25 (10 Benshanguel+15 N.Gondar	29 Will graduate in 2017
Bahirdar Uni	2015-2016	60		45	15 will be enrolled in January 2017	45 Will graduate 2017
Hawassa Uni	2015-2016	70		60	15	60 will graduate 2017
Jimma Uni	2015-2016	25		10	15(8 Oromyia+4Gambella+3Southern nation	10 Will graduate 2017
Haramaya Uni	2014-2016	30		20	10	20 will graduate 2017
Mekele uni	2015	42		12	29(9 Afar+20 Tigray)	12 Will graduate 2017
<b>Total</b>		<b>484</b>	<b>98</b>	<b>257</b>	<b>152</b>	<b>257</b>

## EFELTP program activities

- Procured 320 Reference Books to be Distributed for 66 Field bases for the Residents.
- Procured lap tops, stationeries and ppe for all residents to the different universities and field bases.
- Hired 3 Program coordinators to lead and oversee the program at the central level and 5 Resident Advisors for 5 of the Implementing Universities to support Residents Technically. Hired Resident Advisors for the Remaining universities and also additional Program Coordinators to support the Field supervision activities
- Provided Disaster Risk management and Toxicological outbreak investigations Training for 34 University Instructors (Mentors) by three SME who came from Atlanta, Environmental and Disaster prevention Division

**142 residents**  
participated in outbreak  
investigations

**407**  
residents  
enrolled into  
its two year  
training  
program since  
inception

## Outbreak Investigation and Response

Residents participated in several outbreak investigations and response outbreaks as shown in the table below:

University	Suspected pathogen or cause of public health emergency	Period	Progress	1st year residents	2nd year residents
	Food-borne pathogens	Q1 (Jan 1-Mar 31)	In process	2	1
SPMMC	Acute Watery Diarrhea (AWD)	Q2	Q3	26	12
SPMMC	Influenza	Q1 (Jan 1-Mar 31)	Q1	0	2
SPMMC	Measles	Q4	In process	0	7
SPMMC	Dengue Fever	Q3	Q4	0	2
SPMMC	Malaria	Q1 (Jan 1-Mar 31)	Q2	0	1
SPMMC	Meningitis	Q4	Q4	0	1
AAU	Food-borne pathogens	Q1 (Jan 1-Mar 31)	In process	2	1
AAU	Cholera/Diarrheal Disease	Q2(Apr1 - Jun 30)	Q2(Apr1 - Jun 30)	7	1
AAU	Malaria	Q1 (Jan 1-Mar 31)	Q1 (Jan 1-Mar 31)	1	1
AAU	Other	Q1 (Jan 1-Mar 31)	Q1 (Jan 1-Mar 31)	5	8
AAU	Respiratory illness (non-TB)	Q1 (Jan 1-Mar 31)	Q1 (Jan 1-Mar 31)	2	1
AAU	Vector-borne disease (non-malaria, non-Zika)	Q1 (Jan 1-Mar 31)	Q1 (Jan 1-Mar 31)	0	1
AAU	Zoonotic disease (non-rabies)	Q2(Apr1 - Jun 30)	Q2(Apr1 - Jun 30)	0	1
Gondar	Cholera/Diarrheal Disease	March 1, 2016	September 1, 2016	1	0
Gondar	Food-borne pathogens	March 1, 2016	September 1, 2016	1	0
Gondar	Malaria	March 4, 2016	September 3, 2016	2	3
Gondar	Influenza/ILI	March 5, 2016	September 4, 2016	3	4
Gondar	Vaccines/Vaccine-Preventable Disease	March 6, 2016	September 5, 2016	4	8
Gondar	Other	March 6, 2016	September 5, 2016	4	3
Haramaya	vector born pathogen(Dengue fever)	september, 2015	October, 2015	2	
Haramaya	measles virus	August, 2015	August, 2015	1	
Haramaya	vector born pathogen( Malaria parasite)	Q2	Q2	0	1
Haramaya	AWD(cholera O1 serotype Inaba)	Q3	Q3	0	1
Haramaya	AWD(cholera serotype Agawa)	Q2	Q2	0	1
Haramaya	AWD(cholera O1 serotype Inaba)	Q3	Q3	0	1
Haramaya	measles virus	Q1	Q2	0	1
Haramaya	measles virus	Q2	Q2	0	1
Haramaya	vector born (Malaria parasite )	Q2	Q2	1	0
Haramaya	measles virus	Q1	Q2	1	0
Haramaya	Food-borne pathogens	Q2	Q2	1	0

Haramaya	vector born (Chukunguya virus)	Q2	Q2	1	0
Jimma	malaria(P.falciparum dominated)	Q2 (Ap1-June30)	Q2 (Ap1-June30)	0	1
Mekele	Malaria				
Mekele	Water-borne disease (non-cholera)				
Mekele	Food-borne pathogens				
Mekele	Febrile illness, unknown etiology				
Awassa	AWD	Q3=(Jul 1-Sept 30)	Q3=(Jul 1-Sept 30)	1	
Awassa	AWD	Q3=(Jul 1-Sept 30)	Q3=(Jul 1-Sept 30)	1	
Awassa	Malaria	Q2=(Apr 1-Jun 30)	Q2=(Apr 1-Jun 30)	1	
Awassa	measles	Q1 = (Jan 1-Mar 31)	Q2= Apr 1-Jun 30		1
Awassa	Scabies	Q4= (Oct 1-Dec 31)	Q4= (Oct 1-Dec 31)		1
Awassa	measles	Q4= (Oct 1-Dec 31)	Q4= (Oct 1-Dec 31)		1
Awassa	Rabies	Q1 = (Jan 1-Mar 31)	Q1=(Jan 1-Mar 31)		1
			<b>Total</b>	<b>70</b>	<b>72</b>



The first cohort residents of saint paul's hospital millennium college among the new expansion sites

### Challenges:

- Limited funds to support all the eight universities
- Lack of enough mentors to assist in mentoring all the fellows in the different universities.

# GHANA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Ghana Field Epidemiology and Laboratory Training Programme (GFELTP) is a two-year post graduate course in applied epidemiology and public health laboratory practice leading to the award of a Master of Philosophy degree in Applied Epidemiology and Disease Control (M. Phil). The vision of the GFELTP is to improve the health in Ghana by addressing public health needs and priorities through training and service provision.

## Cohort Didactics and Training

Cohorts V and VIII graduated in Master of Philosophy in Applied Epidemiology and Disease Control.

### List of graduates from the GFELTP (Cohort V and VIII)

No.	Name	Cohort
1.	Mr. Adade Rexford Bempong	V
2.	Ms. Aku Fortress Yayra	VIII
3.	Mr. Holy Alomatu	VIII
4.	Dr. Asiedu Ernest Konadu	VIII
5.	Mr. Bai Jannah	VIII
6.	Mr. Blidi Nicholas N.C.	VIII
7.	Mr. Shannon Fulton Quincy	VIII
8.	Ms. Wilson Himiede Wede	VIII
9.	Mr. Tahiru Ukasha	VIII
10.	Dr. Zakariah Adam	VIII

## Orientation for Cohort X Residents

The GFELTP admitted 11 Cohort X residents on 13 October 2016 at the Noguchi Memorial Institute for Medical Research (NMIMR). The orientation ceremony attended by: Dr. Badu Sarkodie – Director, Public Health Division - Ghana Health Service, Dr. Philip Ricks, CDC Resident Malaria Advisor – Ghana, Prof. Moses Aikins, Former Dean – School of Public Health, University of Ghana, Dr. Eugene Murat Yelfaanibe, Veterinary Services Department; Dr. Bismark Sarfo, Head – Epidemiology and Disease Control Depart-

ment, School of Public Health, Dr. Ernest Kenu, Ag. Director – GFELTP, Prof. Col. Edwin Afari (Rtd.), Coordinator – GFELTP, Dr. Frederick Wurapa – Former Director, GFELTP, staff and lecturers of the GFELTP.

## Cohort VIII Oral Defense Examination

Cohort VIII residents of the GFELTP undertook an oral defense examination on 8, 11 and 12 July 2016 at the University of Ghana School of Public Health.

### List of Cohort VIII residents research topics presented for oral defense in July 2016

No.	Name	Research Topic	Date
1.	Dr. Ernest Asiedu Konadu	Determinants for Preterm Delivery in Ridge Regional Hospital, Greater Accra Region	8 July 2016
2.	Ms. Fortress Y. Aku	Antibiotic Susceptibility Pattern of Blood Culture of Neonates with Sepsis, Volta Regional Hospital	
3.	Dr. Zakariah Adam	Determinants of low Birth Weight among Neonates Born at three Districts Hospitals (Amasaman, Legon and Achimota) in Greater Accra Region	
4.	Mr. Nicholas N. C. Blidi	Factors Influencing Infant Mortality, Montserrado County, Liberia	11 July 2016
5.	Mr. Alomatu Holy	HIV, HBV, HCV and Syphilis Infections among blood donors in Koforidua	
6.	Dr. Momodou Lamin Waggeh	Determinants of Neonatal mortality in Brong Ahafo Region, Ghana	
7.	Mr. Tahiru Ukasha	Malaria Diagnosis and Treatment Practices in Tolon District, Northern Region	
8.	Mr. Wilson Himiede Wede	Post Ebola Syndrome among Survivors, Montserrado County, Liberia	

9.	Mr. Bai Janneh	Factors Associated with Bovine Fasciolosis at Accra and Tulaku Abattoirs, Tema Municipality, Greater Accra Region	12 July 2016
10.	Mr. Apaw Bosompem	Factors Associated with Intermittent Preventive Treatment (IPTp) Uptake among Pregnant Women in Denkyembour District	
11.	Mr. Fulton Quincy Shannon II	Determinants of Ebola Virus Disease Infection among Health Workers, Bong and Montserrado Counties, Liberia	
12.	Mr. Baba Kunta Fofana	Isolation of Uropathogenic Bacteria and their Antimicrobial Susceptibility Patterns in Urine Samples of Patients with Suspected UTI in Koforidua Hospital	
13.	Mr. William Wireko Ansah	Adherence to WHO Recommended Parasite Count and Species Identification Method of Malaria Diagnosis by trained Laboratory Personnel in the Greater Accra Region	3 August 2016

### Cohort IX Surveillance Data Analysis

Cohort IX residents of the GFELTP undertook a six-week Surveillance Data Analysis exercise and public health practice in the various regions in Ghana from June 20 – July 29 2016. Analysis of surveillance data was important for detecting outbreaks and unexpected increases or decreases in disease occurrence in Ghana. Hence monitoring disease trends, and evaluating the effectiveness of disease control programs and policies.

### Scientific Writing Training and Publication Manuscript Writing Workshop, Bethel Height Hotel – Greater Accra Region

Ghana FELTP residents participated in several scientific writing workshops:

19 residents and alumni undertook a 5-day Manuscript Writing Workshop from November 12 – 16, 2016 at the Ampomaah Hotel – East Legon Greater Accra Region.

Ten residents and alumni participated in a Manuscript Writing Workshop from April 25 – May 6, 2016 at the Bethel Height Hotel, Greater Accra Region.

The trainings are aimed at helping residents and alumni of the programme communicate findings from their works in peer reviewed publications.

### PUBLICATIONS

Ghana FELTP published its first supplement titled “Strengthening Surveillance, Outbreak Investigation and Response: the Role of Ghana FELTP” in the Pan African Medical Journal. The supplement contains 18 articles made up of projects conducted by residents and alumni. It is the outcome of a Manuscript Writing workshop held for residents and alumni of the programme.

The supplement is available online at <http://www.panafrican-med-journal.com/content/series/25/1/>

Ten other articles were submitted to various journals for publication

### List of Surveillance data analyzed by Cohort IX residents

No.	Name	Topics	Region	Mentors
1	Ernest Akyereko	Comprehensive Abortion Care data	Brong Ahafo	Charles Noora
2	Samuel Dapaa	Diarrhoea in Under 5	Brong Ahafo	Mr. George Kuma Khumalo
3	Gyesi Razak I.	Yellow Fever	Northern	Mr. Stephen Atasige
4	Opoku Antoh Enoch	Pneumonia	Ashanti	Dr. Akosua Gyasi-Darkwa
5	Akua B. Amoh-Yeboah	Cholera	Eastern	Ebenezer Kofi Mensah
6	Irene P. Pewu	Yaws	Brong Ahafo	Dr. Ernest Kenu
7	Theophilus Aryee	Tuberculosis	Greater Accra	Ms. Gifty Boateng
8	Paul Boateng	Road Traffic Accident	Greater Accra	Rachael Odarkor Mills
9	Edgar Sunoma Isaac	Hypertension	Upper East	Anthony Dongdem
10	Francis Broni	Still Birth	Upper East	Dr. Joseph Opore
11	Henry T. Kohar	Viral Hepatitis	Ho, Volta	Dr. Ernest Kenu
12	Dr. Adomako Boakye-Yiadom	Rabies	Eastern	Dr. Keziah Malm
13	Rufai Tanko	Buluri Ulcer	Greater Accra	Mr. Alexander Asamoah
14	Dr. Philip Pelema Gevao	Bloody Diarrhoea (Dysentery)	Brong Ahafo	Dr. Donne Kofi Ameme
15	George Adu-Asumah	Polio	Greater Accra	Ms. Joyce Der
16	Eunice Etornam Ampem Danso	Measles	Greater Accra	Dr. Helena Acquah
17	Elijah Paa Edu-Quansah	Malaria/Influenza	Ho, Volta	Mr. Gideon Kye-Duodu
18	Anna Jammeh	Maternal Death	Ho, Volta	Dr. Nana Yaw Peparah
19	Dr. Kaburi Basil	Meningitis Data set	Brong Ahafo	Dr. Chrysantus Kubio
20	Christopher Sandi	HIV	Eastern	Dr. Kofi Afakye

**Table 7: List of articles submitted for publication**

No.	Title	Lead Authors	Journals
1.	Evaluation of Cholera Surveillance System in Osu Klottey District, Accra, Ghana (2011-2013)	Eric Yirenyi Adjei*	PAMJ
2.	Barriers to Early Infant Diagnosis of HIV in the Wa Municipal and Lawra Districts of Upper West Region, Ghana	Robert Domo Nuoh*	PLOS ONE
3.	Management of dog bites by frontline service providers at Primary Health care facilities in the Greater Accra Region, Ghana 2014-2015.	Ernest Kenu,	PLOS One
4.	Breast and Cervical Cancer Screening among Female Doctors and Nurses at the Korle Bu Teaching Hospital	Janet Awopole	PAMJ
5.	Emergency Response Time And Pre-Hospital Trauma Survival Rate Of The National Ambulance Service, Greater Accra (January – December 2014)	Mohammed-Najeeb Mahama,	BMC Research Notes
6.	Epidemiological Link of a major Cholera Outbreak in Greater Accra Region of Ghana, 2014	Kennedy Ohene-Adjei	BMC Public Health
7.	Factors affecting early initiation of treatment among smear positive pulmonary tuberculosis patients in Brong Ahafo Region, Ghana	Charles Lwanga Noora*	BMC Infectious Diseases
8.	Evaluation of Bacterial meningitis surveillance data of the Northern Region, Ghana, 2010-2015	Basil Benduri Kaburi*,	PAMJ
9.	Evaluation of the enhanced meningitis surveillance system, Yendi Municipality, Northern Ghana, 2010-2015.	Basil B. Kaburi*,	BMC infectious disease
10.	Mixed Outbreak of Pneumococcal and Meningococcal Meningitis in Jirapa District, Upper West Region, Ghana, 2016	Robert Domo Nuoh*	GMJ

**18 articles**  
in the Ghana supplement can be found at: <http://www.panafrican-med-journal.com/content/series/25/1/>

**Ghana FELTP**  
published its first supplement titled **"Strengthening Surveillance, Outbreak Investigation and Response: the Role of Ghana FELTP" in the Pan African Medical Journal.**

## Conferences and Meetings

### The Global Partnership Initiated Academia for Controlling Health Threats (GIBACHT) Workshop

Dr. Donne Kofi Ameme, a faculty of the GFELTP and a fellow of the Global Partnership Initiated Academia for Controlling Health Threats (GIBACHT) was one of the selected participants who attended a one-week workshop on Case Study Development in Berlin, Germany from 26 - 30 January 2016. During the workshop, participants were taken through surveillance, disease outbreak investigation and the use of knowledge to develop country specific case studies. The workshop was the first face-to-face interaction with the GIBACHT team. The second face to face workshop of the fellowship took place from 18 – 22 April 2016 in Berlin, Germany. The second workshop covered topics such as International Health Regulation, Management of Biological incidents, Demonstration and practice of Personal Protective Equipment (PPEs) and hands on case study development.

### Global Partnerships to Advance NCD Research within the Agenda of the Sustainable Development Goals Agenda

Dr. Ernest Asiedu Konadu, a Cohort VIII resident of the GFELTP participated in the Global Partnerships to

advance NCD Research within the Agenda of the Sustainable Development Goals Agenda from August 8 – 9, 2016 at the Emory Conference Center - Atlanta, United States of America. Dr Konadu made a presentation titled "Determinants of Preterm Delivery in Ridge Regional Hospital, Greater Accra Region" at the conference.

### Case Study Design and Development Course, Emory University

Dr. Ernest Asiedu Konadu and Ms. Florence Nzilanye Iddrisah, both alumni of the GFELTP participated in the case study design and development workshop which was organized at the Rollins School of Public Health, Emory University – Atlanta from 22 August – 2 September 2, 2016. Six countries, namely; Namibia, Burkina Faso, Nigeria, Uganda, Tanzania and Ghana participated in the workshop.

The main objectives of the workshop were to help participants learn methods and guidelines for case study development, learn the step-by-step process for case study development, develop new case studies and pilot case study for peer feedback.

Dr. Asiedu and Ms. Iddrisah made presentations on the topics "Outbreak of Meningitis in Nkoranza South Municipal" and "Outbreak of Pertussis in Duasidan, Dormaa Municipal" respectively.

Participants at the end of the workshop were able to



(L-R): Dr. Mark Kofi Tettey, Regional Veterinary Officer - Volta Region, Dr. Joseph Teye Nuertey, Regional Director of Health Services - Volta Region, Prof. Col. Edwin Afari (Rtd.), Coordinator - GFELTP, Dr. Philip Ricks, CDC Resident Malaria Advisor - Ghana, Dr. Owen Laws Kaluwa, WHO Country Representative, Dr. Samuel Sackey - Field Coordinator, GFELTP with participants and facilitators at the Volta Region Dissemination workshop



learn the systematic process for case study development, review and dissect model case study, develop one case study based on local report or investigation, present and facilitate one case study per group, provide and receive peer review and finalize case study for publication.

### 2016 Ghana Veterinary Medical Association Congress

Dr. Basil Benduri Kaburi, a Cohort IX resident and Dr. Ernest Konadu Asiedu, a Cohort VIII alumnus of the GFELTP made oral presentations at the 2016 Ghana Veterinary Medical Association Congress which was held at the Peace Holiday Resort, Ada in the Greater Accra Region from October 20 – 29, 2016.

### List of presentations made by the GFELTP residents at the 2016 Ghana Veterinary Medical Association Congress

No.	Name	Topic
1.	Dr. Basil Kaburi Benduri	Bacterial Meningitis: A review of surveillance data of the Northern Region of Ghana 2010 – 2015 A Pneumococcal Meningitis Outbreak in the Brong-Ahafo Region of Ghana: A Review of Outbreak Data, May 2016
2.	Dr. Ernest Konadu Asiedu	Determinants of Preterm Delivery in Ridge Regional Hospital, Greater Accra Region, Ghana A five year (2010 - 2014) National Mortality Data Analysis in Eastern Region, Ghana, 2015 A five year (2010 - 2014) Measles Surveillance Data Analysis in Eastern Region, Ghana, 2015 Evaluation of measles Surveillance System at Ga East Municipality (GEM), January, 2010 - 2015

### Outbreak Investigations

#### Influenza B Victoria in Ghana Christian International High School

Four alumni and a resident of the GFELTP assisted the Shai Osu-Doku District Health Directorate to investigate the Influenza B Victoria outbreak in the Shai Osu-Doku District in the Greater Accra Region from August 25 – October 14, 2016.

Out of the 501 students interviewed, 339 were ill giving an overall attack rate of 59.3%. There was no mortality. There was no severe disease or complication recorded as all the cases were managed on outpatient basis. The mean age of the cases was 14.6 (+/-2.3) years. The sex specific attack rate was 65.3% (179/274) for males and 70.5% (160/227) for females.

The index case was identified to be a 14-year male student in class 10H2 who presented with fever, cough, headache, body pains and body weakness on August 25, 2016. However, he did not go out of the school prior to developing these symptoms.

Apart from the eight samples that tested positive for Influenza B Victoria, no further samples were taken. All the cases identified had resolved. All additional cases with signs and symptoms were epidemiologically linked to confirmed cases which were listed as cases of Influenza B Victoria.

Joint actions taken by the investigative team and the Shai Osu-Doku DHMT

- Environmental assessment of the school compound and infrastructure ie dormitories and classrooms

- Developed a working case definition to look for more cases

- Interviewed the whole population of the school to identify cases and describe the cases by person place and time

- Educated the students and staff on causes, presentation, treatment and prevention of respiratory illnesses

#### Avian Influenza (H5N1) Outbreak Investigation in Greater Accra Region

Three residents and an alumnus of the GFELTP participated in an Avian Influenza outbreak investigation which occurred in Ashlaja, Ga South Municipality in the Greater Accra Region from July 17 – 27, 2016.

The investigation was conducted following a report received by the Veterinary Services Directorate on July 7, 2016. The farmer reported of high bird mortality on his



PPE demonstration by participants during the Anthrax workshop

poultry farm at Ashalaja in the Ga South Municipality. He had 49 cockerels and 47 layers, aged thirteen and nine weeks respectively. Prior to the death of the birds, he had recently acquired some local birds which he added to his stock.

On July 11, 2016, samples were sent to the Accra Veterinary Laboratory, Veterinary Services Directorate, La Accra and confirmed to be positive for H5N1. Neighbors in close proximity (within 100-300metres) to the farm, also reported of high mortalities within the same period.

The investigation was conducted to determine the extent of the outbreak, identify the source of the outbreak, follow up on the human contacts and enhance control and preventive measures.

The team visited six nearby commercial poultry farms in Ashalaja. A total number of 8,000 birds (layers) were on the farms. None of these farmers visited reported any unusual deaths in their flock, or birds showing signs of Avian Influenza.

The investigation team took the following actions;

The sick layers found on the farms were humanely euthanized and hygienically buried

The farm was disinfected with Agriseryl and old litter and feed were burnt.

Poultry farmers in the community were enlightened on farm hygiene and biosecurity measures to prevent spread of the disease.

Some local birds within close proximity to the outbreak site were destroyed humanely and buried.

All poultry farm staff and residents close to the outbreak site were interviewed about their health status since the outbreak. However, nobody complained of any of the symptoms related to bird flu.

## Yaws Outbreak, Mpohor District - Western Region

Cohort IX residents of the GFELTP were involved in investigating the Yaws Outbreak in Mpohor District, Western Region from March 24 – 29, 2016. The outbreak occurred in Mampong, a community in the Adansi sub-district, Mpohor District, Western Region. A total of 24 cases were detected in the Mampong community. Approximately, 66 to 100 persons mainly children, between the ages of 4 to 15 years were affected with the skin infection. The modal age group was the 10 - 14 years. They constituted 9/24 (37.5%) of cases. The modal age group was closely followed by the 6-9 years with 7/24 (29.1%) and 4-5 years with 5/24 (20.8%). Only one 15-year old has been identified representing 1/24 (4.1%). It was observed that 58.3% of cases were male.

## Modeling and Anthrax Risk in Ghana

The GFELTP collaborated with the Centers for Disease Control and Prevention to organize the Modeling and Anthrax Risk in Ghana workshop was facilitated by Dr. Jason Blackburn - University of Florida, Rita Traxler, Epidemiologist - CDC Atlanta, William Bower, Infectious Diseases – Epidemiology, CDC Atlanta and Robyn Stoddard, Special Pathogen – CDC Atlanta.

The workshop was attended by was attended by Dr. Jason Blackburn - University of Florida, Rita Traxler, Epidemiologist - CDC Atlanta, William Bower, Infectious Diseases – Epidemiology, CDC Atlanta, Robyn Stoddard, Special Pathogen – CDC Atlanta, Dr. Ernest Kenu, Ag. Director – GFELTP and alumni of the GFELTP.

## Meningitis Outbreak Investigations in Ghana

The Ghana Field Epidemiology and Laboratory Training Programme (GFELTP) through the support of the African Field Epidemiology Network (AFENET) participated in a nationwide Meningitis outbreak investigation and response. All regions in the country, with the exception of Central Region recorded the outbreak.

### Tain District, Brong Ahafo Region

Three residents and three alumni of the GFELTP assisted the Regional Health Management Team to investigate the Meningitis outbreak in the Tain District in the Brong Ahafo Region from 1 – 5 January 2016. A total of 29 meningitis cases have been recorded in three communities (Brohani, Seikwa and Attakrom) in the Tain District. There were 16 patients on admission, six discharged and seven deaths, case fatality rate stood at 24.1%. Majority 48.3% (14/29) of the cases were aged 10 - 19 years, the least 13.8% (4/29) were aged <10 years. Among the total cases, 51.7% (15/29) were males. About 93.1% (27/29) of cases were from Brohani community with one case each from Seikwa and Attakrom communities.

### Techiman Municipality, Brong Ahafo Region

Four residents and three alumni of the GFELTP participated in the Meningitis outbreak investigation in the Techiman Municipality, Brong Ahafo Region from January 22 – 25, 2016. A total of 29 cases were recorded as at 30 January 2016 with 7 deaths (CFR: 24.1%). Of the total cases reported, 62.1% (18/29) were females. Ages of case patients ranged from 10 months to 81 years, mean age was 32±14.1 SD. The overall attack rate was 2/10,000 population. Sex- specific attack rates were 2/10,000 and 1/10,000 for females and males respectively. The age-specific attack rates for children below 1 year and below 5 years were 2/10,000 population and 0% respectively.

### Techiman North District, Brong Ahafo Region

A total of 14 cases and two (2) deaths were recorded, out of which 58.3% (8/14) were females. The overall attack rate was 2/10,000 population, with case fatality rate of 14.3%. Sex- specific attack rates were 2/10,000 for females and 1/10,000 for males respectively. The age-specific attack rates for children below 1 year and below 5 years were 2/10,000 population and 0% respectively.

### Sene West District, Brong Ahafo Region

A total of 10 cases were recorded. Six of them were tested and two confirmed positive but with no death. Fifty percent (5/10) were females.

### Wenchi District, Brong Ahafo Region

As at 27 January 2016, a total of 57 cases were reported to the health facility and ten deaths (CFR 17.5%)

recorded. Attack rate per population was 56/100,000 population. Sex specific attack rates were 61/100,000 for females and 51/100,000 for males. Majority of the cases, 30/57 (52.6%) occurred amongst females. Age range was 4- 65 years, with mean age of 22.7 (SD ±14.1). Age-group mostly affected was 10 – 19 years, 43.9% (25/57).

Most cases (59.6%) were reported from the Wenchi township while other cases were reported from other Districts such as: Bole 1 (1.7%), Kintampo South 1 (1.7%), Tain 1 (1.7%), Banda 1 (1.7%), and Techiman 1 (1.7%).

### Nkoranza South Municipality, Brong Ahafo

A total of 42 cases were recorded, out of which 76.2% (32/42) were females. Most (38%) affected age group was 10 – 19 years. There were more females than males in all groups except for 0 – 9 year group. The overall attack rate was 0.036% or approximately 36 per 100,000 population, with case fatality rate of 7.1% (3/42). Sex- specific attack rates were 54/100,000 and 18/100,000 for females and males respectively. The age-specific attack rates for below one year and 5 years were both approximately 0%. Cases were largely from Donkro-Nkwanta (54.8%) and Nkoranza (9.5%) sub districts. Attack rate was highest in Donkro-Nkwanta sub district (152.9/100,000) followed by Ayerebe sub-district (19/100,000). Akuma and Bonsu sub Districts recorded the lowest AR of 9/100,000 population each.

**13**  
residents  
and alumni  
investigated  
a Meningitis  
outbreak

**Residents**  
investigated a large  
outbreak affecting  
over 181 cases

# KENYA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Kenya Field Epidemiology and Laboratory Training Program was designed in recognition of the need to strengthen the epidemiologic and laboratory management capacity of Kenya and East Africa region to meet the challenges of dealing with emerging infectious diseases and other public health problems.

The Kenya Field Epidemiology and Laboratory Training Program (FELTP) was established in April 2004 as regional training program for African Countries. The goal of the program is to improve epidemiologic & laboratory management capacity through competency based experiential training with an emphasis on field placement and service provision.

## Key program accomplishments:

133 residents have completed the two year training cycle; Over 80% retention in Ministry of Health (MOH) and Ministry of Agriculture Livestock & Fisheries (MALF)

Recent enrollments of Cohorts XI and XII in partnership with Moi University

Building Leadership and Management Capacity

- Implementing IMPACT for public health leaders (Public Health Advisors)
- Policy Training Module for residents and MOH leaders

Pre-service: Basic epidemiology and intermediate training for medical and veterinary students

## The Kenya FELTP has XIII Cohorts as well as basic and intermediate level training.

FELTP level:	2 year training
Basic level:	3 months with two weeks didactic and 9 weeks of field projects
Intermediate:	6 month with 4 weeks didactic and five months project
Purpose:	Build skills in data analysis and respond effectively to public health events
Target group:	Targets all cadres of health workers in Public health
Number trained:	171 graduates and current FELTP residents
	250 in Basic level
	60 in intermediate level

## Cohort Didactics and Training

### a) Commencement of Cohort XIII

Cohort XIII of the Kenya FELTP commenced on XIX September 2016. Residents undertook didactics until December 2016.

### b) Cohort XII infectious diseases epidemiology elective course

Cohort XII residents undertook the infectious diseases epidemiology elective course from July 4-15, 2016. The course focused on HIV/AIDS, Malaria, TB, viral hemorrhagic fevers, influenzas, non-communicable diseases (cervical cancers), vector borne diseases (Zika, dengue and Chikigunya), antimicrobial resistance and foodborne diseases. This was followed by one health and emerging diseases training which was held from 18 – 29 July 2016. The residents also developed their planned study proposals and submitted for ethical and scientific approval by Moi University IREC and other IRBs.

### c) Cohort XI

Cohort XI residents undertook a scientific communication training on 6 -15 July 2016. This training was undertaken at the Kenya Institute of Education (KIE) and facilitated by Dorothy Southern (CDC South Africa) and Alfred Musekiwa (CDC South Africa). During the training, the residents were taken through the development of scientific manuscripts in readiness for publication using the data collected from initial planned studies. On 30 August 2016, a mock defense for residents' planned studies was facilitated by both Moi University and FELTP faculty. The following presentations were made:

## Presentations made by Cohort XIII residents during the mock defense

Students name	Thesis topic
Bonface Stanely Waweru	Evaluation of Community-Based Surveillance for Acute Flaccid Paralysis in Kenya, 2015
Robert Miheso	Demographic and Ecological survey of dog population and their relation to rabies control in Siaya County Study Site, Asembo, Siaya County
Joshua Njuguna Muiruri	Determinants of poor glycemic control among diabetic patients attending Mukuruweini hospital
George Githuka	Patterns and outcomes of injuries among patients admitted to Kiambu County Hospital
Violet Adeke	Use of SMS reminders to increase post-natal attendance
Maurice Omondi	Spatial distribution of snail vectors and their infection with <i>Fasciola cercariae</i> in different agro-ecological zones in Busia, Western Kenya.
Angeline Naro Aboto	Evaluation of Insecticide treated nets durability and use among a pastoralist and fishing community of Kenya, 2015
Hudson Kigen Taabukk	Predictors of loss to follow up among HIV exposed infants within PMTCT cascade, Kericho County
Eunice Omesa	Uptake of Isoniazid Preventive Therapy and associated factors among HIV positive patients attending Riruta Health Centre
Catherine Kiama	Prevalence and factors associated with Metabolic Syndrome in People Living with HIV attending Riruta Health Centre Clinic
Caren Ndeta	Prevalence, Type and Concentration of Antibiotic Residues along the Dairy Value Chain in Uthuru and Korogocho Towns, Nairobi County - Kenya, 2015
Tabitha Mwangi	Prevalence and factors associated with type II diabetes and hypertension among adult refugees in Kamukunji subcounty Nairobi, 2016
Mark Cheruiyot	Quality Assessment of Focused antenatal care services received by women attending maternal child health clinics in Kapsabet county hospital Kenya 2015
Beatrice Ochieng	Assessing factors associated impacting the use of folic acid fortified staples among women of reproductive age in Kisumu East District Kenya
Paul Kipchumba	Circulating Rotavirus strains in children < 5 years admitted with acute diarrhoeal infections in Mbagathi Hospital, Nairobi
Alfred Maza	The Epidemiology of Animal Bite Injuries on People and Projection of the Burden of Rabies in Kilifi, 2016
Abdikadir Isaack Abdi	Measles coverage rate and its determinants among children 12-23 months in Urban and nomadic populations of Wajir county in Kenya, 2015
Jacob Rotich	Prevalence, virulence and characterization and antimicrobial profile of campylobacter among patients attending Kiambu and Ruiru sub county hospitals

Eight Cohort 11 residents submitted their theses to Moi University for examination while eight other residents are awaiting clearance from their supervisors to submit theses.

## Recruitment of Intermediate Class III

The Kenya FELTP announced recruitment of the third intermediate level field epidemiology training on 22 August 2016. Priority was given to basic epidemiology graduate from groups: 7, 8, 9 and 10. A total of 30 trainees were selected from 69 applicants. Trainees commenced the first course from 7 - 11 November 2016.

**133**  
residents  
completed the  
two year  
training cycle  
from KFELTP

**Over 80%**  
of the graduates retained  
in Ministry of Health  
(MOH) and Ministry of  
Agriculture Livestock &  
Fisheries (MALF)

## Improving Public Health Management for Action (Impact)

In collaboration with the Ministry of Health (MOH) and United States Centers for Disease Control and Prevention (CDC), the KFELTP implemented the Improving Public Health Management through Action (IMPACT) training in Kenya to build capacity and strengthen public health management in Kenya. The program is modelled on the Field Epidemiology and Laboratory Training Program (FELTP).

IMPACT has two components: 1) 5 month short course also called Distinguished Fellows Program (IDFP). This training provides intensive training to senior managers at the Ministry of Health at national and county levels. 2) 2 year Masters course in Public Health Management in collaboration with Kenyatta University, Nairobi. This second tier of IMPACT training will be started in January, 2017, targeting junior to mid-level health professionals.



Photo session during the inaugural ceremony for the IMPACT Distinguished Fellows Program at KSG in Nairobi. Inset, are; MOH personnel, trainees and Director CDC, Kenya Dr. Kevin DeCock

## Surveillance and Outbreak Response

### Dissemination of Findings of Anthrax Outbreak Investigation and collection of coordinates for Anthrax Risk Map generation, Murang'a County, Central Kenya

A confirmed outbreak of anthrax in humans and animals was reported in May, 2016 in Maragua sub county of Murang'a County in Central Kenya. Following the outbreak, an investigation team from Kenya Field Epidemiology and Laboratory Training Program (KFELTP) conducted an investigation in Maragua Sub County in June 2016.

Two residents: Dr Maurice Omondi (Cohort XI) and Tabitha Mwangi (Cohort XI) participated in the dissemination of the findings of the Anthrax investigation from 13-19 September 2016. The team mapped out the farms that had suspected or confirmed cases of anthrax from 2011 to 2016, with an objective of developing an anthrax risk map for Murang'a County of Central Kenya.

Findings from the dissemination of findings included:

1. Need to strengthen laboratory services at the county and sub county
2. Creation of disease surveillance teams at the village, ward, sub county and county levels that incorporates representatives from human health, animal health, administration and any other key stakeholders in health services
3. Continuous sensitization of the community on various aspect of public health by use of messages created by the disease surveillance teams
4. Budget line for One Health activities at the county level: lobby during budget making
5. Formation of emergency preparedness and response committees at county and sub county levels
6. Increase animal vaccination coverage by use of door-to-door approach: Scheduled regular vaccination exercises should be encouraged
7. Enhance public health education: focus on pasture harvesting, improve and modernize zero-grazing system, improve communication between the community members and health care service providers, dissemination of reports and study findings promptly
8. Need for development of county strategic plan on control and elimination of anthrax

The team also managed recorded a total of 31 coordinates in seven sub counties; Mathioya (6), Kigumo (5), Kiharu (3), Kandara (9), Gatanga (2), Maragua (1) and Kangema (5).

### Lessons from control activities carried out by the County health and veterinary department during an Anthrax Outbreak in Nakuru County

Cohort XII residents: Carolyn Nasimiyu, Augusta Kivunzya, Joash Ogutu-FELTP and Lawrence Gitonga participated in another anthrax outbreak in Nakuru County in September 2016. A total of 73 exposed persons were line

listed from 29 June to 4 July 2016. Three of them classified as probable cases. The team traced 29 exposed persons. All the cases of anthrax were exposed through eating a carcass while 1(33%) was exposed through both eating the carcass and having contact through skinning. Following the recurrence of anthrax in the in county in wildlife, livestock and human, the following control measures were recommended:

### Control activities carried out by the county health and veterinary department

1. Quarantine and ring vaccination done in Rongai sub-county
2. Public awareness and education sessions carried out in schools, community and health facilities
3. Carcasses burnt and others buried.
4. Prophylaxis provided to all those exposed.

### Rapid assessment on interventions and gaps in the response of a Hepatitis B: The case of Makueni GK Prison

Prisoners are considered a special population, and are a high risk group for Hepatitis B Viral infection and transmission. In March 2016, the Ministry of Health (MOH) after notification of the Hepatitis B outbreak at Makueni GK Prison, dispatched FELTP residents to investigate the outbreak. The residents identified gaps as well as factors associated with the outbreak from 20 – 28 March 2016. Cohort XII residents involved included: Dr Ngina Kisangau , and Eunice Wachira.

### Main Findings

Of the 439 male prisoners from the remand and main prison screened, 33(7.5%) tested positive for HBSAg. None of the 24 female prisoners were positive for HBSAg. Among the 198 workers from both prisons screened, 5(1.5%) tested positive.

A total of 30 participants had shared grooming effects, 22 (73%) were cases, 12 reported history of contact with a person with yellow eyes, 8 (67%) were among cases, 46 had less than secondary level education, 25 (54%) were cases.

Most significant risk factor was sharing grooming effects (OR 6.7; 95% CI, 2.2-20.6). The most shared grooming effects were shaving razors. Other risk factors included history of dental procedure, history of contact with a person with yellow eyes, low level of education level and history of incarceration longer than six months.

### Recommendations

- Data collection and reporting should be harmonized, laboratory capacity needs to be improved to be able to distinguish acute form of chronic hepatitis B infections
- There is need to develop and implement Hepatitis B screening and vaccination in prisoners and other at risk populations.

- There is need to conduct Hepatitis B sero-survey with a view to estimate the prevalence of the Hepatitis B infection and distinguish between the acute and chronic hepatitis B
- Other causes of Hepatitis need to be explored especially in the Kibwezi region to understand the causes of the high number of chronic liver disease in the region

### Presentations made at 6th KEMRI Annual Scientific and Health (KASH) Conference 9 – 11 February 2016, Nairobi.

Topic	FELTP class
Epidemiology of Cholera outbreak in Western Kenya, February 2015 - Tabitha Kite	Advanced cohort XI
Trends of Malaria cases in selected Facilities, Langa'ta Sub-County, 2012-2014 - Adano Godana	Advanced cohort XII
Typhoid Fever in Moyale Sub-county, January 2015 - Dahabo Adi Galgalo	Intermediate class 1
Access to Laboratory Services and Antenatal Profile Results among Mothers attending ANC at Moyale Sub-county Hospital, Kenya - Dahabo Adi Galgalo	Intermediate class 1
Characteristics, Comorbidities and Complications of Diabetic Patients in Thika Level 5 Hospital, 2014 - Trizah Kimani Njoki	Intermediate class 1
Outbreak of ILI in Buluk Location, North Horr Sub-County, Marsabit County-October 2015 - Molu Salesa	Intermediate class 1
Characterization of Diabetes Mellitus among Patients in Othaya and Mukurweini Sub-county Hospital, Nyeri County 2013 - Gerald Gikonyo	Intermediate class 1
Overweight and Obesity among Women: The Kenya demographic Health Survey, 2008-2009 - Muthoni Gichu	Intermediate class 1
Demographic Characteristics and Trends of HIV among Children Born to HIV Positive Mothers, Murang'a County, 2011-2014 - Cecilia Nduun'gu	Intermediate class 1
Assessing Quality of ANC among Women Attending Wundanyi Sub-County Hospital (WSCH), 2012-2015 - Mwanyamai C.W	Basic course Group 6

### Manuscripts developed and submitted for publication from Scientific Writing Workshop 18 – 29 January 2016 in Nairobi

Name	Topic	Status
1 Betty Olonyi	Factors affecting diagnosis of malaria in Western Kenya	Revising Draft Manuscript
2 Charles Njonjo	Etiology and factors of bacterial meningitis on patients admitted at mama Lucy Kibaki hospital	Submitted
3 Agnes Mulongo	Factors influencing dual contraception use and prevention of mother to child transmission uptake among HIV infected women, Bungoma county, 2014	Submitted
4 Allan Ogendo	Prevalence and associated factors for cryptosporidium infection in bovine, Asembo Rarieda district	Submitted

Name	Topic	Status
5 Samwel Ogweni Oketch	Association between cryptococcal antigenemia and CD4 counts among HIV/AIDS patients attending Jaramogi Oginga Odinga teaching and referral hospital	Revising Draft Manuscript
6 Elvis Oyugi	Factors associated with male partner involvement in efforts to eliminate mother to child transmission of HIV by testing at the antenatal clinic in Western Kenya, 2015	Submitted
7 Hussein Mohamed	Factors associated with low skilled delivery among women attending selected public health facilities in Wajir County, Kenya, 2015	Submitted
8 Ondieki George	Prevalence of Antimicrobial Residues and Quality of informally marketed raw cow milk in Lamu West Sub-County, Kenya, 2015	Submitted
9 Samuel Juma	Determinants of caesarean sections at Mama Lucy Kibaki Hospital, Nairobi, Kenya: a comparison between caesarean and vaginal births	Submitted
10 Alfred Wandeba	Factors associated with interruption of Tuberculosis Treatment among Patients in Nandi County, Kenya	Submitted
11 Fredrick Odhiambo	<i>Draft manuscript on Malaria</i>	Revising final draft of manuscript
12 Elizabeth Mgamb	Folate Deficiency and utilization of folic acid among Pregnant Women Attending Antenatal Clinic at Pumwani Maternity Hospital	Submitted

### Manuscripts submitted and published by Kenya FELTP graduates and residents

Manuscript Title	Author	Journal
1 Prevalence of undiagnosed diabetes and pre-diabetes among hypertensive patients attending Kiambu District Hospital, Kenya: a cross-sectional study	Nkatha Meme	Pan African Medical Journal Status: Published
2 Reducing routine vaccination dropout rates: evaluating two interventions in three Kenyan districts, 2014	Adam Haji	Biomedical Central Public Health Status: Published
3 Factors Associated with adequate weekly reporting for disease surveillance data among health facilities in Nairobi County, Kenya 2013	Athman Mwatondo	Pan African Medical Journal Status: Published
4 Overweight and Obesity in Kenyan women	Muthoni Gichu	Journal of Midwifery and Women's Health Status: Awaiting publication
5 Isolation and Characterization of E.Coli pathotypes and factors associated with wells and boreholes water contamination in Mombasa County	Thani Suleiman	Pan African Medical Journal Status: Published

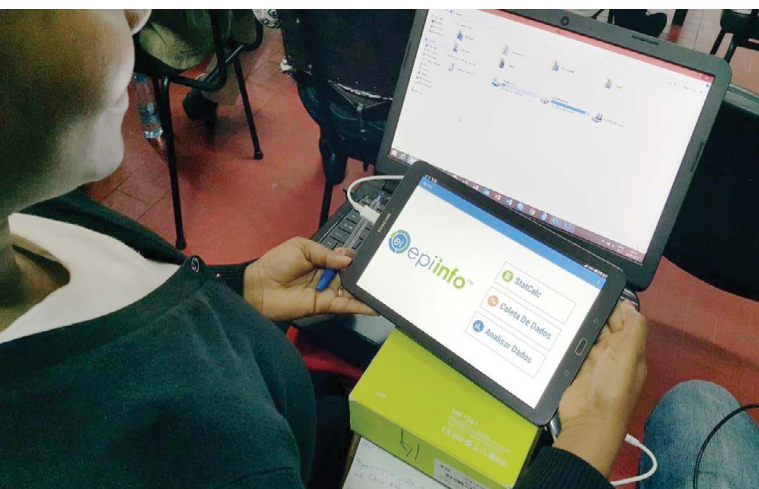
# MOZAMBIQUE FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Mozambique FELTP was established in 2009 by the National Institute of Health (INS), in partnership with the National Directorate of Public Health (DNSP), and the Faculty of Medicine of Eduardo Mondlane University (UEM), with technical and financial support from the U.S. Centers for Disease Control and Prevention (CDC).



Mozambique FELTP 8th FELTP short course, in Nampula Province



Mozambique FELTP Intermediate Training in Epi-info 7

The program has enrolled four cohorts of 42 residents since its inception. The fourth cohorts started in June 2016 and will end in June 2018. In total 16 residents have graduated so far. The aim of MZ-FELTP is to build epidemiological capacity in public health surveillance, disease control, and response to outbreaks and public health emergencies through training in applied intervention epidemiology and laboratory management.

## 1) Didactics and Trainings

### • FELTP Short Course

The Mozambique Program held the 8th FELTP short course, in Nampula Province, Nampula City, from 4 – 15 July 2016 for 23 surveillance technicians from all the provincial districts, 1 participant from Nampula Health Provincial Direction and 1 participant from Epidemiology Department - National Public Health Directorate. The course was co-facilitated by two program graduates, Cristolde Salomão (1st Cohort – Epi Track) and Claudio Muianga (3rd Cohort - Epi Track).

### • Intermediate Training in Epi-info

Mozambique FELTP held an Intermediate Training in Epi-info 7 and Implementation of New Technologies for use during mass events from 16 -19 August 2016 at the National Institute of Health. The Intermediate Training was facilitated by Jonas Brant from Brazil, from Red Suramericana de Epidemiologia de Campo REDSUR and TEPHINET.

## 2) Conferences and Meetings

- One resident, Fernanda Oliveira (3rd cohort, Lab Track) will participated in the XVI International Training Molecular Epidemiology of Emerging Infectious and Parasite Diseases held in Salvador-Bahia, Brazil from 18-22 July

- All residents from the 3rd Cohort participated in the Post-graduate Forum with oral presentations. This Forum was organized by the National Institute of





Cholera vaccination in Nampula



Cholera vaccination team

Health, from 9-10 March and it was held in Maputo at MoH facilities

### 3) Outbreak Response and Field Activities

Cholera outbreak investigation in Nampula City, Nampula Province, from 28th January to 13th February with participation:

- Cristolde Salomão (Epi Track, 1st Cohort).
- Crescêncio Nhabonga (Epi Track, 3rd Cohort)
- Amilcar Nacima (Epi Track, 3rd Cohort)

Two residents traveled to Angola, to support the in Yellow Fever Outbreak investigation in Angola, from 3rd to 31st March:

- Cristolde Salomão (Epi Track, 1st Cohort)
- Cláudio Muianga (Epi Track, 3rd Cohort)

Acute diarrheal outbreak investigation in Muanza District, Sofala Zambézia Province, from 23rd to 30th of April.

- Jorge Jone (Epi Track, 2nd Cohort).
- Cristovão Saeze (Epi Track, 3rd Cohort)

Chikungunya outbreak investigation in Quelimane, Zambézia Province, from 18th to 28th of May, with participation:

- Aida Cristovão (Epi Track, 2nd Cohort).

A mass vaccination campaign with two-dose regimen of Shanchol™ oral cholera vaccine (OCV) was implemented as an additional cholera prevention measure in urban endemic neighbourhoods of Nampula, during October 2016 in Mozambique. Overall 194,000 people were targeted by the campaign. Cohort 4 participated on Monitoring and evaluation of oral cholera vaccination (OCV) campaign in Nampula City.

**194,000**  
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against cholera  
in Nampula City

**9**  
residents  
attended the  
scientific  
writing work-  
shop in Maputo

## Implementation of Surveillance System

Mozambique FELTP worked on the implementation of a surveillance system for mass events, during the IX National Culture Festival, held in Sofala Province, Beira City and Municipality of Dondo under the theme "Cultural Diversity, National Unity and Development".

Epidemiological surveillance during mass events, has a key role in the management of potential risks to health of the people attending these events through early detection of outbreaks and other events of importance for public health. This system was first tested using as feature new mobile technologies (Tablets), sending real-time data. The implementation of the system has the support of Brazilian FELTP Network (ProEpi) through RedSUR/TEPHINET.



Implementation of a surveillance system for mass events

## Training Activities

### Applied and Risk communication workshop to better manage outbreaks and emergencies

From Sept 19 – 23, 2016 the Mozambique FELTP conducted the "Applied and risk communication workshop to better manage outbreaks and emergencies" in Maputo, capital of Mozambique, under the stewardship of ProEpi (Brazilian Field Epidemiologists Network) in a partnership with the National Institute of Health (INS) of Mozambique and supported by African Field Epidemiology Network (AFENET) and REDSUR (South American Field Epidemiology Programs Network).

The Field epidemiologists, Researchers, Public Health Residents of Public Health Specialty and INS Communications Professionals formed the group of 20 participants of the course.

The main topics worked during the training were: communication as a strategic tool; principles of journalistic production; journalistic language; photography as

evidence in outbreak investigations; relationship with the press with focus on content that the media disseminates and on issues of interest for the health response emergency; communication in a public health emergency; interview techniques applied to situations of risk in health; behavior before cameras, clothing, techniques for building responses and graphical representations for the press. Other practical topics included: individual interviews for radio and television, press conferences, round-table, analysis of public health emergency communications of international relevance and also the construction of a crisis communication plan. All sessions also highlighted the concept of One Health, once it is a thematic that is increasing all over the world.

The course showed that the skills in communication are necessary to better manage outbreaks and emergencies



Participants of the Applied and Risk Communications Workshop



Mr Nathan Mubiru, Administrator AFENET speaking at the Applied and Risk Communication Training, Mozambique



Certificate Awarding Ceremony at the Applied Risk Communication Workshop, Maputo

Scientific Writing Workshop, held in Maputo, from 16-20 May, with the participation of 9 residents from cohort 3.

Four residents participate in workshop on Integrity and Responsible Conduct in HIV Research Collaborative from 19th to 21st June

One resident, Fernanda Oliveira (3rd cohort, Lab Track) will participate on XVI International Training Molecular Epidemiology of Emerging Infectious and Parasite Diseases held in Salvador-Bahia, Brazil from 18-22 July

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## 5) Publications

Clinical and Epidemiological Characterization of the First Recognized Outbreak of Dengue Virus-Type 2 in Mozambique, 2014. 94(2), American Journal of Tropical Medicine and Hygiene 2016, pp. 413–416

- Marília Massangaie (Epi Track, 2nd Cohort)

## 6) Master thesis defences

Geraldo Chambe (2nd cohort, Epi Track) successfully defended his dissertation on 28th September. Topic: Evaluation of the coverage, access, possession and use of mosquito nets after the massive distribution campaign in the districts of Nacala Velha and Mecuburi, Nampula Province, 2013

Camélia Boa (2nd cohort, Lab Track) successfully defended his dissertation on 28th September. Topic: Prevalence of HIV/Syphilis Co-Infection in Pregnant Women

Herminia Capite (2nd cohort, Lab Track) successfully defended his dissertation on 28th September. Topic: Evaluation of the Network of Clinical Laboratories of the National Health Service

Márcia Mungambe (2nd cohort, Epi Track) successfully defended his dissertation on 28th September. Topic: Etiology and resistance profile of bacteria isolated from purulent exudate samples at HCM Microbiology Laboratory, 2012

José Carlos Langa (2nd cohort, Lab Track) successfully defended his dissertation on 23rd November. Topic: Frequency of Escherichia coli and Klebsiella pneumoniae producing B-lactamase in patients treated in Maputo Central Hospital

# NIGERIA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM

The Nigeria Field Epidemiology and Laboratory Training Program was established in October 2008 as a long-term program within the Federal Ministry of Health (FMOH) and Federal Ministry of Agriculture and Rural Development (FMARD). The Program aims at training field epidemiology, veterinary epidemiology and public health laboratory residents for leadership positions in both ministries. The Universities of Ibadan and Ahmadu Bello teach and accredit the academic qualifications of NFELTP graduates.

Nigeria FELTP has had 9 Cohorts with an enrollment of 374 residents since inception. The program has had a total of 222 Epidemiology Track, 85 Laboratory Track residents and 64 Veterinary Track residents. The program has graduated 175 residents so far.

## Training and Related Activities

### Cohort training and didactics

#### Cohort V

Three Cohort V residents have completed the two year Master in Applied Field Epidemiology in and defended their thesis in December 2016.

#### Cohort VI

Cohort VI residents undertook their internal and external thesis defense in October and December 2016 respectively in preparation for their graduation ceremony.

#### Cohort VII

Cohort VII residents were posted to various field sites so as to achieve the expected bound volume outputs for their research. A seminar was conducted to evaluate their thesis progress from 12 – 17 November, 2016. The residents worked with various supervisors to fine tune their research in preparation for pre-internal and internal thesis defense at the respective universities.

#### Cohort VIII

Cohort VIII residents were also posted to various field sites. The residents commenced Cluster 2 classes on 26 September 2016. Cluster 2 lectures were held from the 26th of September to 4th of November, 2016. Revision and exams for cluster 2

in their respective universities were also had from 14th – 25th November, 2016. Courses examined on include: Advance Epidemiology, Epidemiology of Priority Diseases, Research Methodology and Scientific Communication.

## Involvement in HIV/AIDS Activities

Residents' posting to CDC priority states  
Twelve (12) residents Cohorts VII & VIII are currently undergoing their field sites posting in field sites that support HIV specific activities including State AIDS Control Programs.

### AIDS Indicator Surveys

#### Kaduna AIDS Indicator Survey

### Training of Dispatch Riders/Courier Team

A 2-day training was held for the dispatch riders in Kaduna between 13 -15 October 2016. In attendance were 40 trainees, 5 facilitators, 2 admin staff and an IT officer. The officers were trained on specimen handling and transportation to the nearest satellite laboratories, along with the handling of sample tracking forms.

### Pilot Survey Implementation

The pilot survey took place between 30 October and 6 November 2016. A day refresher training was done with all research officers undertaking the study. Actual field data collection commenced on 2 November 2016. The pilot study was conducted within Kaduna State; Kaduna North LGA, Sabon Gari LGA, Chikun LGA, Zango Kataf LGA, Zaria LGA, and Kachia LGA. This exercise was done to validate the data collection tools, SOPs, laboratory procedures and other field methods. Twenty team leads, 89 interviewers, 30 counselors and 29 field laboratorians participated in the pilot survey. The 12 selected satellite labs and NEQUAL received blood

samples during the pilot. Supportive supervision was given by the survey technical committee during the pilot period.

### Post Pilot Review

A one-week post pilot evaluation meeting was held in Kaduna between 13 – 19 November, 2016. The aim of the week was to receive feedbacks from the research

### Nasarawa AIDS Indicator Survey

AFENET supported the Nasarawa State Government to conduct the Nasarawa AIDS Indicator Survey (NAIS). The survey aimed to describe the HIV epidemic and assess the utilization of, and unmet need of HIV intervention services among adults and children so as to provide useful, actionable data to guide HIV response in Nasarawa State, Nigeria.

A total of 7,000 individuals were recruited into the study. A two-stage probability sampling shall be employed.

### Outcomes of the study

- Prevalence of HIV in the State determined
- Incidence of HIV in the State determined
- Viral load amongst the HIV positive
- Those found to be HIV positive linked to care in line with UNAIDS 90-90-90 goal
- Risk factor of transmission determined to guide interventions
- Access to and utilization of HIV-related services and unmet needs determined and used to guide interventions
- Health system strengthening with various human resource and infrastructure components

### Lagos State AIDS Indicator Survey (LagAIS)

The survey aimed to describe the HIV epidemic and assess the access to, utilization of, and unmet need of HIV intervention services among adults and children so as to provide useful, actionable data to guide HIV response in Lagos State, Nigeria.

Approximately 29,435 individuals were recruited into the study. A two-stage probability sampling was employed by stratifying the state into 13 local government areas (LGAs).

### Outcomes of the study

- Prevalence of HIV in the State determined
- Incidence of HIV in the State determined
- Viral load amongst the HIV positive
- Those found to be HIV positive linked to care in line with UNAIDS 90-90-90 goal
- Risk factor of transmission determined to

guide interventions

- Access to and utilization of HIV-related services and unmet needs determined and used to guide interventions
- Health system strengthening with various human resource and infrastructure components.

### Benue AIDS Indicator Survey (BENAIS)

Benue State is one of the priority states in Nigeria with the very high burden of HIV. The 2012 National HIV/AIDS and Reproductive Health Survey (NAHRS plus II), and 2014 HIV Sentinel Survey, produced differing prevalence of 5.6% and 15.4% respectively. These varying data demonstrated the need for a more precise estimate of HIV prevalence in Benue State in order to inform program planning and implementation. The survey had an aim to describe the HIV epidemic among adults in Benue State so as to provide useful, actionable data to guide HIV response in the State.

The study population comprised of adult males and females aged 15 years and above.

### Outcomes of the study

- Prevalence of HIV in the State determined
- Viral load amongst the HIV positive
- Those found to be HIV positive were linked to care in line with UNAIDS 90-90-90 goal
- Risk factor of transmission determined to guide interventions
- Access to and utilization of HIV-related services and unmet needs determined and used to guide intervention.

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**7,000**  
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## Evaluation of Prevention Of Mother -To -Child Program (PMTCT) In Nigeria

AFENET conducted an evaluation of the PMTCT cascade in Nigeria to identify gaps and improve program efficiency.

The 2012 National HIV and AIDS and Reproductive Health Survey (NAHRS Plus II) showed a national prevalence of 3.4%. The estimated number of HIV exposed infants, at risk for mother-to-child HIV transmission, has been recorded at approximately 190,000 per year.

The program aimed evaluate the Prevention of mother-to-child transmission (PMTCT) PMTCT cascade in a sample of integrated ANC-PMTCT clinical sites across Nigeria to detect service delivery gaps and identify opportunities for program improvement.

Site assesment visits were conducted from 7 - 11 and 24 - 27 November 2016 . The states selected included: Cross-river, Enugu, Gombe, Kano and Oyo. Eighteen facilities were selected each from the 6 states making a total of 108 sites across all level of care (primary, secondary and tertiary) with documented PMTCT data for both FY14 and FY15.

Pre-assessment training was conducted for NFELTP residents and graduates before deployment to the sites. The assessment checklist was adapted from guideline for assessing utility data from PMTCT programme for sentinel surveillance among pregnant women (WHO, 2013). The checklist was divided into 4sections; site information, PMTCT MER validation, availability of source documents and PMTCT facility walkthrough. Data was analyzed using Microsoft excel software version13.

A total of 102 sites assessed constituting 94% coverage. Seventy-three (71.6%) of the site assessed were primary, 22(21.6%) secondary and 7(6.9%) tertiary. Seventeen (16.7%) were Private while 85(83.3%) were Public by ownership. Fifty-seven (55.9%) of the site visited were located in Urban areas while 45(44%) were in rural areas. Thirty-two (32%) of site visited offers Comprehensive treatment services while 70 (68%) offers Prevention of Mother to Child Transmission services. Eighty -three percent of the site records were paper based.

## AFENET HIV Impact Assessment/Studies, June - December, 2016

SN	Activities	Objectives
1	Collaborate with FMOH in concluding the National HIV incidence study misclassification	To collaborate with FMOH to complete the incidence misclassification rate among clients attending ART clinics so as to determine the country HIV incidence
2	Collaborate with FMOH in conducting a gold standard National incidence study	Determine the HIV incidence rates among the study population and distribution by age-group and geographic location.
3	HIV Mathematical modelling, Spectrum, EPP and triangulation of data training and implementation	To model and estimate using various survey and service dataset to better define the HIV dynamics amongst study population and distribution by age-group and geographic location.
4	Ethnographic study in HIV High priority states starting with Benue or combined priority states	To study the people and culture of a region that could contribute to the high or low HIV prevalence in a geographical region.
5	Support FMOH in implementing Nigeria Qual	To support the implementation of improving quality of care in HIV services in Nigeria
6	Analysis and Study on consistently high, and consistently low HIV prevalence	To determine factors responsible for consistently high, and consistently low HIV prevalence in Nigeria
7	HIV works dissemination workshop	To share the various scientific works conducted by the AFENET/NFELTP with the general public
8	HIV publications workshop	To develop HIV manuscripts that will be published
9	KADAIS models in other states	To replicate the AIDS indicator surveys in other CDC priority states for program planning and service delivery
10	Social, Health and economic impact of HIV/AIDS	To determine Social, Health and economic impact of HIV/AIDS amongst study population
11	Wider coverage Prison study on HIV risk factors	To determine factors that drive HIV infection in the prison population
12	Collaborate with the FMOH in the Conduct of NARHS survey	National Population based survey to determine prevalence of HIV and associated factors amongst the general populace in Nigeria
	HIV treatment and care cascade studies	To track the cascade of care for service gaps and improvement
14	Secondary analysis of data from HIV health facilities based on available variables.	To conduct Secondary analysis of data from HIV health facilities for identification of gaps and planning for improvement
15	Rapid assessment of laboratory services and infrastructures including diagnostic flow chart to identify status, gaps and needs in selected facilities in Nigeria	To strengthen HIV laboratory capacities
16	Strengthening the capacity of priority LGA HIV/TB officers to provide leadership in the management of HIV and TB programs and services	To strengthen HIV/TB collaborative activities

17	Determination of HIV prevalence using PMTCT as a replacement of ANC sentinel survey	To develop a system to determine the National HIV prevalence amongst Women attending antenatal clinics in Nigeria using PMTCT as a replacement for the anonymous HIV sentinel survey
18	HIV systems evaluation	To evaluate the performance of the HIV systems to identify gaps and profer improvement for health systems strengthening
19	Support Residents/Graduates in conduct of HIV studies/Assessment	To encourage residents to work on HIV/AIDS impact assessment and to provide technical input in their works and the creation of a database

## Malaria Activities

### Malaria Operational Research Agenda and National Malaria Elimination Programme Workshop

Nigeria FELTP organized a plaining meeting for preliminary studies for malaria Operational Research (OR) agenda from 7 – 12 October 2016. The Malaria OR agenda task group constituted of National Malaria Elimination Programme (NMEP), West African Infectious Disease Institute (WAIDI) and NFELTP. The conceptual framework, protocol and study instruments for preliminary studies were developed and submitted to the University of Ibadan Institutional and Ethical Review Board. The initial draft protocol was developed by a Cohort VIII resident - Dr. Sylvester Udeh and the Survey monkey platform developed by a Cohort VI resident - Amaka Pamela Onyiah.

Data collection for the studies for the malaria OR agenda commenced on 13 October 2016 and the results will provide a platform for scientific approach and processes for malaria OR agenda setting at the planned National Stakeholder Workshop on Malaria OR scheduled for January 2017. A total of 110 Survey monkeys were completed by October 2016.

### NFELTP Residents participate Nigeria Malaria Indicator Survey

Dr. Ike Oluwapo Ajayi, Dr. Olufemi Ajumobi, NFELTP residents, also members of Malaria Operation Research (OR) task group participated in the National and Zonal Dissemination Workshop of Nigeria Malaria Indicator Survey from 7 – 8 November 2016. The residents conducted additional interviews and administered survey questionnaires for preliminary studies for malaria operational research agenda to larger group of malaria stakeholders.

### Review of malaria proposals and draft manuscripts

Draft proposals, thesis and manuscripts of NFELTP residents were reviewed for publication. Residents were provided with resource materials for proposal writing and linked to resource persons on thematic

areas of malaria research.

The manuscript 'Socio-demographic and regional disparities in uptake of Intermittent Preventive Treatment for Malaria - Nigeria Demographic Health Survey 2013' authored by Dr. Titilope Olugbade - Cohort V resident, was submitted to BMC Public Health.

The manuscript 'Determinants of Intermittent Preventive Treatment Utilisation among Women Attending Antenatal Clinics in Primary Health Care Centers in Ogbomoso, Oyo State' authored by Dr. Adefisoye Adewole (cohort 5), was submitted to BMC Pregnancy and Child Birth.

### National Stop Transmission of Polio (NSTOP)

The Stop Transmission of Polio (STOP) Program is a global effort that trains public health professionals from around the world and sends them to the places with the greatest need.

The STOP Program, through the U.S Centers for Disease Control and Prevention (CDC), trains international public health professionals to be deployed around the world to countries with the greatest need for support and technical assistance to improve their national immunization and surveillance programs. (<http://www.cdc.gov/globalhealth/immunization/stop/index.htm>)

The National Stop Transmission of Polio (NSTOP) program was established in July 2012 under the Africa Field Epidemiology Network (AFENET) in response to National Polio Eradication Emergency Plan (NPEEP) to strengthen the Nigeria polio eradication program at the operational level. Implemented through the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP).

The purpose of NSTOP is to provide Nigeria with high quality and culturally competent technical field support staff in high-risk areas to implement the polio eradication emergency plan (NPEEP) PEI accountability framework and strengthen routine immunization.

One of the major focus of NSTOP is strengthening immunization and surveillance in underserved communities.

Between July 2012 and April 2015, NSTOP conducted enumeration and landscape analysis in 375 Local Government Areas finding and vaccinating about 1.7 million children less than five years of age with oral polio vaccine; 6% of which had never taken the vaccine prior to the enumeration.

Since its inception, NSTOP officers have formed part of the management cadre of the polio program, through their membership in the polio eradication emergency operation centers (EOCs) at both national and state

Planned Activity	Progress	Achievements to date
Support pre-implementation, intra-implementation and post-implementation of polio supplemental immunization activities (SIAs)	Implementing as planned	2 NSTOP staff and 82 supervisors deployed to supervise and provide technical support to immunization teams in 13 northern states where the SIAs were conducted.
Outbreak response including active case search, line listing of cases and contact, immunization activities	Implementing as planned	NSTOP supported all the 4 polio outbreak response activities. A total of 373 MSTs including NSTOP staff at the state and LGA levels were deployed to support the polio outbreak. 118 EOC MSTs were also supported by NSTOP in all the 4 rounds of the outbreak response.
Conduct Routine Immunization refresher training to NSTOP state and LGA officers	Implementing as planned	The first module of refresher training for RI on Demand creation and service delivery was conducted. In total 181 NSTOP LGA officers, 426 government state and the LGA level and 160 staff from partner organizations participated in the training.
NSTOP LGA officers to conduct 12 supportive supervisory visits to RI providing health facilities per month	Implementing as planned	Between May and Oct, 2016, 69% of NSLOs conducted at least 12 supportive supervisory visits for RI sessions across the LGAs. The visits have helped improved quality of routine immunization service delivery as well as RI data quality
supported states to conduct annual surveillance evaluation or periodic rapid surveillance assessments	Implementing as planned	Across the 11 states implementing the Enhanced AFP surveillance project, periodic rapid assessment has been conducted in 123 out of the 243 LGAs in the 11 states implementing the EPoS project. Information gathered from the rapid surveillance assessment have been used to identify gaps
Launch the DHIS 2 RI dashboard in 20 states in the country	Implementing as planned	RI module of DHIS 2 project rolled out in 17 states across the country. Supported 339 LGAs with Laptop computers to enhance data management. Data tools printed and distributed to HF in implementing states
supported states to conduct annual surveillance evaluation or periodic rapid surveillance assessments	Implementing as planned	Across the 11 states implementing the Enhanced AFP surveillance project, periodic rapid assessment has been conducted in 123 out of the 243 LGAs in the 11 states implementing the EPoS project. Information gathered from the rapid surveillance assessment have been used to identify gaps
Launch the DHIS 2 RI dashboard in 20 states in the country	Implementing as planned	RI module of DHIS 2 project rolled out in 17 states across the country. Supported 339 LGAs with Laptop computers to enhance data management. Data tools printed and distributed to HF in implementing states

levels. At the operational level, NSTOP officers have supported the planning, implementation, supervision, and monitoring of polio and non-polio SIAs in several states across the country.

Officers have also conducted surveillance assessments, outbreak response.

NSTOP supports Routine Immunization (RI), strengthening through capacity building for immunization staff at state and LGA level, and improving RI data quality and use through the implementation of a RI specific module and dashboard on the DHIS2 platform. The DHIS2 RI module and dashboard has been implemented in 28 states.

In line with the polio legacy and transition goal, NSTOP is using its structures to support other health programs. One of such is its support towards the elimination of malaria in Nigeria through its malaria flagship project.

The project is in its pilot phase in 2 states and will focus on capacity building for healthcare workers, strengthening surveillance and data collection and use, improving access to insecticides treated nets and improved management of malaria cases.

NSTOP program has a staff strength of over N302 with 44 working at the national level, while 36 and 220 work at the state and LGA levels respectively.

The program has successfully enhanced Global Polio Eradication Initiative partnerships and outreach in Nigeria, providing an accessible, flexible, and culturally competent technical workforce at the front lines of public health. NSTOP enjoys financial and technical support of US centers for Disease Control and Prevention (US CDC).

## Routine Immunization Activities

### Review of National Immunization Policy

NSTOP and other Immunization partners participated in the review of the National Immunization Policy (NIP) document from 24 - 28 October 2016. The objectives of the meeting were to: provide stakeholders with an update on the level of implementation of the current 2009 policy, share experience on how it was implemented, identify areas that require modification and update the current NIP in line with global targets. The first draft was developed at the end of the meeting.

### NSTOP Routine Immunization Follow-up Assessment

Following a Routine Immunization assessment conducted in 2015 in phase 1 NSTOP supported LGAs, a follow-up assessment was conducted in two batches for the phase 3 LGAs. The exercise aimed to: assess the reach of Routine Immunization (RI) in the communities, assess the status of key RI components in the Local Government Areas (LGA), compare the current status of RI indicators/components with the baseline data obtained 3 years ago, and identify opportunities for



additional improvement in RI activities. The first batch were phase 3 LGAs in Sokoto state and the assessment took place from 24 – 29 October 2016 while the second batch were LGAs in Adamawa and Taraba states where the assessment took place from 20 to 28 November 2016. Sixty-four (64) participants, comprising graduates and residents of NFELTP were deployed for the assessment.

## Polio Supplementary Immunization Activities

### Outbreak Response to Wild Polio Virus 1

The National Emergency Operation Center (NEOC) in collaboration with other polio eradication initiative (PEI) partners responded to the outbreak of wild polio virus 1 (WPV1) in Borno state. The 3rd, 4th and the 5th outbreak responses took place on the 15 to 18 October, 12 to 15 November and 3 to 6 of December 2016 respectively in the Federal Capital Territory (FCT) and 17 states in northern Nigeria. In view of this, the National Stop Transmission of Polio Program (NSTOP) deployed Management Support Teams (MSTs) to give technical support to the state and LGA teams. An average of one hundred and twenty MSTs comprising NSTOP staff, NFELTP graduates/residents and staff of ministries of health and agriculture were deployed for each of the rounds.

### Outbreak Response to Vaccine Derived Polio Virus

In response to the Type 2 circulating Vaccine Derived Polio Virus (cVDPV2) in Borno state and an ambiguous VDPV in Sokoto state, MSTs were deployed to Adamawa, Borno, Gombe, Taraba and Yobe (NEOC Zone 1 states) and Sokoto states to give technical support. The response took place between 16th and 21st December and 41 MSTs were deployed.

## NSTOP Surveillance Activities

### NSTOP Supportive Supervisory Visit

Through the Enhanced Polio Surveillance (EPoS) project, NSTOP provided support to disease surveillance officers in various states in order to carry-out their activities more effectively. Consequently, the EPoS team members conducted a week-long (27 November to 3 December 2016) supervisory visit to some of the states; Osun, Kwara and Kogi states. The aim was to assess the status of the EPoS project implementation in the states, conduct a follow-up sensitization, identify gaps, address challenges and provide on-the-job training to Disease.

## NSTOP Malaria Flagship Project

### Malaria Baseline Assessment

NSTOP Malaria baseline assessment was conducted in Zamfara State from 26 – 30 July 2016 and 1 – 19 August 2016 in Kano state. The aim was to ensure that the malaria project is implemented from an informed point of view. To ensure that the baseline assessment was implemented effectively, a pretest of the assessment tools was carried out at Primary Health Centers in Karu and Mararaba both in FCT – Abuja on the 8 July 2016. There

after a 3–day training was organized for 83 NFELTP Cohort 8 residents, staff of Federal Ministry of Health and staff of National Malaria Elimination Program (NMEP) who worked as data collectors, facilitators and supervisors during the assessments. The training took place at Barcelona Hotel, Abuja. As part of the training, the tools for the assessment were piloted at health facilities in AMAC and Bwari Area Councils of the FCT.

## Malaria NSLOs Orientation Programme

An orientation of the Malaria NSLOs programme for NSTOP Malaria NSLOs was held on 16 August 2016 in Abuja. A total of 34 Malaria NSLOs (20 from Kano and 14 from Zamfara states) participated in the exercise. Presentations were made by the National Coordinator and other administrative staff. Participants were then given the posting schedule of the Malaria NSLOs

A detailed technical orientation was later held in Kano and Zamfara States with coordination by the State Field Coordinators. The focus of the orientation programme was to integrate the Malaria NSLOs into the NSTOP structure at the State and LGA levels and also for them to be abreast of their roles and responsibilities. Their initial task was to conduct assessment of data capturing tools.



NFELTP participates in World Polio Day celebration in Atlanta

## State Level Training on Case Management of Malaria Module

A 3-day modular training on case management of malaria for the LGA Roll Back Malaria (RBM), Malaria NSLOs, State Malaria Elimination Programme (SMEP) team and the partner agencies involved in malaria intervention in Kano and Zamfara states held from 4 – 6 October 2016. Facilitators at the training were officers from the National Malaria Elimination Programme (NMEP) and NSTOP National and State Malaria officers. The NSTOP State Field Coordinators gave a presentation on expectations for the conduct of the cascade level training for selected primary health care providers in each LGA (14 LGAs in Zamfara and 20 LGAs in Kano). A total of 46 and 59 persons attended the training in Zamfara and Kano states respectively.

## Cascade Training on Case Management of Malaria

The LGA cascade training on case management in Kano and Zamfara States held concurrently from 20 – 21 October 2016. The training was facilitated by the LGA RBM and Malaria NSLOs and oversight supervisory functions were provided by officers of the State Malaria Elimination Programme and State Roll Back Malaria Partners. Participants were selected healthcare workers who conduct malaria case management at the primary health care centers. A total of 1013 and 923 healthcare providers in Kano and Zamfara States respectively were trained.

## Annual Review Meeting for State Malaria Programme Managers

An annual national review meeting was held for state malaria programme managers from 9 – 10 November 2016 at Barcelona Hotel, Wuse 2, Abuja. The aim of the meeting was to review and assess malaria activities by states and at the national level in the previous year, give updates on the current trends in malaria in pregnancy, share new information and assess performances of state malaria programmes. This activity which was organized by National Malaria Elimination Programme (NMEP). Two NSTOP malaria FCs in Kano and Zamfara states participated in the meeting.

## National Orientation on Malaria in Pregnancy and Surveillance

A National training of training on malaria in pregnancy and surveillance was organized with the aim of acquainting participants with current trends in surveillance and malaria in pregnancy and to review presentations in preparation for state level surveillance training. The training held from 23 to 25 November 2016 in Barcelona Hotel, Wuse 2, Abuja. A total of 42 persons were present for the training. These include State Malaria Programme Managers, Case Management and M&E officers and NSTOP Malaria State FCs from Kano and Zamfara States. Others were NSTOP staff at the national office, NMEP officials and Roll Back Malaria partners.

## Outbreak Investigation and Response

### Investigation of Lassa Fever Outbreak in Ogun State

On 17 December 2016, a sample taken of a deceased Assistant Chief Nursing Officer at the Federal Medical Centre, Abeokuta. Her sample was found to be positive for Lassa fever on 19 December 2016. A state rapid response team was mobilized supported by the Nigeria Centre for Disease Control (NCDC), NFELTP and WHO.

Specific objectives

To assess and describe the Lassa fever outbreak situation in Ogun state

To conduct an in-depth investigation to determine

the source of infection in the index case and mode of subsequent transmission

To advise on measures to prevent further transmission and control the outbreak

To assess infection control and prevention measures in place and provide advice to the hospital and Ogun State Government on prevention of transmission in healthcare settings

To strengthen and support case management



*Total of 1013 and 923 healthcare providers were trained on Case Management of Malaria in Kano and Zamfara States respectively*

## Methods

Investigation commenced on 19 December 2016. The outbreak team comprised the NCDC team lead, State Epidemiologist (an NFELTP graduate), the State DSNO, NFELTP residents and a WHO representative. Data was collected from all health facilities visited by the both probable and confirmed cases in Ogun State. Contacts were line-listed for the confirmed cases and the and first probable case. Each contact was monitored for 21 days from the last day of contact with the case-patient. Contacts were also classed based on the type of exposure to the case.

Laboratory confirmation was based on a positive test using Lassa virus-specific reverse-transcriptase PCR (RT-PCR) as previously described.

A total of two confirmed, three probable and thirteen suspected cases were reported. The case fatality rate (CFR) for all deaths was 35.0% while CFR was 100% for both the probable and confirmed case(s)

A total of 345 contacts were followed. About 68.4% were female (n= 240). About 89.5% (314) were health care workers and they were followed up in 4 different health facilities across 2 LGAs. They were stratified based on their risk from the exposure and were given thermometers for daily temperature reading. Two hundred and thirty one (231) contacts have completed their 21 days monitoring, however, 66 contacts could not be reached.

## Public Health Interventions

- Advocacy visits to Ogun SMOH
- Dialogue with all Heads of facilities on prompt disease detection, reporting and strict infection control measures
- Delivery of pieces of PPEs and Ribavirin tablets and IVs to FMCA and OOUTH

- Active case search
- Sensitization of FMCA nurses association (NANM)
- Findings and recommendations shared with FMCA and Ogun State Ministry of Health
  - Other planned Sensitizations: Association of Resident Doctors (ARD), Private Medical Practitioners, Laboratory and physiotherapy personnel and attendants and porters

### Challenges

- Definitive source of the outbreak could not be ascertained as the “probable cases” have been buried and couldn’t be confirmed
- Lack of capacity to investigate for Lassa fever in a dead or buried probable cases
- Inability to retrieve the aliquot blood sample for probable case; O.G at FMCA
- Stigmatization of contacts
- Public holidays during the outbreak response hindered access to and retrieval of information

Residents and graduates who participated include Yusuff Hakeem, Adebayo Bisola, Dr Imeh Okon, Adewusi Damilola, Sanni Bola and Ijarotimi Dolapo.

### Disease Surveillance and Response, North Borno State

Due to the North-East insurgency, 2.4 million people have been internally displaced 1.8 million alone from Borno State. As a result, more than half of the population lack access to health service delivery and many children malnourished with high recorded child and maternal morbidity and mortality.

AFENET in conjunction with the Nigeria Centre for Disease Control (NCDC), carried out surveillance and response activities in Borno State from 14 November to 30 December 2016 in order to support the State strengthened surveillance capacities and adequately respond to disease outbreaks and health emergencies.

### Some of the set objectives for the team were to:

- Build capacity of Borno State health workers to detect and report diseases in a timely manner
- Provide the tools needed for data collection and reporting
- Strengthen the capacity of the surveillance system for laboratory confirmation of suspected cases
- Provide overall coordination for reporting and response

The team conducted advocacy visits, meetings, review of surveillance data, field visits, laboratory assessment, and conducted training in outbreak investigation

NFELTP, NCDC and partners were involved in all surveillance and other related activities in the state – EOC establishment. AFENET and partners in Borno State contributed to considerable improvement of surveillance in the state, 25 out of 27 LGAs are accessible in the state



Advocacy visit to the Ondo State WHO Office with State team of the State DSNO and his team



Drying of food stuffs outside: A risk factor LF transmissions



Dr Enumah demonstrating to a health worker how to use infra-red thermometer for daily temperature monitoring of contacts



IPC Stakeholders Meeting  
at NFELTP Office, Abuja

## Meetings and Conferences

### Report on Exxonmobil/CDC Foundation Supported Project On Infection Prevention and Control (IPC)

Nigeria FELTP held an Infection Prevention and Control project meeting with major partners including Project Hope, CDC and University of Lagos sought to discuss the modalities of the project and materials to be used.

In November 7 – 11, a curriculum finalization workshop held at the AFENET office directed at the development of training materials, organization of modules, determination of competencies to be learnt and evaluation format. Facilitators were renowned individuals in the field of IPC in country and were pulled from across the country and also included the co-grantee University of Lagos. Prof Adebola Olayinka provided information on the project, goals and expectations. Some material provided by CDC were shared and the group identified the various materials and classified them. By the end of the week, a schedule was prepared for the conduct of the workshop and the materials were developed. The workshop ended with most of the expectations achieved. Present at the meeting were: Dr. Fayemiwo, Dr. Muhammad Garba, Dr. Adewuyi, Mrs E. I. Agada, Mr. Salisu Abubakar, Dr. Tochi Okwor, Dr. Simeon Ajisegiri and Prof Adebola Olayinka

### NFELTP Residents training in IPC

The training of the 1st batch of NFELTP residents and few graduates occurred from 8 to 12 December 2016 at the AFENET office. The training was done using the earlier developed training materials and based on the earlier drawn up schedule by the faculty. The facilitators for the training

workshop were those who had participated in the development of the training materials and who had together drawn up the learning competencies desired.

A total of 34 residents and graduates of the programme were trained. Pre and post tests were conducted. Evaluation of the workshop was also done.

**34**  
residents and  
graduates of  
the programme  
were trained

**8 to 12**  
December 2016  
Training of the 1st batch  
of NFELTP residents and  
few graduates occurred  
at the AFENET office

## Summary of NFEELTP Resident presentations at Scientific Conferences

S/N	Name	Cohort	Title of Abstract	Type	Name of Conference	Place	Date
	Dr Martin Onuoha	7	Investigation of Lassa Fever Outbreak, Katsina, Nigeria	Poster	African Society for Laboratory Medicine (ASLM)	South Africa	3 – 8 December, 2016
	Dr Fashola Adebayo	7	A Comparative Analysis of Clinical Breast Examination and Mammography among Women in Tertiary Hospital, Ekiti State Nigeria	Oral Poster	African Society for Laboratory Medicine (ASLM)	South Africa	3 – 8 December, 2016
3	Dr Oyeladun Okunromade	7	Measles Outbreak in Eti-Osa Local Government, Lagos State, Nigeria December 2015 – February 2016	Oral	African Society for Laboratory Medicine (ASLM)	South Africa	3 – 8 December, 2016
4	Ajayi Olusola Hassan	7	HIV and Multi Drug Resistance Tuberculosis Co-Infection among Tuberculosis Patients at the National Tuberculosis and Leprosy Training Centre (NTBLTC), Zaria, Nigeria		African Society for Laboratory Medicine (ASLM)	South Africa	3 – 8 December, 2016
5	Ugochukwu Nwokoro	7	Trends and Patterns of Histologically Diagnosed Cancer Cases at the University of Nigeria Teaching Hospital, Enugu, 2012 - 2015	Poster	African Society for Laboratory Medicine (ASLM)	South Africa	3 – 8 December, 2016
	Ugochukwu Nwokoro	7	Evaluation of an Adverse Event Following Immunization reporting system for a meningococcal vaccination campaign in Nigeria: 2015	Oral poster	European Scientific Conference on Applied Infectious Disease (ESCAIDE)	Stockholm, Sweden	28 – 30 November, 2016
7	Anyanwu Maureen Odochi	7	Evaluation of the Acute Flaccid Paralysis Surveillance (AFP) system in Oyo State, southern Nigeria, (2008-2014)  Epidemiological Pattern of Measles Case-Based Surveillance Data; Oyo state, Nigeria, 2008-2014.	Oral  Oral poster	European Scientific Conference on Applied Infectious Disease and Epidemiology (ESCADE)	Sweden	28 – 30 November

6

8	Dr Nnaji Robinson Nnaemeka	7	Comparative Evaluation of DHIS and DVDMT in Enugu State 2015.  Public Health actions in Cholera outbreak in Gajala Community Binin Kudu Local Government Area Jigawa State Nigeria	Oral  Oral	European Scientific Conference on Applied Infectious Disease (ESCAIDE)	Stockholm , Sweden	28 – 30 November, 2016
9	Dr Nnaji Robinson Nnaemeka	7	Descriptive Epidemiology of Cholera outbreak in Gajala Community Birnin Kudu Iga Jigawa State Nigeria	Poster	International Meeting on Emerging Disease and Surveillance	Vienna, Austria	4 – 7 November, 2016
10	Dr Baffa Ibrahim Sule	7	Evaluation of the Malaria Surveillance System in Kaduna State, Nigeria 2016		International Society for Disease Surveillance (ISDS) Conference	Atlanta Georgia, USA	6 – 8 December, 2016
11	Olufemi Abayomi	7	Possibility of Community-Level Transmission of Multi-Drug Resistant Tuberculosis- Kano, Nigeria 2013-2015  Descriptive Analysis of Measles Surveillance Data, 2010-2014, Kaduna, Nigeria	Oral  Oral	8 <sup>th</sup> Bi-Regional TEPHINET Scientific Conference		3 – 8 December 2016
12	Ummukhult hum Bajoga	7	Malaria in Kaduna state: Descriptive analysis using routine surveillance data 2011-2015	Poster	8 <sup>th</sup> Bi-Regional TEPHINET Scientific Conference		3 – 8 December 2016

# UGANDA MASTER OF PUBLIC HEALTH PROGRAM



The Uganda Master of Public Health (MPH) Program is one of the founder members of AFENET, having started in 1994 under the Public Health without Schools (PHSWOW) concept. The program is hosted by the Department of Health Policy Planning Management (HPPM) in Makerere University School of Public Health (MakSPH).

## Cohort Enrollment and graduates

Year	Cohort	Graduated
1994	1	5
1995	2	12
1996	3	12
1997	4	12
1998	5	7
1999	6	12
2000	7	19
2001	8	21
2002	9	27
2003	10	22
2004	11	23
2005	12	14
2006	13	21
2007	14	12
2008	15	14
2009	16	14
2010	17	18
2011	18	21
2012	19	26
2013	20	17
2014	21	15
<b>2015</b>	<b>22</b>	<b>23</b>
		<b>367</b>

still on program

Supported by CDC and other partners, the MPH program is aimed at enhancing applied epidemiology, surveillance, outbreak investigation and other skills among trainees. Similar to other FETPs, most of the program training is field based. Since inception, the program has enrolled over 367 trainees in 22 Cohorts.

## Training and didactics

### FETP Residents thesis defense

Twenty two Uganda FETP residents successfully defended their dissertations to fulfill requirements for the award of a Master of Public Health. The residents were able to have timely completion of the program with the support of the Academic Faculty Supervisors, the Resident Mentor and Field Coordinator.

### Yellow Fever Outbreak Response evaluation activities in Masaka, Kalangala and Rukungiri Districts of Uganda

Between March and June 2016, the Uganda Ministry of Health (MoH) confirmed an outbreak of Yellow Fever (YF) in Masaka, Rukungiri and Kalangala districts. Guided by the National Task Force (NTF) on epidemics and the respective District Task Forces (DTF), outbreak responses were mounted that led to control of the YF outbreak.



Yellow fever outbreak response in Western and Central region, Uganda



A group photo of the MPH/ Uganda FETP participants at the 6th AFENET Scientific Conference

Following the containment of the outbreak, the MoH commissioned an evaluation of the responses to the 2016 YF outbreak in Uganda in the three affected districts. The findings of the evaluation would feed into operational and strategic plans to improve outbreak preparedness and response to future disease outbreaks in Uganda.

From 28 November - 2 December 2016, a team of epidemiologists from MoH, WHO and Master of Public Health students from Makerere University set out to assess perceived YF outbreak preparedness, timeliness of investigation and response, quality of outbreak information, case management and overall perceived coordination of the response to this outbreak. The team conducted community level focus group discussions, review meeting with the district specific task forces and in-depth interviews with survivors or affected family members.

The findings indicated that before the outbreak the community members were not aware about YF, but following the response efforts during the outbreak, the community now knew the cause, signs and symptoms, prevention and treatment of YF. Residents therefore supported in case-management, surveillance and lab testing. They also participated in social mobilization and vaccination.

### Measles outbreak investigation in Kamwenge District, Uganda

On 25 July 2016, following prior laboratory confirmation of the measles outbreak, the Uganda Ministry of Health, with support from Makerere University School of Public Health (MakSPH), sent a team of five MPH residents to Kamwenge district to investigate the reported measles outbreak in this district. The main purpose of the investigation was to describe the outbreak as well as establish its drivers in the district. By the time of the investigation, the district was host to about 42,262 Refugees; 60% of whom were children under the age of 18 years, settled in Rwamwanja Refugee Settlement Camp in Rwamwanja Sub County.

The team conducted records review, line listing, and interviewing caretakers of affected persons and community

mobilization to sensitize on outbreak control. It was discovered by the team that the outbreak of measles had originated from an earlier outbreak recorded in March 2016. All cases reported in July were from the four health facilities where the outbreak in March 2016 had also been reported (Biguli HC III, Rukunyu HC IV, Kabambiro HC II and Busiriba HC III). The exercise lasted for 7 days with funding support from MakSPH-CDC Fellowship programs.

### Uganda FETP Program develops Alumni Association Constitution

The Uganda Field Epidemiology Training Program (FETP), Makerere University School of Public Health (MakSPH) developed an Alumni Association Constitution on 31 May 2016. The constitution was developed during the 2016 MPH alumni meeting under the theme "Global Health Security, what role can MakSPH MPH Alumni play?". The meeting was aimed at enabling the MPH alumni to discuss strategies effective coordination and hence strengthen the association. The draft alumni association constitution was one of the key items discussed.



# TANZANIA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



The Tanzania Field Epidemiology and Laboratory Training Program (TFELTP) was established in October 2008 with funding from the Global AIDS Program (GAP), the U.S Centers for Disease Control and Prevention (CDC) Tanzania, the Presidential Malaria Initiative (PMI) and the United States Agency for International Development's (USAID) Global Bureau.

The program is managed by the Tanzania Ministry of Health and Social Welfare (MoHSW), in collaboration with Muhimbili University of Health and Allied Sciences (MUHAS), National Institute of Medical Research (NIMR) and other partners. TFELTP offers two tracks, leading to a degree of Master of Science (MSc) in Applied Epidemiology (Epi Track), and an MSc in Epidemiology and Laboratory Management (Lab Track).

## Didactics and graduation

### Training and related activities

#### Cohort VII Graduation

Eleven Cohort VII residents graduated on 3rd December 2016 in at the 10th Muhimbili University of Health and Allied Sciences (MUHAS) graduation ceremony. Seven out of eight epi track residents and all four lab track residents took part in the graduation. The epidemiology track residents graduated with Masters of Science in Applied Epidemiology while Laboratory track residents graduated with Masters of Science in Epidemiology and Laboratory Management. One epi track resident was unable to graduate but is expected to graduate in 2017.

#### List of TFELTP graduates from Cohort VII.

	Residents name	Track
1	Amani Massay	Epi Track
2	Ali Abraham Ali	Epi Track
3	Thadeus Makwanda	Epi Track
4	Sophia Samson	Epi Track
5	Winston william	Epi Track
6	Elias Masubuko	Epi track
7	Saumu Nungu	Epi Track
8	Mukula Valence	Lab Track
9	Yazid Kachwamba	Lab Track
10	Harriet Chiangi	Lab Track
11	Haji Lukupulo	Lab Track

#### Cohort IX National Field Placement

Fourteen Cohort IX residents reported to national field placement sites on 23 January 2016. The field placement activities is expected to take 2 months. During this period the residents are required to evaluate surveillance system within their respective field placement site. The following table shows the National Field placement of the cohort IX residents.

#### Cohort IX Field Placement January 2016

Name of Resident	Track	Field Site
Kokuhabua Mukurasi	EPI	National Aids Control Program
Zawadiel Sulle	EPI	Reproductive and Child Health Services
Jairos N. Hiliza	EPI	Immunisation and Vaccine Development
Gwakisa S. John	EPI	EPIDEMIOLOGY
Pili Hezekia Kimanga	EPI	National Malaria Control Program
Mwendwa Mwenesi	EPI	PMTCT
Emmanuel G. Mwakapasa	EPI	Emergency Operation Centre
Nangi William Nangi	EPI	TB & LEPROSY
Hamza Matimba	LAB	TFDA
Amede Mushi	LAB	NHLQATC - INFLUENZA
Kelvin Kaberege	LAB	NBTS
Fadhili Ngogo	LAB	NHLQATC - IDSR
Mohamed Mwedi Athumaini	LAB	MUHIMBILI LAB
Felistas Ngulubayi	LAB	NHLQATC - HIV

Cohort IX did their surveillance system evaluations between January 2017 and March 2017. The residents were paired to evaluate six surveillance systems as shown in the list below.

Name	Track	Type Surveillance System
Mwendwa Mwenesi	Epi Track	PMTCT Score Card Surveillance
Felistas Ngulubayi	Lab Track	
Hamza Matimba	Lab Track	Adverse Effect Following Immunization (AEFI) Surveillance System
Jairos N. Hiliza	Epi Track	
Gwakisa S. John	Epi Track	IDSR special focus on Meningitis
Emmanuel G. Mwakapasa	Epi Track	
Pili Hezekia Kimanga	Epi Track	Malaria Testing Surveillance System
Amedeus Mushi	Epi Track	
Kokuhabua Mukurasi	Epi Track	HIV Cascade Surveillance
Fadhili Ngogo	Lab Track	
Nangi William Nangi	Epi Track	TB Multi Drug Resistant Surveillance
Mohamed Mwedi Athumaini	Lab Track	
Zawadiel Sulle	Epi Track	Maternal and Perinatal Death Notification and Review Surveillance System
Kelvin Kaberege	Lab Track	

### Cohort IX Enrollment

Fourteen health personnel were admitted into the program for Cohort IX following a selection process that involved short listing of qualified candidates by MUHAS from the applicants, interviews to determine eligibility for sponsorship by TFEPT. Eight residents are in Epi track and six are in the Lab track. Cohort IX residents were taught their first module on Epidemiology and Biostatistics (AE601) from 31 October 2016 to 25 November 2016 and their second module on Public Health Surveillance (AE602) from 28 November to 16 December 2016.

Research methodology which comprised of writing introduction, literature review, formulating research questions and objectives, material and methods, samples size calculation, ethical issues in research and budget in research topics started on 19 December 2016 and is expected to end 14th January 2017.

### Cohort VIII Economic Evaluation

Two modules were taught for Cohort VIII trainees, Economic Evaluation for epi track residents and Laboratory management, policy and systems design for the lab track residents from 31 October to 11 November 2016.

### Cohort VIII Regional field placement

Cohort VIII residents continued with their Regional field placement are required to work with the regional health management teams under the supervision of the Regional Medical Officers. At the regional level the residents will be

involved in various surveillance activities including training of health workers, surveillance activities, outbreak investigation, data analysis and attending RHMT meetings. Regional field placement is expected to take 8 months. There are ten regional field placement sites where residents are currently attached. The table below shows the regional field placement of Cohort VIII residents.

## 14 health officers enrolled into Cohort IX in 2016

No	Residents name	Track	Regional site
1	Josea Issack Mutigitu	Lab Track	Morogoro
2	Ipyana Frank	Epi Track	
3	Pius Tarimo	Lab Track	Kigoma
4	John Sagaika	Epi Track	
5	Omari Bakari	Lab Track	Arusha
6	Angela Samwel	Epi Track	
7	Oscar Mwasheuya	Lab Track	Tanga
8	Esther Mdimu	Epi Track	
9	Issa Garimo	Epi Track	Kagera
10	Alex Luoga	Epi Track	Mbeya
11	Richard Magodi	Epi Track	Mtwara
12	Baraka Nyakuya	Epi Track	Mwanza
13	Wilson Boniface Likinderaki	Epi Track	Dodoma
14	Hussein Ame Haji	Epi Track	Zanzibar

The quarter under review also marked the end of Semester Three and Semester One for Cohort 8 and Cohort 9 residents respectively.

### Outbreak investigations

#### Cholera Outbreak Investigation in Kigamboni Municipality, Dar es Salaam

Six cohort IX residents ( Dr. Nangi W. Nangi, Dr. Mwendwa Mwenesi, Mr. Mwedi Athumaini, Mr. Emmanuel Mwakapasa, Mr. Fadhil Ngogo under the supervision of Dr Ahmed Abade investigated cholera outbreak in Kigamboni district in Dar es Salaam region. Cholera outbreak in Kigamboni

was reported on 15th February 2017 in Kibada ward when a suspected case of cholera was admitted at Vijibweni Hospital. The case presented with acute watery diarrhea and vomiting. As of 2nd March 2017 a total of 36 cases with case fatality ratio (CFR) of 5.5% had been reported. Stool samples of all suspected cases were taken of which 5 samples tested positive for V cholerae O1 serotype. Several wards including Kibada, Vijibweni, Tuangoma, Tungi, Kisarawe, Ferry, and Kigamboni were affected. The Ministry of Health Community development, Gender, Elderly and Children requested FELTP to investigate the outbreak after the number cases rapidly increased. TFELTP joined the MoHCDGEC, Kigamboni CHMT in the investigation. The main objectives of the investigation were to determine the magnitude of the outbreak, ascertain risk factor and help the local team to institute control measures

### Cholera outbreak in Ubungo Municipality, Dar es Salaam

Cholera in Tanzania began in August 2015. However, in October 2016 four cases were reported from Ubungo municipality necessitating verification. Three Cohort VIII residents Frank Ipyana, Josea Mutigitu and Alex Luoga investigated the reports with the objectives of assessing the clinical presentation, the use of standard case definitions, case management and to determine risk factors. All the four cases were managed at Mburahati Dispensary and were discharged.

### Suspected Trypanosomiasis, Songea Rural District, Ruvuma Region

In October 2016, the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) received a report of 18 suspected cases of African Trypanosomiasis (Sleeping Sickness) from Songea Rural district in Ruvuma region. The cases were identified from the community by health workers during outreach services and were referred to Muhukuru Health Centre for further clinical examination. Blood specimens were taken for detection and screening of Trypanosomiasis however the results revealed no evidence of Trypanosomiasis infection however one sample tested positive for malaria while peripheral blood film from all samples showed presence of lymphoblast. Two Cohort VIII residents Yazid Kachwamba and Winston William under the guidance of program director and resident advisors investigated the suspected outbreak of Trypanosomiasis (sleeping sickness) in Songea Rural District, Ruvuma Region. In order to ascertain the cause of the outbreak blood samples were transported National laboratory Quality Control and Training Centre (NHLQATC) further analysis. However, only one specimen was found positive for Malaria parasites. The blood specimens showed evidence young Lymphocytes suggesting possibility of either bacterial or viral infections.

### Cholera Outbreak in Dar es Salaam

An increase in the number of cholera cases in Dar es Salaam was reported to the Ministry of Health, Community Development, Gender, Elderly and Children. Five cohort 8 residents (Oscar Mwashuiya, Alex Luoga, Isaack Mutigitu, Ester Mdimu, Wilson Likinderaki) supervised by Loveness Urio (field coordinator) were deployed to assess surveillance of cholera cases in two municipalities namely Ilala and Temeke municipalities. The team worked closely with the municipal health management teams between 28th November 2016 to 2nd December 2016 to identify gaps in cholera response by visiting a number of health facilities and reviewing records.

The following challenges were identified;

- Aqua tabs were not available commercially hence community could access
- Lack of water supply at Cholera Treatment Centres
- Lack of multi-sectoral cholera response team approach
- Clinician were not adhering with cases definition
- Not all cases were reported to the national level
- The district line list had fewer cases compared to the actual cases recorded from the facilities

### Mentorship and supervision activities

Program staff continued with mentoring of residents in both cohorts; supporting residents of cohort 9 to complete their surveillance system evaluations and Cohort VIII residents to develop their questionnaires for thesis data collection among others.

### Titles of Cohort VIII dissertations

NAME	TRACK	RESEARCH TITLE
Josiah I Mutigitu	LAB	Factors Associated with Low Viral Load among HIV Infected Individuals in Pwani Region.
Pius Tarimo	LAB	Characterization of Enteric and Blood Pathogens among Patients Presented with Fever in Buhigwe District
Omary Bakari	LAB	Determination of TB Burden and Associated Factors Among Miners in Mererani, Arusha Tanzania
Denis Kapinga	LAB	Seroprevalence of Hepatitis B Surface Antigen and Associated Factors in Karagwe, Kagera
Oscar Mwashuiya	LAB	Analysis of HIV Early Infant Diagnosis Implementation in Dar-Es-Salaam
Ester Mdimu	EPI	Prevalence and Factors Associated with Malnutrition among Under Five Years Children at Ngorongoro District in Arusha
Hussein Ame Haji	EPI	Factors Contributing Poor ART Adherence among HIV Patients Attending Mnazi Mmoja Hospital Care and Treatment
Ipyana Frank	EPI	Use of Folic Acid For Prevention of Neural Tube Defects among Women of Child Bearing Age in Dar Es Salaam

Issa Garimo	EPI	Incidence and Individual Risk Factors for Malaria Infection in Zanzibar
Alex Luoga	EPI	Association Between Gender Based Violence And Adherence to Anti-Retroviral Therapy Among HIV Positive Women Attending Care and Treatment Clinic at Mbeya regional hospital.
Richard Magodi	EPI	Determinants of Measles Rubella Vaccine Second dose Uptake among Under-fives in Temeke Municipal Council, Dar es Salaam
Baraka Nyakuya	EPI	Evaluation of a National Universal Coverage Campaign of Long-Lasting Insecticidal Treated Nets and its Impact on the Prevalence of Malaria among School Children in Butiama District, Tanzania
Wilson Boniphace	EPI	Predictors Contributing to Loss to Follow Up of Antiretroviral Therapy for Adult HIV Clients in Dodoma Region
John .N. Sagaika	EPI	Estimation of the Burden of Influenza-Associated SARI and Influenza Sentinel Surveillance System Evaluation in Tanzania
Angela Samweli	EPI	Magnitude and Characterisation of Road Traffic injuries in Dar e salaam

## Mentorship and supervision activities

### Review of residents' work (TFELTP and MUHAS)

The TFELTP faculty continued normal review of residents' work and mentorship activities. The major support provided was in areas of surveillance system evaluation for Cohort IX and thesis data collection for Cohort VIII.

## Meetings and Conferences

### Program Meetings between FELTP and MUHAS

The program has held weekly program meetings to meetings to review the progress of the residents, discuss challenges and plan out solutions together on how to accomplish the required competencies by the residents. Quarter meetings were also held with Muhimbili University of Health and Allied Sciences (MUHAS) with a similar agenda.

Tanzania FELTP members of staffs attended several surveillance subcommittee meetings that were organized in response to the cholera outbreaks in Tanzania. The meetings were held at the Ministry of Health headquarters. The meeting's agenda were to give updates and current status on the outbreaks, prevention activities being carried out and surveillance activities updates.

### Malaria dissemination meeting

A dissemination meeting was held on 26th October 2016 to highlight the work of TFELTP residents on malaria. Every year at least two residents are supported by the PMI program and they are required to work closely with malaria control program in addressing the many malaria challenges the country is facing. Some of the key areas the residents have been concentrating on includes malaria surveillance evaluation, data management and operation research. The meeting was attended by stakeholders from NMCP, CDC, PMI and FELTP. During the meeting five presentations covering different topics were made. Below is a list of the topics and the name of the presenters.

Factors Influencing Uptake of Three or More Doses of Sulfadoxine Pyrimethamine for Intermittent Preventive Therapy of Malaria in Pregnancy in Nyamagana and Illemla Districts, Mwanza Region, Tanzania by Witness Mchwampaka

Challenges facing mobile phone reporting system: An evaluation of electronic integrated disease surveillance and response system in Tanzania (eIDSR) by Baraka Nyakuya

Comparison of Malaria Data Collected From Lake Zone Health Facilities By Mtuha RTI and Those Collected Through DHIS2 From June 2013-May 2014 Tanzania by Witness Mchwampaka

Prevalence of malaria among school children and household coverage with long lasting insecticides treated nets (LLINs) using school children reports as a proxy Butiama district, Tanzania by Baraka Nyakuya

Individual Risk Factors For Malaria Infection in Selected Districts in Zanzibar by

## TFELTP Alumni Association General Meeting

The Tanzania Field and Laboratory Epidemiologists Alumni Association (TANFLEA) held its annual general meeting on the 26th November 2016 at the National Institute of Medical Research board room. TANFLEA is a non-governmental, non-profit making association established by FELTP graduates aimed at promoting field epidemiology and strengthening public health. It was officially registered by the Ministry of Home Affairs in May 2014. The meeting which officially opened by the chairman was attended by several members. The agenda of the meeting were-

- Introduction
- Opening remarks
- Adoption of the agenda
- Proceedings of first annual general meeting for Tanzania Field epidemiology and laboratory epidemiologist Association
- Membership Updates
- Members contribution and Financial report
- TANFLEA program updates
- AOB

## Publications and Submissions

Tanzania FELTP had two abstracts accepted for poster presentation to the Epidemic Intelligence Service (EIS) conference to be held in Atlanta, April 24 -27 2017. The program also submitted 17 abstracts for the TEPHINET conference in Thailand.

# SOUTH AFRICA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM



Established in 2006, the South Africa Field Epidemiology Training Program (SAFETP), a 2-year, competency-based training program, was initiated and developed as a collaboration between the South African National Department of Health (NDOH), the National Institute of Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS), and the U.S. Centers for Disease Control and Prevention (CDC), to build field epidemiology capacity for the country.

SAFELTP uses an established applied epidemiology curriculum, providing an accredited Masters in Public Health (MPH) degree from the University of Pretoria (UP), with mentored competency based practical field experience. To date, the program has trained more than 80 health professionals in applied epidemiology. The first short course was conducted by the programme in 2006 and the first cohort enrolled in 2007 making 2017 the 10th anniversary of the programme. As of 2016, all direct program costs are covered by NICD, while CDC GDD supports some technical assistance costs.

## Didactics and Training

In 2016 FELTP had an intake Cohort of seven first year and ten second year students.

SAFELTP held an orientation for the 2016 Cohort from 18 - 20 January 2016, at the National Institute for Communicable Diseases (NICD). The 2016 Cohort is made up of seven (7) new residents. One veterinarian, a dentist, medical scientist, intern medical scientist a nutritionist, assistant researcher, Quality Assurance Officer.

On 21 January 2016 SAFELTP held the 1st Scientific Seminar at the NICD. The seminar was mainly attended by the 2016 Cohort as a way of familiarizing with the required competencies of the Applied Epidemiology Masters programme.

A meeting was held on 27 January 2016 between the SAFETP team, Dr Mayet, Portia Mutevedzi and Provincial Epidemiologists to discuss their role in supervising SAFELTP residents through, the NMC Surveillance Evaluation and teaching the short courses.

A total of 10 residents graduated with a MPH at the University of Pretoria in April 2016. Nine out of ten residents were from the 2014 cohort and 1 from the 2013 cohort. This was the largest SAFETP graduation to date. One resident from the 2014 cohort graduated later in September 2016. The graduation attainment rate was 85%.

**85%**  
Graduation  
attainment rate  
for SAFELTP

## Health Information Management and Applied Epidemiology e-learning epidemiology course

A team comprising of Dr Lazarus Kuonza, Dr Carl Reddy and Mayet contributed to the development of I-Tech modules of the Health Information Management and Applied Epidemiology e-learning epidemiology course for Ministry of Health and SAFELTP. The course aimed at building capacity for Department of Health (DoH) staff. SAFETP staff and residents were involved in the pilot of the same modules.

Dr Lazarus is an honorary lecturer at the University of Pretoria and was responsible for the co-ordination and teaching of 8 modules for the Field Epidemiology Training Programme Track. In addition, he delivered lectures in epidemiology at the Universities of the Witwatersrand and Stellenbosch.

## Outbreak Investigation and Management for Environmental Health Practitioners

SAFETP facilitated a course on Outbreak Investigation and Management for Environmental Health Practitioners from Sedibeng and West Rand districts in June 2016. The course was conducted in Randfontein, at the District Municipality offices

### Basic Applied Epidemiology Short Course

SAFETP staff facilitated a short course on Basic Applied Epidemiology 25 participants at the Sizwe Hospital from April to July 2016 for Gauteng TB programme staff, and organized by the Gauteng Provincial Department of Health.

SAFETP facilitated another short course on Basic Applied Epidemiology for health practitioners organized by the Department of Health in the North West Province in late July 2016. 24 participants attended the course.

Dorothy Southern, the South African Regional Global Disease Detection Centre (SARGDDC) Scientific Writer, facilitated a Scientific Writing Workshop at the National Institute for Communicable Diseases (NICD) in May 2016 for the FETP 2016 cohort.

## Outbreak Investigation and Response

### Paediatric hydrocephalus Investigation in Mohale's Hoek

A cluster of eight cases of paediatric hydrocephalus was identified in Mohale's Hoek (MH) District of Lesotho in 2016. The Ministry of Health then convened a multi-disciplinary national task team to coordinate a comprehensive investigation into the cases. A team of epidemiologists from SAFETP were invited to conduct the investigation. The main objectives of the investigation were: 1) to quantify the magnitude of hydrocephalus in MH district; 2) to establish if the hydrocephalus cases exceeded the expected incidence; 3) to identify possible medical, environmental, nutritional or socio-cultural links between the cases 4) to review existing case management practices; and 5) to recommend possible interagency and multi-sectoral interventions to address the findings.

In total, the residents participated in more than 26 outbreak investigations, conducted 12 large data base analyses and produced the following dissertations as part of their core learning activities:

### SAFELTP Professional Development

- Dr Carl Reddy was elected Chairman of the TEPHINET Advisory Board at the TEPHINET Programme Directors Meeting in Madrid, June 2016. He is also a member of the African Field Epidemiology Network (AFENET) Board, Chairman of the Finance

## SAFELTP Dissertations produced from Outbreak response and data base analysis 2016

1. Hospital-Associated Methicillin-Resistant Staphylococcus aureus: A Cross-Sectional Analysis of Risk-Factors in South African Public Hospitals.
2. Risk Factors of Mortality among Adults Registered on the Routine Drug Resistant Tuberculosis Reporting Database in Eastern Cape, 2011 to 2013.
3. An epidemiological description of viral hepatitis A in Gauteng, South Africa, 2011-2015: A trend analysis
4. Risk factors and antimicrobial resistance patterns of Staphylococcus aureus isolates from meat products in South Africa, 2015-2016
5. Knowledge, attitude and practices regarding the transmission of malaria in Mamfene, Jozini, KwaZulu-Natal 2015
6. Evaluation of the perinatal problem identification program in Limpopo Province, South Africa (2006-2015)
7. Evaluating a 24 hour mobile reporting system for malaria notifications in comparison with a paper based system in South Africa, 2015
8. Healthcare utilisation survey among people with respiratory syndromes in specific suburbs in regions A, B and C of Johannesburg
9. Knowledge attitude and practices of healthcare professionals and care givers regarding immunization of children 0 to 72months, Johannesburg, 2015

and Audit subcommittee and a member of the Human Resources and Quality Assurance subcommittees of AFENET.

At the TEPHINET Program Directors' Meeting held in Madrid, Spain from June 27-29, 2016, the FETP directors of the TEPHINET network voted unanimously to appoint Carl Reddy as the new Chairperson of the TEPHINET Advisory Board. Dr. Reddy currently serves as the Director of the South African Field Epidemiology Training Programme (SAFETP) at the National Institute for Communicable Diseases (NICD), a division of the National Health Laboratory Service (NHLS). He is the first TEPHINET Chairperson representing the African region. As Chairperson, Dr. Reddy will provide support in the supervision, evaluation and direction of TEPHINET, particularly in its technical aspects. A fluent speaker of English, Afrikaans, Spanish, and French, Dr. Reddy has previously served in various technical positions in South Africa and Switzerland. Dr. Reddy succeeds TEPHINET's former Chairperson, Dr. Dato Fadzilah Kamaludin, Director of the Institute for Medical Research of the Ministry of Health of Malaysia. Dr. Kamaludin served as Chairperson from 2013-2016.

- From 15 – 19 February 2016, Dr Carl Reddy SAFELTP Program Director, was part of the review team that visited the Colombia FETP to evaluate their application for TEPHINET accreditation.
- Hetani Ngobeni attended an Introductory RedCap Workshop held at the University of the Witwatersrand - Faculty of Health Sciences on 6 April 2016. Redcap is a web-based system that allows one to create research databases, capture and manage data and export directly to a stats program of one's choice. No installation is required and it is accessible from anywhere as long as there is an internet connection. It is a mobile device friendly and their servers have various levels of back up in place.
- Dr Lazarus Kuonza attended a short course titled: Using Quantitative Bias Analysis with Epidemiologic Data at Stellenbosch University in May 2016. This course teaches methods that can be used to quantitatively estimate the amount of uncertainty that arises as a result of systematic error (or bias) when analysing and interpreting data from epidemiological studies/investigations. He plans to incorporate some of the concepts into the epidemiology courses that we teach to the residents, so that they are able apply the analysis when conducting their field projects.
- Hetani Ngobeni and Gloria Motshudi attended the MS Project Workshop held at AFENET in Kampala, Uganda in May 2016. The course entailed practical training on MS Project which will be beneficial to the Program in developing annual work plans and dividing activities into manageable activities for budgetary control purposes.
- Hetani Ngobeni and Gloria Motshudi attended the ISO9001 training hosted by the NICD and facilitated by the SGS Training Academy which covered the importance of Total Quality Management.

#### SAFELTP Staff

- January 2016 – Dr. Tim Doyle, PHD is the incoming Resident Advisor for the SAFETP.
- Ms Hetani Ngobeni, 2014 Cohort, joined the SAFETP Team as a Field Epidemiologist on the 8th January 2016.
- Ms Gloria Motshudi – was appointed the SAFETP –Project Coordinator, from the 1st February 2016

#### SAFELTP Alumni

Ms. Akhona Tshangela (Cohort 2013) accepted a position as a Field Epidemiologist with Africa CDC based at the Africa Union in Addis Ababa, Ethiopia.

Mr Nevashan Govender (Cohort 2011) was appointed the Operations Manager of the Emergency Operation



Dr Carl Reddy at the AFENET Board of Directors Meeting in Kampala, Uganda

## Dr Carl Reddy

was elected  
Chairman of  
the TEPHINET  
Advisory Board  
at the TEPHINET

Center (EOC) at the NICD. Dr Mayet handed over the EOC operations to Nevashan on the 26 January 2016.

#### Awards

Husna Ismail won a third prize at the AFENET Conference in Abuja, Nigeria in August 2016 for her poster presentation titled: "Epidemiology of drug-susceptible tuberculosis in Gauteng, South Africa, 2012-2014".

The MPH attainment rate increased from 51% in 2011 to the current rate of 85%.

#### Research Output

Erika Britz; Olga Perovic; Claire von Mollendorff; Anne von Gottberg; Samantha Iyaloo; Vanessa Quan; Verushka Chetty; Charlotte Sriruttan; Nazir A. Ismail; Ananta Nanoo; Alfred Musekiwa; Carl Reddy; Karien Viljoen; Cheryl Cohen; and Nelesh P. Govender. The epidemiology of meningitis among adults in a South African province with a high HIV prevalence, 2009-2012. PLoS One

Mandla Mlotshwa; Natasha Abraham; Moira Beery; Seymour Williams; Sandra Smit; Margot Uys; Carl Reddy; Andrew Medina Marino. Risk factors for tuberculosis smear non-conversion in Eden District, Western Cape, South Africa, 2007-2013: a retrospective cohort study. BMC Infectious Diseases.

# WEST AFRICA FIELD EPIDEMIOLOGY AND LABORATORY TRAINING PROGRAM

The West Africa Field Epidemiology and Laboratory Training Program was founded in December 2007 and re-established in 2015 as a competency based training and service program in applied epidemiology and public health that builds the capacity to strengthen the surveillance and response systems in French speaking countries.

The Program covers four countries: Burkina Faso, Mali, Niger and Togo with an overarching goal to progressively cover all French speaking countries in West Africa.

## Cohort Enrolment and trainings

- Cohort Number: 29
- Cohort Start Date: March 2015
- Cohort End Date: June 2017
- Number Enrolled: 30
- Number Graduated (this indicates completion of FETP requirements – not university graduation)
- Cohort Demographics

## Resident Country of Origin

Country	Number	Number Completed an outbreak	Male	Female
Benin	3	3	1	2
Burkina Faso	3	3	3	0
Côte d'Ivoire	4	4	4	0
Guinea	4	4	4	0
Mali	4	4	4	0
Niger	3	3	2	1
Togo	4	4	3	1
Sénégal	4	2	2	0

NB: One resident from Niger passed on in 2015

## Outbreak Investigation and Response List of all outbreak investigations initiated in 2016

Outbreak	Suspected etiology	Number of trainees engaged	Month/year the investigation initiated
Investigation of an Outbreak of Hemorrhagic Fever in Tchaourou, Benin	Lassa virus	3	January 2016
Investigation of Foodborne Outbreak, Malika, Dakar, Senegal	Pesticide	1	January 2016
Investigation of Acute Flaccid Paralysis cases in Siguiri, Guinea	Poliovirus	1	January 2016
Investigation of Meningitis Outbreak in Kouibly District, Ivory Coast,	<i>Neisseria meningitides</i>	1	February 2016
Investigation of Measles Outbreak IN Labé, Guinea	Measles virus	1	February 2016
Investigation of Ebola fever outbreak, Nzérékoré, Guinea	<i>Ebola virus</i>	4	March 2016
Investigation of measles outbreak, Bogandé, Burkina Faso	Measles virus	1	March 2016
Investigation of Measles Outbreak in Keur Massar, Mbao and Dakar	Measles virus	4	March 2016
Investigation of Lassa Fever Outbreak in Oti District, Togo	Lassa virus	4	April 2016
Meningitis Outbreak Investigation in Batié, Burkina Faso	<i>Neisseria meningitides</i>	1	May 2016
Investigation of Dog bite Cases in Bamako, Mali	Rhabdovirus	1	June 2016
Investigation of Pertussis Cases in Dialakon, Mali	<i>Bordetella pertussis</i>	2	July 2016



Investigation of cluster of deaths, in Oadjomboi district of Tchamba, Togo Juillet 2016	Suspected food poisoning	2	July 2016
Investigation of acute diarrhea in Laustre Municipality, Benin	<i>Vibrio cholerae</i>	3	August 2016
Investigation of Food poisoning outbreak in Prere, Benin		3	August 2016
Investigation of Rift Valley Fever outbreak in Tchintabaraden and Tassara, Districts in Niger	Rift Valley fever virus	7	September 2016
Investigation of Avian Influenza in the districts of Golfe and Zio, Togo	Influenza A (H5N1)	4	September 2016
Investigation of dengue fever outbreak, Ouagadougou, Burkina Faso	Flavivirus	2	October 2016
Investigation of Risk Factors for Rift Valley fever Outbreak in Tchintabaraden and Tassara Districts, Niger	Rift Valley fever virus	3	October 2016
Investigation of Gastro enteritis outbreak, in Diana, district of Dianké Makha, Sénégal		1	October 2016

## Publication

### Abstracts presented by residents of the WA FELTP at the 6th AFENET Scientific Conference

Title	Authors	Conference
Epidemiological profile of bacterial meningitis in Benin, 2005 -2014	Mathilde A. HOUSOU; C.K.GLELE ,B.Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Availability and Use of Rapid Diagnostic Tests for Malaria Diagnosis in the Central Health Region of Burkina Faso, 2015	Timothée N. Bationo, Y. Sawadogo, S. Antara, B. Sawadogo, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Incidence of Rubella in Burkina Faso, 2005-2014	Pedwindé Hamadou Seogo, Y. Sawadogo, D. Yelbeogo, B. Ouedraogo, S. Zeba, I. Medah, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Impact of Seasonal Malaria Chemoprophylaxis on Malaria Incidence in a Rural District in Burkina Faso, 2013-2015	Pedwindé Hamadou Seogo, Y. Savadogo, D. Yelbeogo, P. Yanogo, I. Zongo, R. Dao, B. Ouedraogo, A. Traore, B. Bicaba, I. Medah, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Epidemiological Profile of Bacterial Meningitis Cases in Burkina Faso, 2005-2014	Hyacinthe E. Sow, I. Yameogo, B. Bicaba, I. Medah, B. Sawadogo, S. Antara, A. Mc Kenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference

Trend of the Incidence of Meningitis in Burkina Faso, 2005 -2014	Hyacinthe E. Sow , I. Yameogo, B. Bicaba, I. Medah ,B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Sensitivity and Specificity of Latex Rapid Diagnostic Test in the Diagnosis of Meningitis in Burkina Faso, 2005-2014	Hyacinthe E. Sow, I. Yameogo, B. Bicaba, I. Medah, B. Sawadogo, S. Antara, A. Mc Kenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Investigation of Influenza A (H1N1) 2009 Outbreak in a school in Grand Bassam in Ivory Coast, 2015	Felix Koffi Kouadio, P. Acray- Zengbe, Daouda COULIBALY , B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Investigation of Meningitis Outbreak in Kouibly District, Ivory Coast, February 2016	Felix Koffi Kouadio, P. Acray- Zengbe, Daouda COULIBALY ,, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Epidemiological Profile of Ebola Virus Disease in Guinea 2014 - 2015	A. Camara, M. Hann, B. Sawadogo, S. Antara, A. McKenzie, B. Diallo, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trend in the Incidence of Malaria in Guinea, 2009-2014	N. Gomou, P. Bilivogui, T. Guilavogui, M. Keita, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trend of Measles Cases in Mali, 2005-2014	Hanine Keita, M. M. Farka B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trend of <i>Neisseria meningitidis</i> Serogroups in Niger, 2008-2015	Issifou Djibo, I. Alkassoum, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trend of Malaria Incidence in Sentinel Surveillance Sites Senegal, 2010 – 2014	Mamadou S. BA, Médoune Diop, Ibrahima Diallo, Bernard Sawadogo, Simon Antara, Moustapha Cisse, Mady BA, André McKenzie, Mamadou Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Investigation of Pesticide Food Poisoning in Dakar-Senegal, January 2016	MB. Ndiaye, M. Ndiaye, B. Ndoeye , B. Sawadogo, S. Antara , A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Evaluation of Usefulness, Simplicity and Acceptability of Ebola Virus Disease Surveillance System – Senegal, February 2016	I. Sonko, A. Bousso, B. Sawadogo, S. Antara, A. Mc Kenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference

Trend in Incidence of Laboratory Confirmed Measles in Togo, 2005 - 2014	Hamadi Assane, K. Badziklou, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Epidemiological Profile of Laboratory Confirmed Yellow Fever Cases tested in the National Reference Laboratory in Togo from 2004 to 2014	W. A. Halatoko, H. Assane, A. Naba Mouchédou, A. M. Tchalla Y. Layibo, K. Akolly, B. Sawadogo, S. N. Antara, K. Badziklou, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trend of Maternal Mortality in Togo, 2010-2014	A. Tchalla, H. Assane, A. Mouchédou, A. Halatoko, B. Sawadogo, N. Antara, I. Nassoury, K. N'tapi, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Epidemiological profile of Measles in Côte d'Ivoire, 2013-2014	K A N'Guettia, A N Brou, A M Kanga, S Antara, B Sawadogo, A McKenzie, M Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Trends in Incidence of Measles in Guinea, 2004-2015	N. Gbamou, Y. Koita, CT.Sidibé, S. Antara, B. Sawadogo, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Investigation of Suspected Cases of Measles in the Dambantchant District in Guinea, 2015	Nouonan Gbamou, Y. Koita, C. T. Sidibé, F. Guilavogui, K. Fangamou, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Data Analysis of maternal mortality in Bamako-2010 to 2014, Mali.	Y. Koné, Y. Ballayira, H. Kéita, D. Barry, B. Sawadogo S. Antara, M. Diabaté, B. Diarra, M. Coumaré, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
HIV Prevalence, Knowledge, Attitudes and Practices among Men who have Sex with Men in Niger, 2015	Batouré Oumarou, M. Djibrilla, G. Savadogo, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Descriptive Epidemiology of HIV/AIDS in Niger, 2005-2014	Laurent C. Mariame, Issa Kanta, B. Sawadogo, S. Antara, A. McKenzie, M. Sawadogo	6 <sup>th</sup> AFENET Scientific Conference
Investigation of a Lassa fever outbreak, Oti district, Togo, March-April 2016	Wemboo A. Halatoko, Simon-Pierre A. Assane, Bernard Sawadogo, Simon N. Antara, Kossi Badziklou	6 <sup>th</sup> AFENET Scientific Conference

### TEPHINET Mini grants won by residents

No	Resident	Country	Topic
1	Akoklanou Albert Houssou	Benin	Analysis of cardiovascular disease surveillance data in Benin, 2011-2015
2	Halatoko Wemboo Afiwa	Togo	Evaluation of diabetes and hypertension surveillance systems in Togo, 2016
3	Lazile Bougouyou Franck Olivier	Cote d'Ivoire	Trend of Road traffic injuries in Abidjan, Cote, 2011-2015
	Lazile Bougouyou Franck Olivier	Cote d'Ivoire	Development of road traffic injury surveillance system in Abidjan: A pilot study
4	Pedwinde Hamadou Seogo	Burkina Faso	Profile of Hypertension Cases seen in Ouahigouya district health facilities in Burkina Faso, 2007-2014
5	Laurent Comlan Marianne Bonkano	Niger	Factors influencing non-use of maternity services at Bossey Bongou health center in Niger 2016
6	Sonko Ibrahim	Senegal	Timeliness of detection of infectious disease outbreak in Senegal, 2003-2013
7	Djibril Barry	Mali	Determinants of perinatal mortality in Sikasso Region in Mali, 2016

# ZIMBABWE FIELD EPIDEMIOLOGY TRAINING PROGRAM



The Zimbabwe Masters in Public Health Program is a 2-year competency based training that consists of classroom teaching (30%) and on the job field training (70%). The MPH program was established in 1993 with the aim of assisting the Ministry of Health and Child Welfare create a permanent capacity to recruit, train, and employ public health practitioners to sustain the public health infrastructure.

The MPH program is operated from two sites: the DCM at the College of Health Sciences, of University of Zimbabwe (UZ) and the Health Studies Office (HSO) in MOHCW.

Since 1993, the program has enrolled 25 Cohorts of which three are part-time. The part-time program was initiated in 2008 with an intake of 10 trainees. Since 2003, the full time program has experienced an increase in intake from 4 to 20 residents per cohort. A total of 259 trainees have been enrolled in the last 25 years. Of these 235 (90.7%) have successfully graduated with an MPH degree.

## Training and related activities

### Cohort XXIII training completion

All 11 Cohort XXIII residents successfully completed training in November of 2016. These include 7 medical doctors, Environmental Health Officer, Veterinarian, Nurse and Occupational Therapist.

### Cohort XXII Graduation

Eighteen (18) of 19 cohort 22 residents graduated with an MPH degree at the University of Zimbabwe on 29 September 2016. These included 3 medical doctors, 6 Environmental Health Officers, 3 Nurses, 2 Nutritionists, 2 Occupational Therapists and 2 Health Promotion Officers.

### Outbreak Investigations and Field Activities

Residents were involved in a number of outbreak investigations and evidence from these investigations proved vital in informing control activities. Residents together with health officials from the Ministry of Health and Child Care were involved in field investigations, risk factor analysis, instituting control measures including community health education.

## Outbreaks investigated in 2016

1. Hospital-Acquired Neonatal Sepsis Outbreak in an Intensive Care Unit at a Referral Hospital, Zimbabwe, 2016
2. An investigation of an anthrax outbreak in Makoni District, Manicaland Province, 2016
3. Factors associated with contracting malaria in Ward 18, Mazowe District, Zimbabwe 2016
4. Investigation of an Anthrax outbreak in Bikita District, 2016
5. Foodborne Outbreak Investigation at Churchill Boys High School, Harare, Zimbabwe 2016
6. Malaria Outbreak Investigation, Hurungwe District 2016

## Surveillance evaluations

1. Evaluation of the Adverse events following immunization surveillance system, Buhera District, 2016
2. Evaluation of the Tuberculosis Case notification system, Mhondoro-Ngezi District, 2016
3. Evaluation of the Malaria Elimination Surveillance System in Umzingwane District, Zimbabwe, 2016
4. Evaluation of HIV Medicines Adverse Drug Reactions Surveillance System, Harare Central Hospital, 2016

## Epidemiologic studies

1. Factors Associated with Late Focused Antenatal Care Utilisation in Seke District, Zimbabwe, 2016
2. Factors associated with uncontrolled hypertension in PLHIV in Kadoma City, 2016
3. Factors associated with uptake of second dose of intermittent preventive treatment in pregnancy in

Shamva District, Mashonaland Central Province, 2016

4. Factors associated with Hypertension among Health Care Workers, Insiza and Matobo Districts, 2016
5. Factors associated with unintended pregnancies among HIV positive women in Harare, Zimbabwe
6. Uptake of HIV testing and counselling in male partners of pregnant women at ANC, Mwenezi District, 2016
7. Factors associated with uptake of HIV testing in Seke District, 2016
8. Burden and Correlates of Hypertension among Adults aged 25 years or Older in Centenary District, Mashonaland Central Province, Zimbabwe, 2016
9. Treatment failure among patients on first line ART, Bulawayo City, 2016
10. High Defaulter Rate of Paediatric Antiretroviral Therapy in Hwange Matabeleland North Province, 2016
11. Determinants of seroconversion among HIV exposed infants on Option B+ in Murehwa District, 2016

### Conferences, Meetings and Workshops

#### Zimbabwe Annual Medical Research Day

Seven (7) residents presented at the annual Medical Research day held at the Rainbow Hotel on the 22nd of October 2016. They presented a total of nine (9) papers on various topics including HIV and AIDS. Below are details of the presentations. Dr. Eliot Chikati's paper titled, 'Analysis of trends in early infant diagnosis of Human Immunodeficiency Virus and Antiretroviral Therapy initiation, Mashonaland East Province; 2011-2015' was voted the best provincial paper and he was awarded a trophy.



Dr. Elliot Chikati (Resident Zimbabwe FETP in black suit) receiving his cash prize from the Dean of the College of Health Sciences, Prof. Midion Chidzonga during the Zimbabwe Annual Medical Research Day

#### Zimbabwe FETP Presentations at the Annual Medical Research Day 2016

Name of Resident	Title of presentation	Presentation Type	Awards
1. Dr. Elliot Chikati	Analysis of trends in early infant diagnosis of Human Immunodeficiency Virus and Antiretroviral Therapy initiation, Mashonaland East Province; 2011-2015	Oral	Awarded a floating trophy for the best provincial paper and USD200 which is the Dr. T. Chimbadzwa prize
	Salmonellosis at a Private Girls High School in Marondera District, Zimbabwe, 201-A retrospective Cohort study	Poster	Nil
2. Dr. Clorata Gwanzura	Factors Associated with Contracting Malaria in Ward 19, Bindura District, Mashonaland Central Province, Zimbabwe, 2016	Oral	Nil
3. Ms Romana Katekwe	Evaluation of Maternal and New-born Health Programme Focusing on Revitalisation of Maternity Waiting Homes in Mashonaland East Province, Zimbabwe, 2015	Oral	Nil
4. Ms Alice Dzvukamanja	Heavy metal poisoning in Shamva District, Zimbabwe, 2015 - A Case Control Study	Oral	Nil
	Evaluation of the Risk Surveillance System in Rushinga District, Mashonaland Central Province, Zimbabwe, 2015	Oral	Nil
5. Dr. Chiedza Mupanguri	Non-Uptake of second dose of intermittent preventive treatment in pregnancy (IPTp2) in Shamva District, Zimbabwe, 2016 : A case control study	Oral	Nil
6. Dr. Nzwisisai Chokuda	Evaluation of Perinatal Surveillance System in Hwange District, Matabeleland North Province, Zimbabwe, 2015	Oral	Nil
7. Dr. Tawanda Gwinji	Risk factors for contracting human anthrax in Bikita District, 2016	Oral	Nil

**10 residents**  
presented their  
papers at the 6th  
AFENET Scientific  
Conference  
in Abuja

### International AIDS conference

Ms. Tsitsi Juru, a graduate of the program from Cohort XXII made a poster presentation at the 21st International AIDS conference held in Durban, South Africa from 18 to 22 July 2016. Presentation titled 'Acceptability of HIV self-testing as an HIV Screening Strategy in Beitbridge, Zimbabwe'

### Zimbabwe FETP Alumni activities

The Zimbabwe FETP launched its alumni association on 23 June 2016. A total of 123 participants attended the launch. The Honorable Minister of Health and Child Care, Dr. David Parirenyatwa was the chief guest accompanied by dignitaries such as the CDC Zimbabwe Director, Dr. Beth Barr. During the same launch a program website was launched. [www.zimfetp.net](http://www.zimfetp.net)



Participants at the Zimbabwe FETP Alumni Association Launch (L-R) The Permanent Secretary for Health, Brigadier General (Dr) Gerald Gwinji, The Honorable Minister of Health and Child Care, Dr. David Parirenyatwa (Guest of Honor), Dr. Gerald Shambira, Dr. Kudzai Masinire, Dr. Agnes Mahomva, Country Director, EGPAF and Dr. Beth Barr, CDC Zimbabwe Country Director



Prof Mufuta Tshimanga, Zimbabwe FETP Program Director delivers his speech during the Zimbabwe FETP Alumni Association launch in Harare

### Publications

1. Makoni Annamercy, Chemhuru Milton, Chimbetete Cleopas, Gombe Notion, Mungati More, Bangure Donewell, Tshimanga Mufuta. Factors associated with male involvement in the prevention of mother to child transmission of HIV, Midlands Province, Zimbabwe, 2015 - a

case-control study. Available at:

<http://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-016-2939-7>.

Published 14/04/2016. DOI:

10.1186/s12889-016-2939-7

2. Nyika Howard, Mugurungi Owen, Shambira Gerald, Gombe Notion Tafara, Bangure Donewell, Mungati More, Tshimanga Mufuta. Factors associated with late presentation for HIV/AIDS care in Harare City, Zimbabwe, 2015. Available at:

<http://www.biomedcentral.com/1471-2458/16/369>.

Published 03/05/2016.

DOI: 10.1186/s12889-016-3044-7

3. Nomazulu Mpande, Camillio Fungai Chinamasa, Portia Manangazira, More Mungati, Lucia Takundwa, Donewell Bangure, Notion Tafara Gombe, Mufuta Tshimanga. Factors Associated With Uncontrolled High Blood Pressure Amongst Patients With Hypertension At Harare Central Hospital In Zimbabwe. Journal of Hypertension and Cardiology. Available at:

[http://www.openaccesspub.org/journals/jhc/view-article.php?art\\_id=310&jid=2](http://www.openaccesspub.org/journals/jhc/view-article.php?art_id=310&jid=2).

Published 12/07/2016

DOI: 10.14302/issn.2329-9487.jhc-16-1020

### VISITORS TO THE PROGRAM

The Zimbabwe FETP is hosted two undergraduate interns from Williams College in the USA. These are Madeline Walsh and Esther Kim. They commenced their internship on 8 June 2016 and completed on 22 July 2016. During their stay they were involved in a couple of activities including accompanying residents on field investigations, giving talks to the part I residents as well as at the MPH monthly meetings. They took part in weekly proposal review meetings, secondary data analysis, compiling program weekly updates as well as field sites visits.



Madeline Walsh and Esther Kim pose for a photo with Zimbabwe FETP Cohort XXIV residents

# ZAMBIA FIELD EPIDEMIOLOGY TRAINING PROGRAM



The Zambia Field Epidemiology Training Program (ZFETP) started in 2014. ZFETP, with support from CDC, has been incorporated into the Ministry of Health's epidemic preparedness and response through the Zambia National Public Health Institute (ZNPHI).

From 2014 through June 2017, two trainings have been conducted; advanced cohort one (6 residents), one intermediate (13 residents) and is currently training a second advanced cohort (8 residents).

To date, ZFETP residents have investigated at least 16 outbreaks. The residents have presented their findings at conferences such as AFENET conference (seven residents in 2016), TEPHINET (one in 2015), and EIS international night (one in 2016). Their work has been published in journal such as The Zambia Health Press and CDC's MMWR.

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One cohort one resident, Dr Nyambe Sinyange is now the Program Manager for Zambia FETP. Another graduate from cohort one has been promoted to the position of Public Health Specialist in one of the provinces.

The program focuses on Ministry of Health national priorities, public health needs. It uses existing public health infrastructure to strengthen the public health surveillance and response systems for priority diseases.

## Didactics and Training

- The program enrolled its first cohort of six residents in August 2014 who completed their training in July 2016. This is a two year masters by research program in Field Epidemiology
- Launched Level One hybrid of Basic & Intermediate curriculum training in December 2015 with first work-



Zambia FETP program Director: Dr Nyambe Sinyange



Zambia FETP cohort 1 residents in Abuja

shop of 13 trainees who completed in May 2016.

- Recruited the second cohort of 7 residents in September 2016 for the Advanced 2 year masters by research FETP from September 2016 - September 2018.

The CDC has contributed to the growing success of the program through support of resident advisors: Dr Kip Baggett and Dr Ellen Yard and strong mentorship through Ramya Kummar and Dr Richard Dicker.

Dr Nyambe Sinyange, a Cohort I resident is the Program Manager for Zambia FETP. Another graduate from cohort one has been promoted to the position of

Public Health Specialist in one of the provinces.

The program focuses on the Ministry of Health national priorities, public health needs. It uses existing public health infrastructure to strengthen the public health surveillance and response systems for priority diseases.

Zambia FETP has conducted one advanced level FETP, one level 1 training and has currently enrolled a second advanced level training. The second level 1 training is expected to start in October 2017.

### Zambia FETP Cohort I Enrollment:

Six residents were enrolled in the program in 2014. The cohort was a mix of backgrounds that included three medical doctors, a nurse, an environmental health officer and a demographer.

The residents all made presentations at the AFENET conference in Abuja, Nigeria in 2016.

Five of the residents managed to publish outbreak investigations the Zambia Health Press and one published in the

One of the residents presented at 8th TEPHINET conference in Mexico and one in USA at the international night.

Cohort I pioneered FETP in Zambia using 75% fieldwork versus 25% classwork approach.

Outbreaks investigated included Cholera in Lusaka (Patrick Kabwe, Francis hadunka, Nyambe Sinyange), Meningococcal meningitis at a boarding school in Kabompo (Loveness Moonde and Ernest Kateule), Konzo in western province (Akatama Inambao and Patrick Kabwe), plague in Nyimba (Nyambe Sinyange, Loveness Moonde, Inambao Akatama).

One of the residents from cohort I (Dr Nyambe Sinyange) is now the program manager for ZFETP. Another graduate from cohort 1 has been promoted to the position of Public Health Specialist in one of the provinces in the country. The skills and knowledge acquired during this training are being recognized and appreciated at all levels of the Ministry of Health.

Table showing program activities

Main Activities	Target /Implementation Period	Source of Funds	Status
Public Health Surveillance System Evaluation Training	Train 7 Cohort 2 Residents in October 2016.	PEPFAR	Achieved
Outbreak Investigation Training	Train 7 Cohort 2 residents week of December 12 2016	PEPFAR	Achieved
Office Supplies and Equipment	First and Second quarter 2017	PMI/PEPFAR	On track
Anthrax Outbreak in Shang'ombo District	January 2017 (Second quarter)	PMI	Conducted

Progress of Manuscript writing by Zambia FETP

Fellow	Manuscript Topic	Status
Nyambe	Outbreak of plague in a high malaria endemic region-Nyimba district, Zambia, March-May 2015	Completed; published in MMWR
Ernest	Mumps outbreak	Completed, submitted to PAMJ: Currently with reviewers
Patrick	Cholera outbreak	Completed, published in the Zambia Health Press
Biggie	Malaria surveillance	Completed, published in the Zambia Health Press
Loveness	Meningitis outbreak	Completed, published in the Zambia Health Press
Francis	TB mortality risk factors	Completed, published in the Zambia Health Press
Fellow	Thesis Topic	Status
Nyambe	N/A	N/A
Ernest	VMMC barriers among college students	Completed submitted for marking at UNZA
Patrick	Full vaccination compliance	Completed draft; awaiting UNZA marking
Biggie	IRS and ITN intervention	Completed draft; awaiting marking
Loveness	Provider compliance with dysentery guidelines	Completed: Being reviewed UNZA supervisors
Francis	TB mortality risk factors (same as manuscript)	Completed: Being reviewed UNZA supervisors

# FRONTLINE FIELD EPIDEMIOLOGY TRAINING PROGRAMS

The African Field Epidemiology Network (AFENET) with support from the US Centers for Disease Control and Prevention (CDC) has collaborated with Ministries of Health in Sub Saharan Africa to implement Frontline Field Epidemiology Trainings for several cadres of public health workers.

Implementing countries during the 2015/2016 financial year included: Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Nigeria, Senegal, Sierra Leone, The Gambia, Tanzania, Togo and Uganda. Several technical and administrative staff have been hired and placed in the countries to spearhead the above activities.

## Benin Frontline Field Epidemiology Training Program

The African Field Epidemiology Network in collaboration with the US CDC supported the Ministry of health in Benin to establish a Frontline FETP for surveillance officers and other Public health workers. The African Field Epidemiology Network supported a number of program activities during this reporting period as highlighted below.

### Program staffing

	Name	Position	Country of Origin
1	Dr Nestor Noudeke	Resident Advisor	Benin
1	Dr Otshudi'a Ndjeka Joseph	Field Coordinator	DRC
2	Ms Almeida Natacha	Administrator	Benin

First cohort includes 25 participants comprised of 16 Medical officers and 9 Expanded Program on immunization officers from the various districts in Benin.



Group Photo: Cohort I after the Second didactic Workshop Aug 16 – 20, 2016

## Burkina Faso Frontline Field Epidemiology Training Program

The African Field Epidemiology Network in collaboration with the US CDC and the CDC country office in Burkina Faso supported the Ministry of Health Start Frontline Field Epidemiology training program for public health surveillance officers and other health care workers. AFENET has worked with partners to implement the following activities during this reporting period:

### Staff Recruitment

	Name	Position	Country of Origin
1	Dr Otshudi'a Ndjeka Joseph	Resident Advisor	DRC
2	Dr Malik Coulibaly	Field Mentor	Burkina Faso
3	Zagre Sindy	Administrator	Burkina Faso



Cohort I Participants in a group Photo in KOUDOUGOU

## Cameroon Frontline Field Epidemiology Training Program

The African Field Epidemiology Network subcontracted the Care and Health Program (CHP) to support the Ministry of Health in Cameroon to implement the Frontline Field Epidemiology Training program. During this reporting period, CHP with financial support from AFENET. AFENET works in collaboration with the Cam-



eroon FETP and the Ministry of Health- Cameroon.

First cohort constitutes 28 public health workers. The second cohort from the Eastern region of the country comprised of 22 participants two of whom were doctors while 20 were nurses. They started training in May and completed in August 2016. In August 2016 the program started training for the third cohort comprised of nine doctors and 14 nurses and it is anticipated that these will successfully complete their training in November 2016.



Participants at the official launching of the Frontline FETP with the Regional Public Health Delegate (DRSP), the CAFETP Resident Advisor (Front row 3rd Left) & the Director of the Division of Disease Control (DLMEP), Dr Etoundi Mbala (Front Row 4th Left)

### Cote d'Ivoire Frontline Field Epidemiology Training Program

The African Field Epidemiology Network and the US CDC supported the Ministry of Health in Cote d'Ivoire to establish a frontline field Epidemiology training program for public health workers.

#### Program Staffing

The table below shows the current Frontline FETP staff.

	Name	Position	Country of Origin
1	Dr Aissatou Fall	Resident Advisor	Canada
2	Benedicte Kouadio	Administration	Cote d'Ivoire

Cote d'Ivoire Frontline program implemented two cohorts of frontline field Epidemiology training for surveillance officers, Expanded Program on Immunization Coordinators, Heads of Health Services, laboratory managers and veterinarians. The table below provides a summary of the participants by titles for each of the two cohorts.

Cohort I had 24 participants while Cohort II had 24 participants

### Democratic Republic of Congo Field Epidemiology Training Program

The African Field Epidemiology Network has collaborated with the US CDC to support the Ministry of Health to establish a frontline field epidemiology training program for public health workers.

### Program Staffing

	Name	Position	Country of Origin
1	Dr Alain Nzanzu Magazani	Resident Advisor	DRC
2	Nana Mwadi Kudinga	Administrator	DRC

The first cohort comprised of 29 Public Health workers started their training in June and completed in September 2016. These were drawn from Pool Kinshasa made up of Kinshasa, Kingo Central, and Old Bandundu and Equator provinces.



Frontline FETP Cohort I Graduation ceremony

### Gambia Frontline Field Epidemiology Training Program

The African Field Epidemiology Network, the US Center for Disease Control and Prevention and QED in collaboration with the Gambia Ministry of Health started frontline field epidemiology training program for public health workers. The program is aimed at building the much needed field epidemiology capacity for a strong disease surveillance and response system capable of timely detection and response to epidemics and other public health threats in the Gambia. AFENET supported the following activities; Surveillance system assessment, Frontline FETP implementing partner's workshop, hiring of technical and administrative program staff, first cohort training and mentors training.

#### Program Staffing

	Name	Position	Country of Origin
1	Dr Peter Adewuyi	Resident Advisor	Nigeria
2	Dr Aminu Sudawa	Field Coordinator	Nigeria
3	Bakary Jammeh	Administrator	Gambia

#### The program attained volunteer mentors:

1. Dr Mohammadou Cham (Registrar, Medical & Dental Council-The Gambia)
2. Bakary Sonko (Director, Mental Health Department, MoH)
3. Bakary Sanneh (Deputy Director of Laboratory, MoH, The Gambia)

#### 4. Lamin Ceesay - Regional Director of Health Services- Upper River Region



(L-R) Front row: Dr Peter Adewuyi ( Resident Advisor), Mr Sana Sambou ( Director: Epidemiology & Disease control, Dr Herbert Kazoora ( Epidemiologist- AFENET), Mr. Jammeh Bakary ( GamFETP Administrator), Lamin Manneh ( Surveillance Officer- MoH & Program PoC), Back row: Dr Aminu Sudawas ( Epidemiologist- GamFETP), Mr Samuel Twinomugisha ( Senior Admin- AFENET)

The first cohort of the frontline field epidemiology training was launched with the first didactic workshop held from August 1-5, 2016. There were 25 participants; 8 from the Epidemiology and Disease Control (EDC) Unit, 7 from the regional health teams, 4 from health facilities, one each, from directorate of planning and information and directorate of research, and 4 from the health programs: environmental health, public health laboratory, health information management and expanded program on immunization (EPI).

#### Ghana Field Epidemiology Training Program

The Ghana FELTP has adopted the Basic FETP for frontline health workers. This move aims to boost public health awareness and response among Frontline health workers. The purpose of these workshops was for participants to share the findings of their project work with faculty, stakeholders and residents.

#### Participants trained and graduated per region:

Northern Region and Brong Ahafo Region  
A total of 33 (94 %) out of 35 participants trained graduated in the Northern Region whiles 34 (87%) out of 39 participants trained graduated in the Brong Ahafo Regions.

#### Central Region

A total of 34 (94%) out of 36 participants who participated in this training graduated and were awarded certificates.

#### Eastern Region

A total of 34 (97%) out of 35 participants who participated in this training were awarded Certificate of completion.

#### Western and Volta Regions

A total of 32 (94%) out of 34 participants graduated in the Western Region and were awarded certificates.

A total of 33 (94%) out of 35 participants graduated with certificates at the dissemination workshop in the Volta Region.

#### Frontline Basic FETP Workshop in Koforidua, Eastern Region

A total of 38 Disease Control Officers, Health Information Officers, Public Health Nurses, Veterinary Officers and Pharmacists were trained in a Basic FETP workshop from 4 – 15 April 2016. This training was the 4th frontline training held in Koforidua – Eastern Region in Ghana. A total of 8 districts participated in this workshop.



(L-R): Dr. Mark Kofi Tettey, Regional Veterinary Officer - Volta Region, Dr. Joseph Teye Nuertey Regional Director of Health Services – Volta Region, Prof. Col. Edwin Afari (Rtd.), Coordinator – GFELTP, Dr. Philip Ricks, CDC Resident Malaria Advisor – Ghana, Dr. Owen Laws Kaluwa, WHO Country Representative, Dr. Samuel Sackey – Field Coordinator, GFELTP with participants and facilitators at the Volta Region Dissemination workshop

#### Guinea Bissau Frontline Field Epidemiology Training Program

The African Field Epidemiology Network and the US CDC in collaboration with the Ministry of Health in Guinea Bissau established the frontline Field Epidemiology Training Program for public health workers in Guinea Bissau.

#### Program Staffing

	Name	Position	Country of Origin
1	Fernanda Bruzadelli Paulino Da Costa	Resident Advisor	Brazil
2	Geraldo Anibal Chambe	Field Mentor	Mozambique
3	Maria Aissa Goia Vaz	Finance & Administration	Guinea Bissau
4	Agostinho Gomes Betunde	Administrative assistant	Guinea Bissau
5	Califa Djalo	Driver	Guinea Bissau

AFENET supported two cohorts of frontline field epidemiology trainings comprised of 10 and 13 participants respectively drawn from the ministry of health and Ministry of livestock surveillance departments. The first cohort enrolled into the three months program on 7 March 2016 and completed on 1 June 2016.



US Ambassador to Guinea Bissau ( 2nd Left) at the official opening ceremony of the first cohort of the Frontline FETP

## Second Cohort Training

The second cohort of 13 participants started on June 14 and completed their three months training on September 2, 2016.

## Liberia Frontline Field Epidemiology Training Program

The Liberia Frontline Field Epidemiology Training Program was established in 2015 as a Basic Frontline Field Epidemiology Training Program. The 3 months basic training targeted health workers with the aim to strengthen the public health system in Liberia. The program was established in the aftermath of the devastating Ebola Outbreak in West Africa. By December 2016, four (IV) cohorts has been trained. The program is headed by the Resident Advisor - Dr Maame Amo-Addae. She works with two Field Co-ordinators (Dr Peter Adewuyi and Mr Joseph Frimpong) and two administrative support staff.

### Program Staffing

	Name	Position	Country of Origin
1	Dr Maame Amo - Addae	Resident Advisor	Ghana
2	Dr Peter Adewuyi	Field Mentor	Nigeria
3	Mr Joseph Asamoah	Field Mentor	Ghana
4	Lily Sanvee Blebo	Program Administrator	Liberia
5	Faith Kamara Whesseh	Administrative Assistant	Liberia

The program has four cohorts since establishment.

Cohorts III and IV residents successfully completed their training. The Resident Advisor - Dr Maame Amo-Addae conducted mentorship visits for 6 District Surveillance Officers (DSOs) in Maryland County for Cohort III, and 5 DSOs in Gbarpolu County and later, 2 DSOs from Bong County and 2 national level trainees. Some of the mentorship was undertaken during outbreak responses and case investigations.



Dr Maame supervising the investigation of suspected Yaws outbreak investigation in Maryland during the Cohort III Field Mentorship

## Mali Front line Field Epidemiology Training program

The African Field Epidemiology Network in collaboration with the US CDC and CDC country office supported the Ministry of Health in Mali to establish a frontline field epidemiology training program for public health workers. During this reporting period, a number of activities have been undertaken and supported by the African Field Epidemiology Network as highlighted below:

### Program Staffing

	Name	Position	Country of Origin
1	Dr Traore Bouyagui	Resident Advisor	Mali
2	Dr Ken Kayembe	Field Coordinator	DRC
3	Mr Djibril Doucoure	Administrator	Mali

The program launched the first cohort in September 2016. A training of trainers was conducted from 26 – 28 September 2017 which aimed at introducing mentors to the essential elements of the frontline FETP, curriculum and training materials, key principles of adult learning, mentors manuals and their roles & relationships with trainees in the field. These mentors participated in the first didactic workshop for the first cohort planned for 10 -14 October 2016.

## Mauritania Front line Field Epidemiology Training program

The African Field Epidemiology Network and the US CDC with support from the US Embassy in Mauritania collaborated with the Ministry of Health in Mauritania to establish a frontline field epidemiology training program to build capacity for early detection, reporting and response to public health events among health workers. During this reporting period, AFENET supported and completed the following activities.

## Program Staffing

	Name	Position	Country of Origin
1	Dr Andre Misombo	Senior Epidemiologist	DRC
2	Vatma Baba	Administrative Assistant	Mauritania
3	Byaby Brahim Cheddad	Cleaner	Mauritania

The first cohort of frontline FETP was officially launched by the Secretary General for Health and the US Ambassador in Mauritania on September 21 and ended on September 26, 2016. A total of 24 participants were trained and will complete their three months training in December 2016.

### Nigeria Frontline Field Epidemiology Training Program

The Federal Ministry of Health in Nigeria and the African Field Epidemiology network with funding and technical support from the US CDC have initiated a frontline Field Epidemiology Training Program for public health workers in Nigeria.

Frontline Field Epidemiology Training Program held an orientation/training in from 18 -20 January 2016.

The African Field Epidemiology Network Support the program in Nigeria to train six frontline FETP cohorts drawn from; Kano, River state, Benue, Lagos, Bauchi, Gombe, Anambra & Enugu state. Nigeria has 36 states (grouped in 6 geo-political zones, GPZs) which are divided into 774 Local Government Areas (districts). Each LGA has a Disease Surveillance and Notification Officer (DSNO) and a Monitoring and Evaluation (M&E) officer.

#### First Cohort of Frontline FETP

The first cohort comprised of 156 participants drawn Kano state started their training on February 1 and completed April 11. The didactic workshops & field mentorship were facilitated by graduates of the advanced Nigeria FELTP with a ratio of 1 Mentor for 8 participants. The table below show the distribution of participants by title and duty station.



Cohort 1 participants with the Commissioner of Health (in the middle in white robes), Public Health Officials at the Closing Ceremony in Kano

#### Second Cohort of Frontline FETP

The second cohort comprised of 90 participants drawn from River state started their training on February 8 and completed with a certification ceremony on April 25



The Rivers FETP-Frontline Graduates Holding their Certificates in a Photograph with Facilitators, Mentors and Public Health Official

#### Third Cohort of Frontline FETP

The third cohort comprised of 53 participants drawn from Benue state started their training on May 9 and completed with third workshop July 18.

#### Fourth Cohort of Frontline FETP

The fourth cohort comprised of 96 participants drawn from Lagos state started their training on May 16 and completed with third workshop August1, 2016.

#### Fifth Cohort of Frontline FETP

The fifth cohort comprised of 125 participants drawn from the northeastern states of Bauchi & Gome started their training on July 25 and will complete in October 2016.

#### Sixth Cohort of Frontline FETP

The fifth cohort comprised of 130 participants drawn from the Southeastern states of Anambra & Enugu started their training on Aug 15 and will complete in October 2016.

### Frontline FETP Workshop for Resident Advisors and Administrator

The Frontline Resident Advisor, Dr. Muhammad Shakir and Gloria Okara, the Frontline Administrator, attended a one-week workshop from 12 – 17 December, 2016 to share experiences on the implementation of the Frontline program in Nigeria. The meeting was organized by the AFENET Secretariat and held in Kampala, Uganda for all Frontline Resident Advisors.



### Senegal Frontline Field Epidemiology Training Program

The African Field Epidemiology, the US CDC, QED and the Ministry of Health and Social Action (MOHSA) in Senegal established Frontline FETP for public health workers in February 2016. The Ministry of Health and Social Action has provided office to host the program as a sign of commitment on its part but also ensuring sustainability.

#### Program staffing

	Name	Position	Country of Origin
1	Dr Ditu Kazambu	Resident Advisor	Britain
2	Cogna Ndoye	Administrator	Senegal

#### Training of the First and Second Cohorts of the Frontline FETP

The first Cohort of 23 public health workers undertook the first didactics on 22 – 27 February 2016 and only 21 completed their three months training with a graduation & dissemination workshop on May 21, 2016.

The second cohort undertook didactics from 20 June – 23 Sept 2016. A total of 24 participants; medical doctors (21) and veterinary doctors (03) were enrolled into the program but 21 completed after the 3 of them drop out.



Group Photo: First Cohort participants with deputy US Ambassador, CDC Country Director & the Resident Advisor in Senegal after receiving their certificates

### Sierra Leone Frontline Field Epidemiology training Program

The African Field Epidemiology Network and the US CDC in collaboration with the ministry of Health and sanitation in Sierra Leone started a frontline Field epidemiology training program for public health workers in January 2016.

#### The first and second cohort of Frontline Field Epidemiology Training

The first cohort of 20 surveillance officers was launched on 13 June 2016 with 18 of these completing their three months training with a graduation ceremony on the 9 September 2016.

The frontline FETP in Sierra Leone initiated the second training on September 25 with a one week didactic

workshop from 25 September– 2 October 2016.

### Tanzania Frontline Field Epidemiology Training Program

The Tanzania Field Epidemiology training program has been implementing the frontline program since 2015 with support from the Defense Threat Reduction Agency of the US Government. During this reporting period, the African Field Epidemiology Network supported the program with maintaining contracts for the Resident Advisor, Field Coordinator and Administrator as per the breakdown below:

	Name	Position	Country of Origin
1	Senga Sembuche	Resident Advisor	Tanzania
2	Nsiade Lema	Field Coordinator	Tanzania
3	Virgilia Kilian	Administrator	Tanzania

Cohorts I comprised of 28 participants completed their training while the other will complete in 2017. Cohort II comprised of 28 participants. Cohort III comprised of 39 participants.

### Togo Front line Field Epidemiology Training Program

The African Field Epidemiology Network is working with the US CDC supported the Ministry of Health in Togo to establish a frontline field epidemiology training program for public health workers. During this reporting period, a number of activities have been undertaken and supported by the African Field Epidemiology Network as highlighted below:

#### Office Staffing.

	Name	Position	Country of Origin
1	Dr Rebecca Kinde	Field Coordinator	Togo
2	Mr Kokume Kamassa	Administrator	Togo

### Uganda Frontline Field Epidemiology Training Program

The African Field Epidemiology Network and the US CDC supported the Ministry of Health in Uganda to establish frontline field epidemiology trainings for public health workers in Uganda.

The training aims to improve surveillance and outbreak response at the local level and local health managers as well as increase the Uganda public health systems' ability to identify and respond rapidly to a possible introduction of infectious diseases including Ebola, by improving collection, analysis, and dissemination of public health data at the local levels.

The training was initiated as a collaboration between the Centers for Disease Control and Prevention (CDC), Centers for Global Health (CGH) the African Field Epidemiology Network (AFENET) and Ministry of Health Uganda. A total of 70 health workers have been trained in 3 cohorts.

### Program Staffing

	Name	Position	Country of Origin
1	Dr Hasifa Bukirwa	Resident Advisor	Uganda
2	Dr Eric Ikoona	Field Mentor	Uganda
3	Manzi Ronald	Administrator	Uganda

### Summary of 2016 Frontline Activities

- Trained three cohorts by December 2016
- Cohort 1 done in Kampala for with 14 participants
- Cohort 2 done in Gulu for Nothern region with 30 participants
- Cohort 3 done in Masaka for central region with 26 participants
- Cohort 4 for western region started this quarter in Mbarara with 27 participants
- Cohort 3 included Luwero, Mpigi, Kalangala, Rakai (20 participants)
- Two mop-up participants from Amuru. Four additional participants at national level

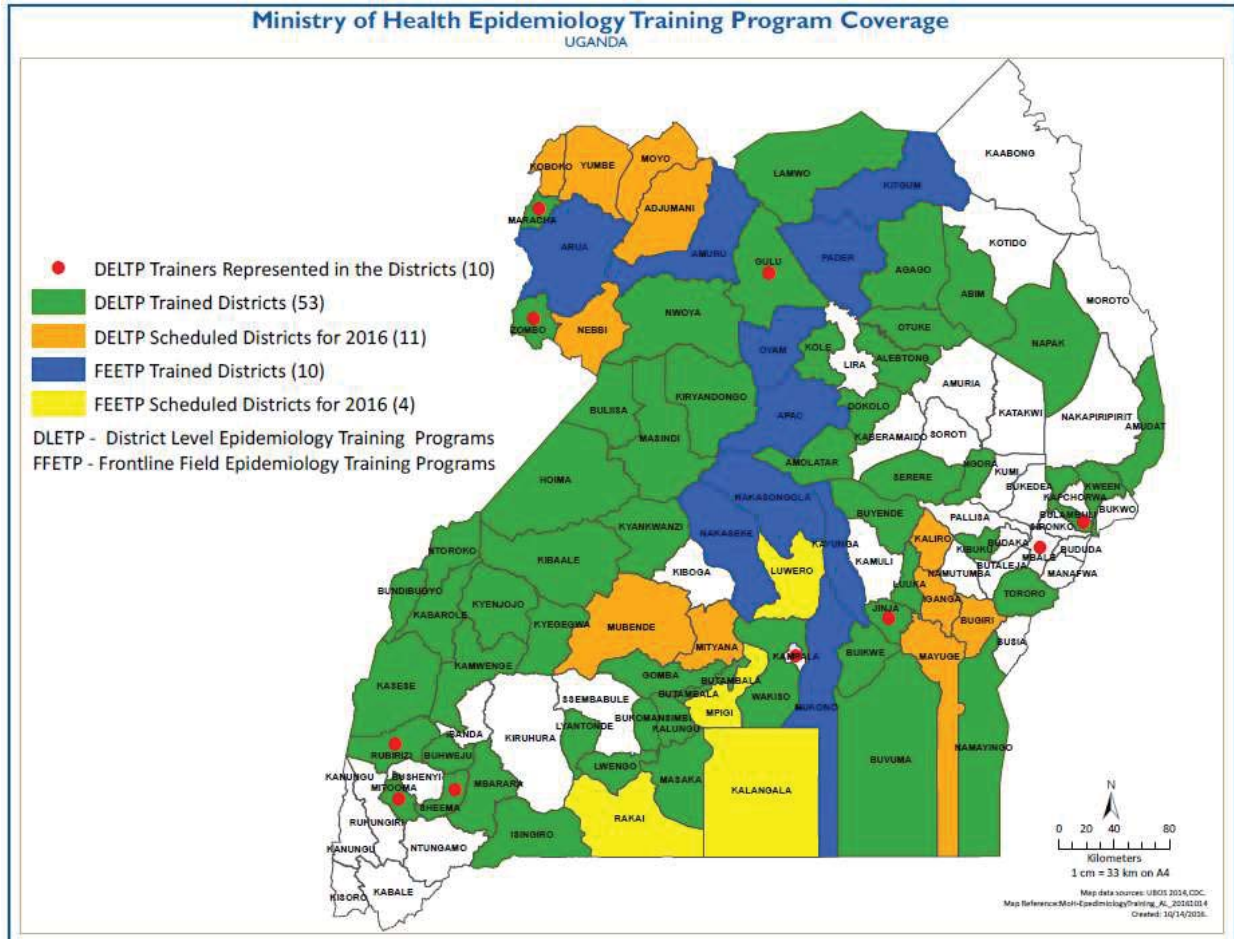


Uganda Frontline FETP Cohort I graduates after their three months training at Metropole Hotel, Kampala, Uganda



30 Cohort II trainees graduated from the Uganda Frontline Field Epidemiology Training Program (FETP) on 7 October 2016 at Boma Hotel Gulu. The participants were from Arua, Amuru, Apac, Pader, Kitgum and Oyam districts in Uganda.

### Map showing frontline coverage in Uganda



Prepared by: Strategic Information Branch, CDC-Uganda. Created: 10/14/2016. Email: SIBrequest@cdc.gov. The boundaries, names, and data used on this map do not imply official endorsement or acceptance by the U.S. Government.

AFENET  
ANNUAL  
REPORT

2016





# PROJECTS



## REPRODUCTIVE MATERNAL AND CHILD HEALTH (MCH)

The Reproductive Maternal and Child Health (MCH) project aims at supporting the Uganda MOH to implement activities focused on strengthening maternal and child health services. This includes providing technical assistance on monitoring and evaluation for MCH programs at the district level, supporting maternal mortality reduction activities in Uganda related to the Saving Mothers Giving Life (SMGL) initiative and Maternal Death Surveillance and Response.



A mother shares a moment with her child

The five-year Initiative aimed to accelerate reductions in maternal and newborn mortality. Key partners include the governments of Uganda, Zambia, the United States and Norway as well as Merck for Mothers, Every Mother Counts, Project C.U.R.E. and the American College of Obstetricians and Gynecologists.

(<http://savingmothersgivinglife.org/who-we-are.aspx>)

The project was led by Program Officer; Dr Frank Kaharuza supported by Ms. Emily Atuheire.

### Achievements

#### Health Workers trained on Data Entry for upcoming Save Mothers Give Life Summative Evaluation , Uganda

The African Field Epidemiology Network (AFENET) organized a training on the use of CSPro in September

2016 to compile health assessment data looking at Maternal Health Services (MHS) in health facilities supported by the Saving Mothers Giving Life (SMGL) initiative and Maternal Death Surveillance and Response. CSPro is used primarily for data entry, editing, tabulation, and dissemination. The tool to key results is questionnaires which will also be used to assess Community data on women and newborns who died as well as the verbal autopsy surrounding their death. The training conducted the AFENET Secretariat, comprised of Monitoring and Evaluation Officers and Data Managers to help them develop and manipulate data entry for the summative evaluation. The Census and Survey Processing System (CSPro) is a public domain software package used by hundreds of organizations and thousands of individuals for entering, editing, tabulating, and disseminating census and

survey data.

The training is crucial in the Save Mothers Give Life summative evaluation that will be conducted in four districts in Uganda. It will include health facility assessment, a community maternal mortality surveillance and a newborn mortality surveillance.

Saving Mothers Giving Life (SMGL) initiative and Maternal Death Surveillance and Response are under the Reproductive Maternal and Child Health (MCH) project implemented by AFENET which aims at supporting the Uganda MOH to implement activities focused on strengthening maternal and child health services. This includes providing technical assistance on monitoring and evaluation for MCH programs at the district level, supporting maternal mortality reduction activities in Uganda related to the Saving Mothers Giving Life (SMGL) initiative and Maternal Death Surveillance and Response. The project is led by Dr Frank Kaharuza, Senior Epidemiology at AFENET.



Participants at the CSPro training by the Saving Mothers Giving Life (SMGL) September 2016

### The City Match MCH Epi conference

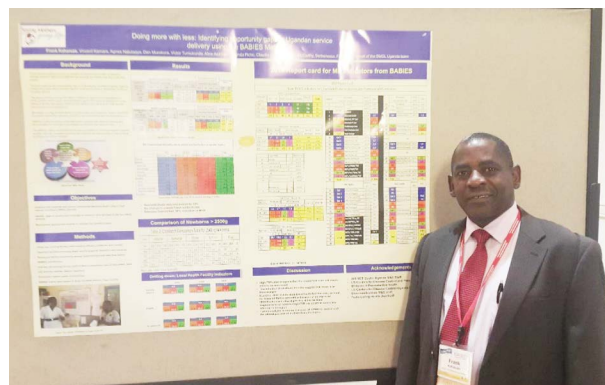
The Saving Mothers Giving Life (SMGL) project participated in the 2016 CityMatCH Leadership and Maternal and Child Health (MCH) Epidemiology Conference from 14 – 16 September 2016 in Philadelphia, PA. The conference combines the CityMatCH Urban Maternal and Child Health Leadership Conference, as well as the Maternal and Child Health Epidemiology Conference.

The conference offered Maternal and Child Health (MCH) professionals a platform to share experiences, enhance knowledge, and generate new ideas for promoting and improving the health of women, children, and families.

The theme of this conference was “social justice.” Maternal mortality, maternal morbidity, NCD in pregnancy were the main thematic areas and a keynote was presented on epigenetics and child psychiatric illness.

Dr. Frank Kaharuza – Senior Epidemiologist and the head of the SMGL project at the African Field Epidemi-

ology Network (AFENET) participated in the conference and also visited key partners such as the University of Notre Dame to explore the potential for collaboration with EIGH with MUSPH, Baylor Uganda, IDI, SMGL, AFENET through Student exchanges; Dissemination activities; MUSPH EIGH collaboration on MIM storyboard training.



Dr Frank Kaharuza SMGL Project Lead during the City Match MCH Epi conference

## Monitoring and evaluation officers and data managers trained on data entry for the SMGL summative evaluation in Kampala

### Lessons learned

- Start M&E Planning Early (planning, coordination, feedback)
- Stepwise design moves from documentation of program to assessment of intermediate outcomes
- Need to assess existing data systems (especially when using routine data)
- Complex public health programs require sufficient time to fully implement approaches, achieve coverage, and document declines in mortality
- Develop strong partnerships for M&E with subject matter experts is necessary

# AFRICA CENTER FOR DISEASE CONTROL



With technical and financial support from the US Centers for Disease Control and Prevention (US CDC), worked with AFENET, AU and other partners TO establish the African CDC a, two year Fellowship Program. AFENET with its partners recruited and relocated the inaugural cohort consists of 10 recent graduates of African Field Epidemiology Training Programs (FETP) in January 2016. Fellows were selected from: Tanzania FELTP (2), Nigeria FELTP (1), South Africa FELTP (1), Zimbabwe FETP (1), Ivory Coast (1), Ethiopia (2) and Egypt (2).

The fellows support two priority areas of African CDC operations namely event based surveillance (EBS) including operationalizing the newly constructed Emergency operation Centre (EOC) and emergency preparedness and response. Over the past one year the fellows have received several trainings including; Threat and Hazard Identification and Risk Assessment, emergency operations management, Disaster Management, GIS Mapping, & Informatics, and Event Based Surveillance system. They have also been involved with Training to Ethiopia MOH on Event Based Surveillance (EBS), preparing daily and weekly reports on public health events of concern across African Continent such as Zika and yellow fever, and taking part in IHR Core competency Joint External Evaluations across the continent.

AFENET has been instrumental in the setup of the Africa CDC. AFENET was a member of the multinational taskforce which helped set up the Africa CDC.



Africa CDC Epidemiologists and partners at the African Union Ethiopia, Addis Ababa

## Summary of Major Activities and Achievements 2016

Africa Union Commission scheduled the launch of Africa CDC

### Support the collaboration between ARC and African Union in implementation of pilot phase of outbreak and epidemic insurance program:

One Africa CDC fellow represented Africa CDC in the 5th session of the Conference of Parties (CoP5) of African Risk Capacity (ARC), and side meeting between ARC, Africa CDC, and selected member states for pilot phase of outbreak and epidemic (O&E) insurance program.

### Operationalization of Africa CDC Regional Collaborative Centres (RCC)

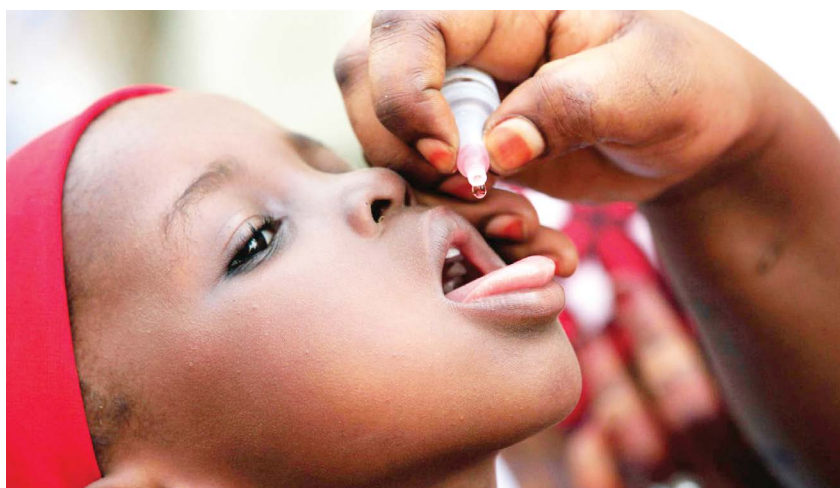
As part of Africa CDC establishment, Africa CDC fellows supported the move towards making the 5 RCC fully functional and operational. Africa CDC fellows participated in development of RCC checklist and development of TOR for staffs from Africa CDC headquarters who will be working in the regions. Africa CDC fellows also participated in planning, preparing and organizing for the first Africa CDC RCC meeting.

### Support in operationalization of 5 years Africa CDC strategic planning

In December 2016 Africa Union Commission (department of Social Affairs, director of Africa CDC and Africa CDC fellows) in collaboration with different stakeholders including African Union Member States started developing the first five year strategic plan for Africa CDC. The draft strategic plan has undergone several levels of reviews.

## POLIO ERADICATION AND IMMUNIZATION SYSTEMS STRENGTHENING IN AFRICA

Strengthening routine immunization is a pillar of the polio eradication strategy. High routine immunization coverage establishes a strong base for population immunity to prevent polio outbreaks and builds a sustainable platform to introduce the Inactivated Polio Vaccine (IPV) and deliver other lifesaving vaccines.



In polio endemic countries, the virus persists in marginalized populations, and in areas where health systems and immunization services are largely non-existent or ineffective in reaching the eligible population and oversight and management are weak.

The goal of the Polio Eradication and Immunization Systems Strengthening project is to contribute to general immunization system strengthening and capacity building in the African region with a focus on polio eradication, routine immunization strengthening, and new vaccine introduction and strengthening of disease surveillance. The project is currently implementing running 12 projects in 7 countries. These countries also contain many of the world's under-vaccinated children.

The current Projects implemented within the framework of the cooperative agreement include,

- NSTOP Nigeria
- NSTOP Uganda
- GHSA Uganda
- Polio Outbreak response- Somalia and Madagascar
- NSTOP South Sudan
- Civil Registration and Vital Statistics

(CRVS)- Kenya

- Civil Registration and Vital Statistics (CRVS)- Homabay Kenya
- Data Improvement Teams - Uganda
- The Zambia Civil Registry and Vital Statistics & Immunization Project
- Strengthening Technical Assistance for Routine Immunization Training (START) – Kenya
- DRC
- Data Quality project Kenya

### NSTOP Nigeria

#### The National Stop Polio Transmission Program (NSTOP)

The STOP Program is a global effort that trains public health professionals from around the world and sends them to the places with the greatest need. The Stop Transmission of Polio (STOP) Program, through the U.S Centers for Disease Control and Prevention (CDC), trains international public health professionals to be deployed around the world to countries with the greatest need for support and technical assistance to improve

their national immunization and surveillance programs. (<http://www.cdc.gov/globalhealth/immunization/stop/index.htm>)

### National Stop Transmission of Polio (NSTOP) Uganda

The National Stop Transmission of Polio (NSTOP) program was established in July 2012 under the Africa Field Epidemiology Network (AFENET) in response to National Polio Eradication Emergency Plan (NPEEP) to strengthen the Nigeria polio eradication program at the operational level. Implemented through the Nigeria Field Epidemiology and Laboratory Training Programme (NFELTP).

Objectives can be found on page 27

Uganda is implementing Global Polio Eradication Initiative (GPEI) activities including interruption of Wild Polio Virus through strengthening Routine immunization and conducting Supplemental Immunization Activities (SIAs); conducting surveillance for Acute Flaccid Paralysis (AFP). For two years now CDC has been supporting AFP surveillance activities through deployment of NSTOP teams to selected districts. At the districts NSTOP teams carry out various activities including active search for AFP, verification of measles and neonatal tetanus, community sensitization and support supervision of health workers and DHTs on routine immunization.

#### Project Purpose:

To contribute to general immunization system strengthening and capacity building in the African region with a focus on polio eradication, routine immunization strengthening, new vaccine introduction and strengthening of disease surveillance.

#### Project Objectives:

1. To implement NSTOP activities
2. To improve health workers' knowledge and skills needed to implement the four polio eradication strategies.
3. To improve disease surveillance and routine immunization systems Uganda.

NSTOP Uganda	
Planned Activity	Narrative on the activity (including achievements. Please report on results achieved and not only the process)
Training of national STOP teams	One out of 2 planned trainings was conducted with a pool of 60 NSTOP members trained on IDSR concepts, conducting VPDs surveillance and strengthening Routine Immunizations through support supervision
Field deployments for active search and verification of cases	<ul style="list-style-type: none"> <li>- Two deployments were accomplished in the reporting period, each deployment was preceded by a pre-training meeting and followed by a post-deployment feedback meeting</li> <li>- 24 districts were visited in the first deployment during which active search was conducted in 15 districts which had less than 1 per 100,000 non polio AFP rate over 6 months prior to December 2016 and 1 district which had not reported any case in 2016. 8 districts were for verification of AFP cases.</li> <li>- During the second deployment a total of 65 districts were visited. Of these 24 had been silent in 2017 as of March. The remaining 41 districts had verification of reported AFP cases in 2017 as of March.</li> <li>- 450 out of 1165 (39%) high priority health facilities were visited during the first deployment. 79% and 31% and medium and low priority health facilities respectively were visited, and 896 health workers, 247 VHTs, 19 district leaders and 2,921 community members were sensitized on AFP surveillance and Routine immunization.</li> <li>- At the 2<sup>nd</sup> deployment the number and proportion of HFs visited for active search was 530 (81.2%) in the 24 districts. During this deployment cases of AFP and AEFIs verified were 57 (70.4%) and 2,047 (51.6%) respectively.</li> </ul>

### Global Health Security Agenda (GHS) Actives and Progress in Uganda

Planned Activity	Progress
Strengthen RI through Microplanning and conducting 1 <sup>st</sup> Round of Periodic Intensified Routine Immunizations in Measles high risk districts in Uganda	<ul style="list-style-type: none"> <li>- 35 districts were identified to have EPI inequities among these 15 were very high risk and prone to measles outbreaks if action were not taken.</li> <li>- START model RED/REC Microplanning and three rounds of PIRI were conducted in 13 of the 15 high risk districts.</li> <li>- 13 RED/REC micro plans from the 13 districts were shared with the national level.</li> <li>- 40 underserved sub counties were identified and prioritized for PIRI activities</li> </ul>

Supporting Joint Measles outbreak investigations linking epidemiological and molecular biology.	<ul style="list-style-type: none"> <li>- Conducted 9 joint measles outbreak investigations in seven Uganda districts of Kamwenge (2), Kamuli (2), Mayuge, Jinja, Bugiri, Masaka and Lwengo.</li> <li>- Low vaccination coverage was the reason for the outbreaks.</li> <li>- Endemic B3 measles genome has been isolated as responsible for all the outbreaks</li> </ul>
Regional Surveillance Training	<ul style="list-style-type: none"> <li>- National Trainer of Trainees (TOT)</li> <li>- 15 TOTs were trained</li> <li>- 5 out 10 regional trainings have been conducted. (the regions are Jinja, Mbale, Moroto, Central, Hoima and Mubende)</li> <li>- 156 surveillance officers from district and Health sub district levels have been oriented on VPDs surveillance with a focus on measles, AFP, NNT and molecular biology.</li> </ul>
Remodeling of Measles Lab at UVRI to raise it to acceptable standards for molecular biology	<ul style="list-style-type: none"> <li>- Surfaces in Measles Pre- Amplification and post PCR were refurbished and granite working tops fixed, sinks replaced, new electrical installations installed.</li> </ul>
Provide lab investigation kits for molecular biology	<ul style="list-style-type: none"> <li>- A PCR kit superscript Rx of 500 reactions was procured</li> </ul>

## Polio Outbreak response- Somalia and Madagascar NSTOP Somalia

### NSTOP Somalia progress

Output indicator	Planned	Achieved	Narrative
4 planned LQAS trainings conducted for all zones of Somalia	4	4	LQAS trainings conducted for all zones of Somalia.
Conduct Pilot Mapping Exercise in 2 districts in Puntland.	2	2	Information gathered was used to improve the data collection tools and a final proposal to expand the mapping exercise was developed.
Support to AFP surveillance activities.	1	1	The overall national and zonal AFP surveillance indicators are above the recommended international standards
From January 1, 2016 to date 218 AFP cases were reported.	On going	Ongoing as planned	Case detection rate within 7 days is 92%, stool adequacy is at 99.5% and the annualized non-polio AFP rate is 5.

NSTOP Somalia focused on introducing Lot quality assurance sampling methodology and this started in January 2016.

- 9 districts in central zone and 5 districts in South Zone have so far been reached.
- The main objective of conducting LQAS after each SIA is take corrective measures immediately

### NSTOP Madagascar

The Madagascar Ministry of Public Health in collaboration with Polio Eradication Initiative (PEI) partners have been actively engaged in increasing immunization coverages for polio and strengthening Acute Flaccid Paralysis (AFP) surveillance. The main objective is to increase respond to the current circulating Vaccine-Derived Polio Viruses (cVDPV) outbreak and eliminate polio on the Madagascar island.

Since 22 August 2015, no new case of cVDPV has been detected and there are sustained efforts underway to improve the performances of AFP surveillance in order to meet the requirement of certified Polio free country.

The Polio campaign is being conducted in three regions: Bongolava, Analanjirifo, Antsinanana

### NSTOP South Sudan

The project is a partnership between the CDC Atlanta, National Ministry of Health, UNICEF, WHO and Bill and Mellinda Gates Foundation is implementing a national capacity building model based on the iSTOP approach.

The project aims at recruiting 56 nationals (8 at national level and 48 at the state/administrative levels).

The project strives to build the national immunization in 7 core capacities namely: --

- Routine EPI operations management,
- SIA management,
- Vaccine Preventable diseases surveillance,
- EPI communications (using the C4D approach) and
- EPI data management,
- Immunization supply chain management (EPI logistics) and
- Cold Chain Management.

Planned Activity	Achievements to date
Recruit all 48 state-level mentees by November 2016	Recruitment of 38/48 mentees completed. Recruitments in Administrative Areas were delayed by insecurity
Conduct NSTOP Induction workshops in 10 states	7/10 induction workshops completed
Review and finalize the draft M&E plan for NSTOP project	Drafted at AFENET secretariat in Kampala finalized.
Mentoring national level NSTOP mentees on TOPV to bOPV switch	Workshop conducted to provide rational, skills and operationalization of the planned global TOPV to bOPV switch.
Mentoring workshop on SOPs for effective vaccines management in South Sudan	All National and state level mentees have been provided this workshop to improve vaccines management
Active search for measles and AFP in state and county Hospitals	A routine field activity for all NSTOP surveillance mentees. In turn, measles outbreaks have been detected in Agok, Gogriol, Tonj and more recently Wau counties.
Support development of tools for improving the quality of OPV SIAs	National OPV/SIAs for the first time have a national preparedness dashboard of indicators monitored and maintained by the SIAs mentees

### South Sudan indicator progress

Output indicator	Planned	Achieved
Number of mentees who are deployed to the field and are active on their assignments.	56	46
Number of counties the EPI mentees (NSTOP) have supported in the micro planning process.	80	20
Number of cold-chain equipment maintenance visits made to States/Counties vaccine stores.	12	5
Number of quarterly State EPI feedback reports distributed to both central and lower levels on EPI data analysis.	12	6
Number of active search visits reported to the State level of all vaccine preventable diseases (VPDs) made in all hospitals on monthly basis.	12	5

### Civil Registration and Vital Statistics (CRVS)- Kenya

- The project tends to support the government of Kenya in the development of guidance and tools to promote the use of functional standards within immunization information systems (IIS).
- The project also focuses on addressing the data quality issues to increase the timeliness and completeness of immunization data.

Planned Activity	Narrative
Develop and share immunization registry standards concept note with stakeholders	Concept note developed and shared with stakeholders.
Key stakeholders identification and engagement.	One stakeholder's task force meeting was held in Nairobi in July 2016, that included MoH Partners to share the importance and need to develop standards for immunization registry
Formation of technical working group	12 membership Technical working group was formed in August 2016 to support immunization standards development.

### The Zambia Civil Registry and Vital Statistics & Immunization Project

- The goal of this project is to provide technical assistance to support the development of functional standards for immunization information systems or immunization registries globally and country specific in Zambia.

- Developed and shared concept note with MoH for support and project implementation. Concept note revised based on feedback from the MoH Child Health & Nutrition Expanded Program for Immunization (EPI) team
- Full implementation of project activities will commence in early 2017.

### Immunization Data Quality Improvement Team (DIT) Strategy

The DIT strategy is a multi-partner collaboration led by the Uganda Ministry of Health (UNEPI and Resource Center), and supported by implementing partners including the US Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), United Nations Children's Emergency Fund (UNICEF), the Global Alliance for Vaccines and Immunization (GAVI), Maternal Child Survival Program (MCSP) and other stakeholders. The strategy was conceptualized following the completion of the 2013 Immunization Data Quality Self-Assessment (DQSA), that found data quality gaps at all levels of the health system in Uganda. The strategy was developed to address these gaps, and improve the accuracy and validity of immunization data quality, to facilitate decision making, monitoring and evaluation based on high quality data.

Over the last 12 months (June 2016 to May 2017), the DIT strategy completed the following key activities and milestones:

- Roll out of the strategy where district and health facility level staff were trained at regional level in key immunization data quality improvement modules in the regions of Greater Kampala (I), Greater Kampala (II), Greater Kampala (III) and Greater Kampala (IV).



Core staff trained included district Biostatisticians, district EPI Focal Persons, district Surveillance Focal Persons and Makerere University School of Public Health MPH students

- Deployment of the trained staff to their respective districts and health facilities where district and health facility data quality assessments using standard tools were completed
- Hands-on mentorship at district and health facility level to address key immunization data quality gaps identified at district and health facility level
- Completion of end of Year 1 evaluation survey in sampled regions and districts to find out status of indicators at end of implementation year
- Completion of end of Year 1 implementation stakeholders' review meeting on October 18th 2017, and planning for next steps in Year 2 implementation
- Roll out of implementation in the Year 2 pilot regions of Mbarara and Lira, with 100% of immunizing health facilities (327/327) reached for mentorship by trained data quality improvement teams (DITs)
- Completion of stakeholders' review meeting on May 16th 2017, to discuss findings from the Year 2 Pilot regions, and comparing findings with Year 1 implementation for any improvements. Improvements were noted in several indicators, including availability of target populations, improvement in data analysis and use, and data archiving, while there was room for improvement in some indicators like congruence of data
- In summary, over the previous 12 months, 221 health workers were trained in 6 regions, and mentorship was completed in 15 districts, and 1106 Health facilities

#### Next steps for the DIT strategy include:

- Making adjustments to implementation, e.g. increasing training days from 3 to 4 days, to cater for full training curriculum
- Continue Year 2 roll out – regional trainings, field mentorship and national level supportive supervision in the remaining 15 regions of Uganda
- Implement regional review meetings within 3 months of implementation of regional trainings
- Conduct scheduled stakeholder review meetings to review implementation progress and for continuous quality improvement of the process of DIT implementation, towards achieving the project goals and objectives

#### Strengthening Technical Assistance for Routine Immunization Training (START) – Kenya

Strengthening Technical Assistance for Routine immunization Training (START) is a collaborative technical assistance between the US Centers for Disease Control and Prevention (CDC) and the African Field Epidemiology Network (AFENET) to the Ministry of Health. In Kenya, the START project's primary goal is to build the capacity of County and Sub-County EPI officers through

coaching and mentoring to improve EPI planning, monitoring, and supervision. A second objective is to strengthen the capacity of EPI service providers at selected under-performing health facilities through on-job training and repeated visits. These objectives are aligned with the objectives and strategies to build capacity of immunization managers and service delivery staff outlined in the Kenya UVIS Comprehensive Multi-Year Plan 2013-2017, the Kenya Health Sector Strategic Plan 2014-2018, and the Kenya EVM Assessment (2013), as well as findings and recommendations from the Report of the MCV-2 and Rotavirus Post-Introduction Evaluation in Kenya (2015).

In the first phase, six international consultants implemented the project in six counties (Elgeyo, Kajiado, Kakamega, Nyandarua, Siaya, and Tharaka Nithi) from April to mid-December 2016. Pre- and post-intervention monitoring data demonstrated positive short-term impact of implementation in these counties and feedback from EPI staff in the sub-counties and health facilities that received the intervention has been decisive.

#### Year of Life Project Ghana

The Second Year of life Project seeks to develop and assess the impact of a multi-faceted approach to strengthening the second year of life visit on immunization coverage and operational performance in Ghana

Implemented in three (3) regions namely Greater Accra, Volta and the Northern of Ghana are initially involved

Planned Activity	Progress
Baseline quantitative and qualitative survey on immunization in Northern, Greater Accra, and Volta Regions.	Dissemination of research findings has been completed to the different stakeholders
Capacity building on the second year of life immunization	50 regional health teams have been trained in Men A introduction into Ghana RI 30 HWs trained on defaulter tracing Training of 50 biomedical scientists on laboratory surveillance on meningitis

#### Challenges to the NSTOP Project

- Insecurity in some of these countries restricting access to some project areas
- Competing government activities for most of the projects under the polio CoAG
  - Poor network coverage limits communication between field staff working in security compromised areas and the higher level in the provision of feedback
  - Coordination of partners supporting immunization activities by government is sometimes weak

## PAN AFRICAN MEDICAL JOURNAL (PAMJ)

The Pan African Medical Journal (PAMJ) is a peer-reviewed, online, open-access medical journal, published with support from AFENET. A highly talented and qualified team of editorial staff with three managing editors and over 700 experienced reviewers from 20 countries manage manuscripts ranging from research papers to commentaries in manifold medical domains like epidemiology, maternal and child health, radiology, clinical medicine, health economy, and nutrition.

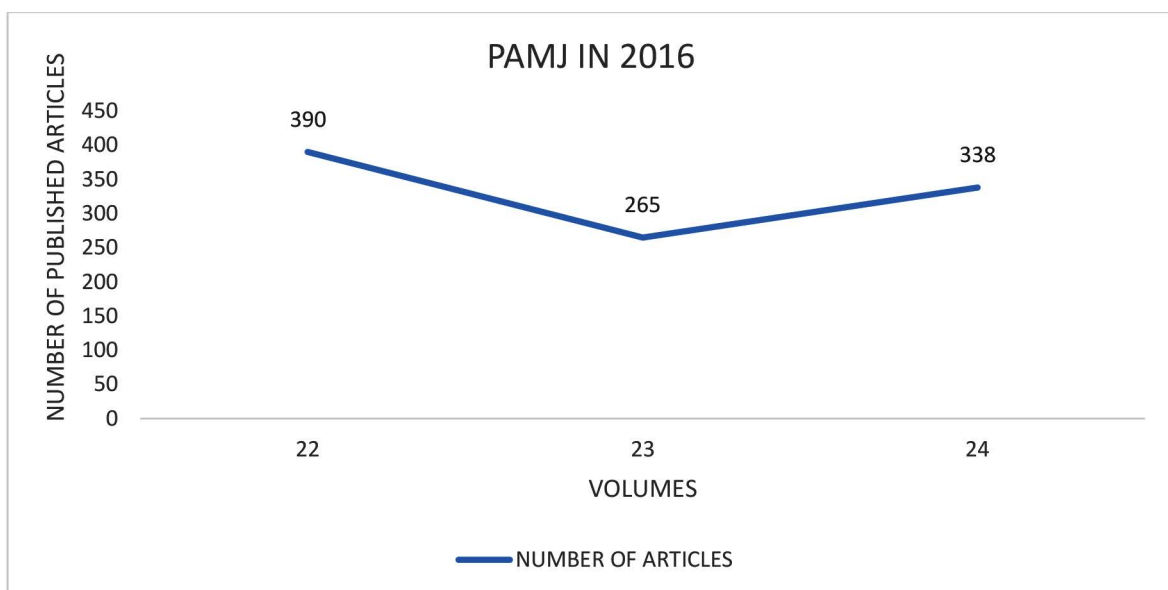
PAMJ's mission is to create, stimulate, and perpetuate a culture of information sharing and publishing amongst researchers and other health actors of the African health scene in ways that will contribute to: improving availability of health information; a better understanding of Africa specificities and overall; and improving health outcomes on the continent.

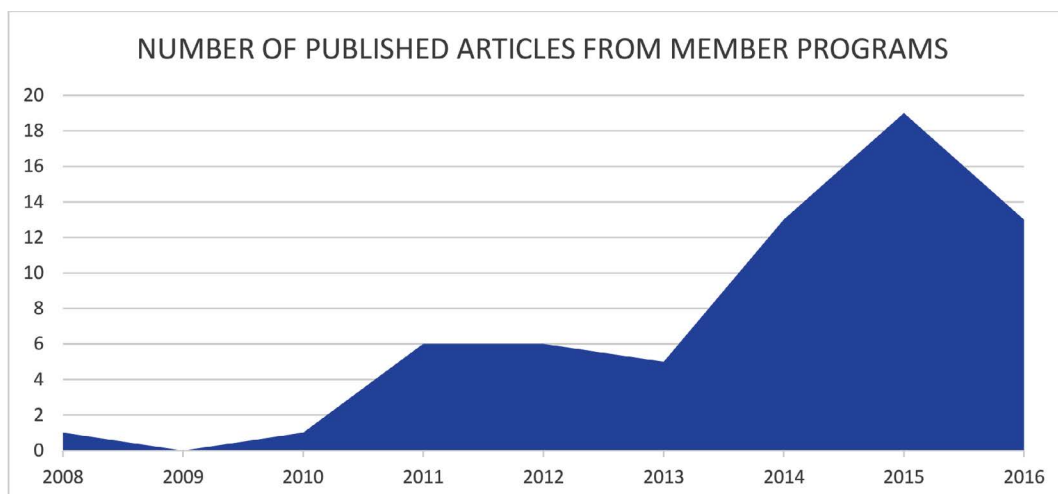
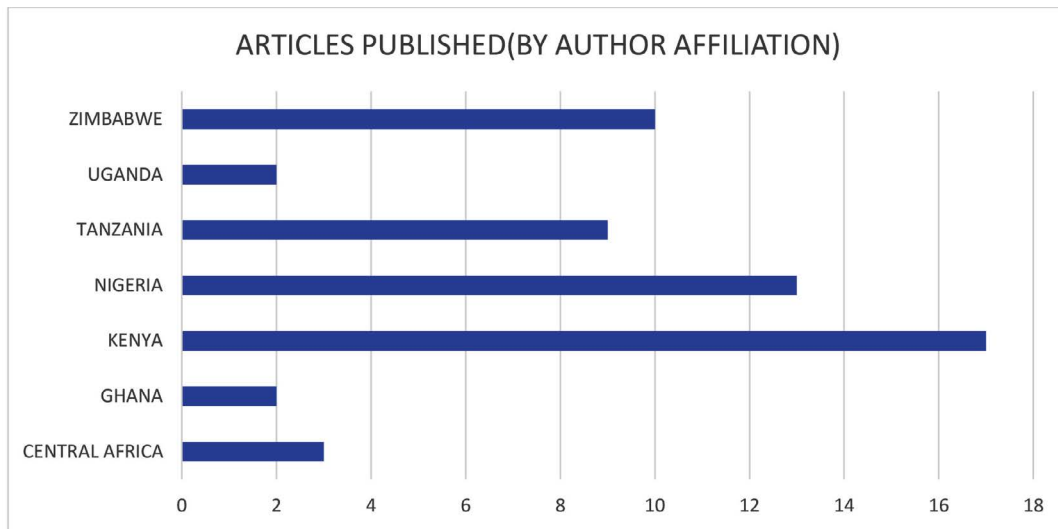
2016 marked the eighth year the Pan African Medical Journal has been published in partnership with AFENET. PAMJ and AFENET in October 2015 published a supplement on the recent Ebola outbreak: "Ebola in West Africa. Before, now and then".

The Pan African Medical Journal has been published in partnership with the African Field Epidemiology Network since 2008. This update documents key outcomes and initiatives being undertaken to better the value of this partnership.

### Articles from AFENET Member Programs

PAMJ maintains a record of manuscripts published in the journal from AFENET member programs. The manuscripts are tagged when they identify with an AFENET member program through an author affiliation. So far 64 articles have been published in PAMJ from data collected using this criteria. This record does not include manuscripts published as part of a supplement.





### Published Supplements

1. Field Epidemiology in Africa-14 December 2011
2. Building a public health workforce in Nigeria through experiential training-21 July 2014
3. Ebola in West Africa. Before, now and then-10 October 2015
4. Strengthening Surveillance, Outbreak Investigation and Response: the Role of Ghana FELTP-01 October 2016

### Upcoming Supplements

1. Kenya Field Epidemiology and Laboratory Training Program; Strengthening Public Health Systems through Experiential Training and Operational Research  
Expected publication date 01-May-2017
2. The Future of Immunization in Africa  
Expected publication date 30-April-2017.

3. The Expanded Program on Immunization in Ethiopia  
Expected publication date 30-September-2017.

PAMJ in collaboration with AFENET will publish outbreak investigation reports starting in the 2017 calendar year. AFENET will develop a format and guidelines for the new article category and appoint an Associate Editor who will coordinate peer review. This new article category will be an important means of showcasing the field work done by trainees in the network.

PAMJ is piloting a 100 day response time project with select submissions starting with the first quarter of the 2017 calendar year. The selected submissions will be tracked and if the respective authors will be given the opportunity to allow the journal more time to review the manuscript or submit their manuscript to another journal of their choosing.

## GLOBAL PARTNERSHIP INITIATED BIOSECURITY ACADEMIA FOR CONTROLLING HEALTH THREATS (GIBACHT)

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GIBACHT is an educational programme established and supported by the German Federal Ministry of Foreign Affairs. The training programme focuses on threats and risks conferred by biological agents and bioweapons and their successful prevention and control.

The objectives of the program are to provide basic understanding and training in control of infectious diseases and the management of biohazards, to intensify and sustain international cooperation in the fields of biosafety, biosecurity and the prevention and management of epidemics, and to strengthen national and local centers for infectious disease epidemiology and management, biosafety and biosecurity.

[www.gibacht.org](http://www.gibacht.org)

### **Cohort III Enrolment**

A call for application to the GIBATCH Cohort III was made on Three on-campus tuitions of one-week duration will be held in Hamburg and Berlin, Germany, and Kampala, Uganda. The courses will be accompanied and supplemented by structured e-learning modules covering related and relevant topics. After a successful completion of the programme the fellows are granted with 6 ECTS points from the University of Basel.

### **To achieve this they are obliged to:**

Participate successfully in 8 obligatory e-learning modules, which will be made accessible from 1 – 31 January 2017 (around 10 hours student investment time, in total) and which will be graded; the best 16 fellows will be taken into the full programme

Participate successfully in 12 more eLearning modules, which will be made available from 15 February to 31 March 2017 (about 16 hours of student investment time)

Participate in the introductory face to face workshop from 24 to 28 April 2017 in Hamburg, Germany

Participate in in the second workshop with a main focus on real-time simulation of biological incidents (face to face course) from 10 to 14 July 2017 in Berlin, Germany

Participate in the final face to face course with field testing of developed case studies from 23 to 27 October 2017 in Kampala, Uganda.

Fulfil additional group work (face to face and on distance) concerning the development of case studies (around 40 hours student investment time)

Perform a situation analysis of biosafety and biosecurity at the home institute and develop a plan to address biosafety and biosecurity issues

## RESEARCH ACTIVITIES

Uganda Caregiver Immunization SMS Reminder Study In 2015, Uganda launched a research study to build upon Uganda's growing mHealth infrastructure to pilot a scalable short message service (SMS) system to remind caregivers of their children's upcoming vaccination visits.



A data collector conducting a follow up interview with a caregiver to find out if the caregiver had completed the child's vaccination schedule at 9 months of age

This is being implemented through a randomized controlled trial with an intervention arm and a control arm with randomization occurring at the caregiver level in select health facilities of Arua District in Uganda. Caregivers of children being immunized were recruited and messages sent them reminding them about subsequent immunization visits at the health facilities.

The project is focused on increasing vaccination coverage at 12 months of age among children enrolled in the study, examining the SMS impact on timeliness of vaccine receipt, assessing caregiver acceptability and cost-effectiveness of the SMS intervention.

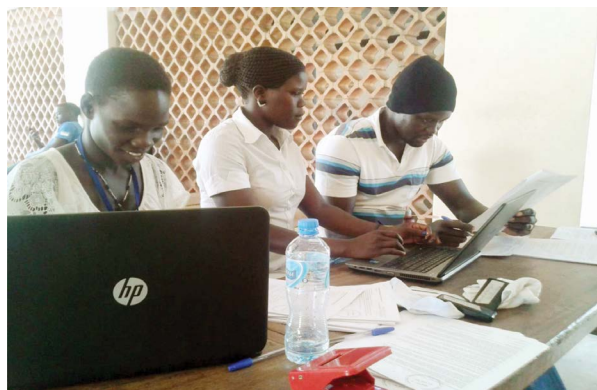
Over the last year, at least 2,000 mothers have been interviewed and recruited into the study, and SMS reminder messages sent to those in the intervention arm, to return their children for their scheduled vaccinations. To date, about 50% of the nearly 2000 study participants have returned to the health facility study sites for their measles vaccinations. To date preliminary analysis indicates that 50.5% of participants in the intervention group (participants receiving SMS reminders) and 46.1% of participants in the control group (participants NOT receiving SMS reminders) have returned to one of the four study sites for measles vaccination.

In the coming months, the remaining 50% will be followed up by visiting the homes of the children who did

not return for measles vaccination and interview those participants in their homes."



A data collector (Benton) interviewing a mother about child vaccination



Data collectors being trained at a health facility (Arua Regional Hospital) before heading out for data collection

## PUBLIC HEALTH EMERGENCY OPERATION CENTER (PHEOC)

With the support of CDC working through AFENET The Uganda MOH established the PHEOC in 2013 to enhance Uganda's capacity to respond to disease outbreaks, natural disasters, bioterrorism and other public health events of international concern.

The PHEOC serves as the MOH's focal point for organizing, coordinating, conducting and managing all aspects of the public health emergency response utilizing resources in a coordinated, collective and collaborative manner. The PHEOC also plays a key role in supporting the MOH to coordinate and implement activities to meet the goals of IHR (2005) and the GHSA Action Packages. The PHEOC is funded by the US CDC through AFENET

### Outbreaks Investigated in Uganda:

PUBLIC HEALTH EVENT	DATE
Malaria outbreak - northern Uganda	6 July 2015
Elimination of mother-to-child transmission (EMTCT) HIV	June 2013
Rubella - Hoima, Serere, Kween, Mayuge	30 June 2016
Cholera Outbreak - Yumbe, Amuru	15 August 2016
South Sudan Refugees Influx - Zombo, Arua, Kiryandongo, Yumbe, Adjumani	1 July 2016
Wild Poliovirus - Nigeria	August 2016
Rabies - Kenya, Tanzania	August 2016
Monkeypox - Central African Republic	September 2016
Anthrax outbreak - Bangladesh, Zambia	May 2016
Cholera, Measles, Diarrhoea - South Sudan	July 2016
Measles - Dodoma Tanzania	September 2016
Avian Influenza (H5N1) - Egypt, Nigeria	September 2016
Rift Valley Fever - Niger	September 2016

Planned activity	Timeline	Progress (achieved/on track/off track)
Event-Based Surveillance workshop	10 – 11 November 2016	20 people trained
Training of MOH staff for Incident Command System (following training by Atlanta CDC in previous FY)	December 2016	Priority given to responding to the several outbreaks
Yellow Fever Response Evaluation Exercise	November 2016	70 facilities evaluated in 7 districts
Linking Public Health and Law Enforcement Meeting - enhancing Uganda's readiness for JEE.	15 – 16 November 2016	25 participants trained
Biosafety and Biosecurity Conference – enhancing Uganda's readiness for JEE	14 – 15 November 2016	Approximately 250 delegates trained
Integrate/harmonize DHIS2 and e-IDSR systems.	December 2017	Two engagement meetings with HISP Uganda and other partners. Requirements gathering done at MoH headquarters and in Lwengo District.
Implement and monitor specimen tracking system using RFID tags and readers	December 2017	On Track – pending integration into the eIDSR system
Medical Counter-Measures Plan		CDC Medical Counter Measures team together with NDA and NMS reviewing plan developed at EOC
National Rapid Response Team training, Jinja by WHO	23 – 29 October 2016	Achieved.
National Rapid Response Drill – follow on to meeting above	December 2016	Training scheduled for 25 – 27 January 2017.

# UGANDA PUBLIC HEALTH FELLOWSHIP PROGRAM (PHFP)

The Uganda Public Health Fellowship Program (PHFP) is a partnership between the Ministry of Health (MoH), Makerere University School of Public Health (MakSPH), and the US Centers for Disease Control and Prevention (CDC). The PHFP is a training-through-service capacity building program that aims to create a cadre of public health workers who can efficiently and effectively address public health challenges in Uganda.

The program supports various health interventions including surveillance and epidemic investigations/response and communicable as well as non-communicable diseases. The PHFP is offered in five tracks (Field Epidemiology, Laboratory Systems Strengthening, Health Informatics, Prevention Effectiveness and Monitoring and Evaluation). During the reporting period, only the Field Epidemiology Track (FET) was operational. FET is a 2-year training-through-service program in applied epidemiology and public health leadership. Enrolled Fellows develop competencies by providing valuable public health services to the Ministry of Health and District Health Teams.

## Activities to support the National Malaria Control Program

- In October 2016, one of the Fellows, David Oguttu, was involved in the writing of the Tororo Health Bulletin. Two other Fellows, Allen Okullo and Joselyn Atuheire, worked together to publish the 16th issue of the Quarterly Malaria Bulletin at the Ministry of Health.
- One Fellow, Allen Okullo, was involved in the District micro-planning activities for the 2016/2017 Long Lasting Insecticide Treated Nets (LLINs) Universal coverage campaign.
- Joselyn Atuheire worked with the National Malaria Control Program in the development of their annual work plan; participated in the development of the implementation guidelines for Indoor Residual Spraying in 10 Northern Uganda epidemic districts; and organized and facilitated a national training of trainers workshop for indoor residual spraying in Gulu District.
- Allen E Okullo was involved in the analysis of data for estimation of malaria incidence which informed the

decision for provision of 10.4 million LLINs donated by Against Malaria Foundation (AMF). This will also act as a baseline for all future studies for estimation of effectiveness of LLINs in Uganda.

- Allen E Okullo was involved in the development of the the Uganda Malaria Portal and the development of the Malaria Epidemic Prediction Tool
- Allen E Okullo helped the National Malaria Control Program in the Quantification of the antimalaria medicines in response to the malaria epidemic in Uganda and
- David Oguttu carried out a study to assess the effect of active testing and treatment on community malaria prevalence
- David Oguttu was also involved in Malaria vector bionomics studies and the implementation of a pyrethrum spray catch in 12 houses in sentinel village before and during IRS
- Joselyn Atuheire was involved in the development of the Uganda Malaria Dashboard and the development of indicators for inclusion on this dashboard.
- Josely Atuheire was involved in the development of capacity building plans for district and community based systems for strengthening malaria control in Uganda

### Outbreak activities and conference participation

Joselyn Atuheire supported the conjunctivitis outbreak in Gulu district and in the H5N8 Avian Influenza outbreak in Wakiso District.

Two of the Fellows (Joselyn Atuheire and Allen E. Okullo) presented their work at the 2nd National Field Epidemiology Conference (which was held jointly with the 1st Regional Biosecurity and Biosafety Conference) in November 2016.

Allen Okullo, made an oral (malaria-Puddle Predict) and a poster presentation at the International Meeting on Emerging Diseases and Surveillance (IMED) 2016 conference (November 3-7, 2016) in Vienna, Austria. The malaria-Puddle Predict initiative was a project concept on the development of a malaria epidemic prediction tool that Allen and her colleagues developed & presented at a pre-conference hackathon event. Her team emerged the third runner-up and she made an oral presentation on their behalf.

### Planned activities for the next quarter

Fellows will be engaged in a number of activities in 2017, including:

- Conducting outbreak investigations and provide the necessary response
- Conducting descriptive analyses of epidemiologic data and/or conduct an evaluation of a public health surveillance system
- Writing manuscripts for onward publication in scientific journals
- Writing abstracts for presentation at national and international scientific conferences
- Writing reports (quarterly reports, outbreak investigation reports, etc.) and submit them to the respective Field Supervisor
- Implementing quality improvement and/or HIV projects

### EPIDEMIOLOGY OF BURKITT'S LYMPHOMA IN EAST AFRICA (EMBLEM)

EMBLEM is a five year multi-country, multi-site collaborative research study being conducted by the US National Cancer Institute (NCI/NIH) to find out the association of malaria resistance with Burkitt's lymphoma (BL). The main field work is coordinated by AFENET in Uganda and WESTAT in USA. The study enrolls cases and controls in Kenya (Nyanza and Western Provinces) Tanzania (Mwanza and North Mara Regions) and Uganda (North central and northwest regions).

Study Progress as of June 2016

### EMBLEM - Magnesium sub Study Report:

EMBLEM is conducted a population-based case-control study called Magnesium to investigate the link between malaria and malaria-associated Burkitt lymphoma (BL) in Northern Uganda. About 217 related individuals (children and Adults) from Acae-Ogik village in Alebtong District were recruited into the study as well as in Abaa village in Arua District where BL incidence and malaria prevalence were high. To investigate the link between basal intracellular magnesium level and EBV viral genome load in blood in apparently healthy people, they obtained comparative data from people with well-controlled EBV infection; 20 adult Caucasians working at Lacor as missionaries or volunteers working at Gulu University were recruited.

Participants also undertook a baseline household and individual questionnaire survey about home life, and personal illnesses, including a history of fever. Blood samples are obtained from cases and controls to measure malaria parasites by microscopy, basal Mg<sup>2+</sup> level, and NKG2D receptor levels on-site in Uganda using standard flow cytometry assays established.

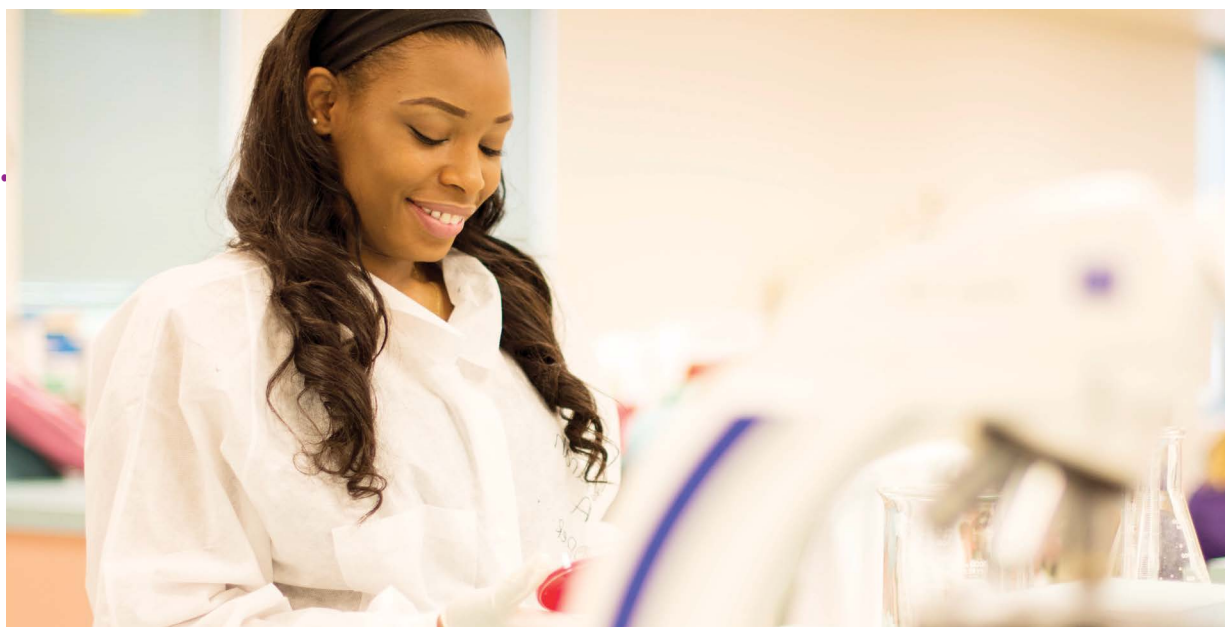
### Bar-coded master BSI ID labels

The laboratory technicians were responsible for affixing the bar-coded master BSI ID labels to each of the pages of the Research Blood and Saliva Forms and to the Specimen Tracking Log in the places provided as described in the steps below. This key step provided the link from the research subject to the labels that went onto the stored research materials. Bar-coded master BSI ID vial labels are affixed to the 10 ml whole blood collection tube and to the saliva specimen cup and lid upon receipt at the processing lab, and the final BSI ID vial labels were affixed, in accordance with their sequence numbering scheme, to the specimen aliquots upon their creation.



## AFENET-LAB

In October 2010, the African Field Epidemiology Network (AFENET) was awarded a cooperative agreement by the International Laboratory Branch of the US CDC to strengthen laboratory capacity in Africa and in the Caribbean.



Recognizing the largely neglected state of affairs in laboratories, this project aimed at improving laboratory Quality Management Systems (QMS) towards accreditation in Africa and the Caribbean region through enhanced and expanded External Quality Assessment (EQA) for HIV rapid testing; Biosafety training and biosafety cabinet maintenance; and other laboratory management strengthening activities.

AFENET, through its AFENET-Lab initiative provided technical, logistical and other support to countries and laboratories, leveraging on its existing collaborations with Field Epidemiology and Laboratory Training Programs (FELTPs) in the Africa region; various Ministries of Health, CDC Atlanta and country offices, and other partners.

Between 2010 and 2016 AFENET recorded the following successes:

- Facilitated capacity building for biosafety cabinet certification; 7 engineers were accredited to certify biological safety cabinets and 32 engineers were trained in basic biosafety cabinet maintenance.
- Established /improved laboratory QMS towards accreditation: 5 labs were internationally accredited by ISO 15189:2013 and 10 labs were certified with stars 1-3 under the WHO SLIPTA scheme.
- Supported laboratories to improve their processes via the Strengthening Laboratory Management Towards Accreditation (SLMTA) program in which 17 auditors and 16 mentors were trained.
- Supported the development of 5-year national lab strategic plans for 10 countries.
- Provided capacity to 16 national referral labs to produce proficiency testing for EQA schemes to support a total of 1,292 HIV testing sites.

The AFENET CoAg ended in 2016 and AFENET management decided to conduct a summative evaluation. Global Public Health Solutions, a public health management consulting firm was contracted to conduct the summative evaluation.

### Successes from the AFENET Lab Project

#### Successes from the project as reported by respondents

Country	First success story:	Second success story:	Third success story:
St. Kitts and Nevis	Approx. 95% of personnel files created	Revision of manuals started	Documentation and plotting of QC values
Jamaica	General improvement in lab service increased focus on quality	Implementation of HIV DTS and the training conducted, e.g. RTQII	Significant improvement in quality at SABRH, SABH/C, and JASL as they were chosen to work towards accreditation(SABH) and Rapid Test Site Certification
Barbados	Five Labs were supported by, and the LQMS SIP and have been accredited by JANAAC. These are Eureka Medical Laboratories (Guyana) Queen Elizabeth Hospital, (Barbados) Princess Margaret Hospital (Bahamas) Central Laboratory (Suriname) Jamaica National Public Health Laboratory (Jamaica). This support was however complimented by other projects before and during the process.	Assessment of six public health medical laboratories spanning three countries. These laboratories were assessed during June-July 2016, and each showed greater than 20% improvement over their 2015 assessment.	The LQMS-SIP and laboratory quality improvement corollary ideas have been incorporated in the Caribbean Cooperation in Health Initiative (CCHIV) and the PAHO/WHO Sub-Regional Cooperation Strategy 2016-2019

Country	First success story:	Second success story:	Third success story:
Uganda	We formed a District response team and it's now up and running dubbed the 'Frontline.'	We actively control the spread of Cholera in Refugee Camps in West Nile region based on the knowledge acquired from the FETP.	We have formed a regional team and plans to collaborate on all fronts in as far as disease outbreak responses are concerned.
Barbados	Successful implementation of PT testing in 2 laboratories	Accreditation of public hospital lab	The Ministry of Health initiated the adoption of the LQMS-SIP checklist for the annual evaluation of private laboratories
Uganda	Improvement in HIV EQA coverage	More laboratorians trained on LQMS	
Uganda	Malaria microscopy was done which helped in malaria diagnosis		
Uganda	Strengthened LQMS	Strengthened EQA in Uganda	Built capacity of health workers in quality HIV rapid testing
Trinidad	HIV Rapid Testing Trainer of Trainers	External Proficiency Testing	DTS
Jamaica			
Uganda	In Uganda, it assisted MoH in most outbreaks by preparing the lab kit and field participation	Success completion of the AFRICHOL project where Cholera disease burden was established	AFENET is the kingpin of the FELTP where epidemiologists are trained
Angola	AFENET made a really good job improving quality management system in the molecular biology laboratory in INLS, we achieve 2 SLIPTA stars in 2015 after less than a year of mentorship, and we are ready to achieve 4 stars this year.		
Jamaica	Strengthening of our quality management system	Training of staff in all aspects of quality assurance through SLMTA	Achieving accreditation status
Kenya	Organization of in country SLMTA TOTs training		
Kenya	Light lifting of the department	Training in validation and internal audit	Mentorship-development of lab. documents
Kenya	Development of QMS documents	Entrenchment of QMS in the Laboratory system	Reaching three stars
Uganda	We can now place the right orders for lab supplies.	I can store my supplies well.	
Tanzania	Achieving 4-star rating award after ASLM assessment	Consistency receiving EQA of HIV rapid test on quarterly basis and provisional of feedback report	Utilization of standardized data capturing tool like Logbook country wise

Country	First success story:	Second success story:	Third success story:
Tanzania	Four engineers available in country for BSC Certification, before it was required to hire Biosafety Cabinet Certified Engineers from abroad, which was quite expensive,	Since 2013 the number of Biosafety Cabinet Certified per year has increased to 75%	Solution to a major non-conformance not only to the laboratory were on accreditation road map also to the safety of the Lab Personnel and environment. Onsite user training on proper use of Biosafety Cabinet
Tanzania	Printing of HIV log book	Capacity to certify biosafety cabinets in the country	Improve HIV QMS
Jamaica	Overall quality improvement in labs, designated sites working towards accreditation and Rapid Test site certification	Improvement in EQA using One World Accuracy and HIV DTS PT panels	Training of staff
Barbados	Accreditation of 5 labs around the region	Capacity building for lab staff	Purchase and installation of LIS in 6 labs

### Synthesis:

Most frequently mentioned success of the AFENET Lab Project was the introduction of QMS systems in the participating laboratories, participation in SLMTA/SLIPTA, and enabling laboratories to be accredited. Other successes were HIV-DTS EQA and outbreak response.

### Challenges faced in implementation of the Lab Project

Country	What were the major challenges in conducting the activities of the AFENET Laboratory Project in your country?
Saint Kitts and Nevis	Having hospital administration on the same page as the lab goals. Having lab staff buying into the intentions of the activities Linking the departments of admin, stores, and lab in communication and a standard operation procedure
Jamaica	Getting team members on board, to assist with preparation of documents and implement QA activities. Management support in providing requisite items and even when they do, promptly
Barbados	1. Adequate funding 2. An inadequate number of trained, competent and available Lead Assessors 3. A robust awareness programme in all the participating Member States of CARICOM 4. Infrastructure challenges in some countries 5. Absence of adequate legal framework
Uganda	Some of us had no tools like laptops to enable us to carry out certain activity reports. Laboratory personal protection equipment (PPE) were not emphasized as well as safety precautions.

Country	What were the major challenges in conducting the activities of the AFENET Laboratory Project in your country?
Uganda	Lack of transport for district laboratory focal persons for distribution and follow up of HIV EQA panels
Uganda	1. Some staff who attended the AFENET training were transferred, and those remaining were resistant in participating especially in EQA since they complained of not having benefited from the training 2. Some of those who missed laboratory coat were very bitter on everything to do with AFENET. Such poor mindset made AFENET activities implementation very difficult to us supervisor
Uganda	Delayed approval of funds for emergency activities
Angola	The main challenges in conducting the activities of the AFENET Laboratory in my country was the involvement of technicians. Make them meet the purpose of implementing the quality management system.
Jamaica	Human resources (shortage of Medical Technologists in some departments), obtaining the needed funding in a timely fashion, challenges with infrastructure
South Africa	Consensus on dates of the activities
Kenya	Lack of adequate funding for equipment calibration, service contract, and reagent stock outs which hindered progress. Inadequate staff in many facilities
Kenya	The scope of the project was limited to technical support while there was a very big need for infrastructural support.
Uganda	Lack of some essential supplies.
Tanzania	1. Not able to certify the biosafety cabinets because of power fluctuation which interferes the blower speed. As a result, no balancing of airflow in the cabinet and no adjustment could be made until the voltage stabilizer purchases through site which takes long. 2. At the beginning of the project most, the consumable were imported as were not available in country
Tanzania	Delay for biosafety engineers to sit for their final examination as they require more mentorship since the exams are very tough
Jamaica	Less than desirable cooperation from staff, slow 'buy in' from management and staff. Overwhelming workload/competing priorities. Inadequate physical facilities.
Uganda	Government buy-in and limited responsiveness of Ministry staff

A full report for the AFENET Lab Project can be found on the website: [www.afenet.net](http://www.afenet.net)

# AFENET CONFERENCE AND 10<sup>th</sup> ANNIVERSARY CELEBRATIONS

## The 6th AFENET Scientific Conference

The 6th AFENET conference was organized by the Nigeria Field Epidemiology and Laboratory Training Program (NFELTP), Nigeria Centre for Disease Control / Federal Ministry of Health in collaboration with, Federal Ministry of Agriculture and Rural Development and Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) and AFENET.

Over 900 attendees from over 30 countries attended the conference. Attendees included trainees/graduates of Field Epidemiology and Laboratory Training Programs (FELTPs), Senior Ministry of health officials, universities, subject matter experts from CDC, USAID, WHO, AFENET, African CDC, WAHO/ECOWAS and the wider public health community among others. Over 360 scientific presentations and 20 key note presentations on current public health issues were made.

## Best Oral Presentation at the 6th AFENET Scientific Conference

Residents and graduates of Field Epidemiology and Laboratory Training Programs (FELTPs) made outstanding presentations on outbreak investigations and research on issues of public health priority. Presentations were made on current public health issues such as IHR, Global Health Security Agenda, antimicrobial resistance, one health concept, building resilient public health systems and much more.

The conference presented a strategic platform for the fellows and FELTPs to show their contribution to solving public health issues and to network with wider public health community as they develop a common agenda to address critical public health challenges in Africa and beyond. Since its establishment in 2005, AFENET has organized 5 scientific conference in various countries namely: - Ghana (2005), Uganda (2007), Kenya (2009), Tanzania (2011) and Ethiopia (2013). The conference (6th) was held in Nigeria and jointly co-hosted by the RCDC. Over 800 participants from over 30 countries attended.



Participants at the 6th AFENET Scientific Conference

**360**  
scientific  
presentations  
and 20  
key note  
presentations

**Over 900**  
participants  
from  
over 30  
countries  
attend the  
conference

**6th AFENET Conference Best  
Presentation Award Winners  
by Category**

BEST ORAL PRESENTATIONS		
Hudson K.Taabukk	Protracted Cholera Outbreak in Nairobi Urban Informal Settlement, Kenya-2015	Kenya
Joseph K. L. Opare	Outbreak of Cholera in Veagunga, Bongo District of the Upper East Region, Ghana	Ghana
Fred Nsubuga	Measles Transmission Facilitated by Exposure at Crowded Healthcare facilities, low vaccine effectiveness and failure to vaccinate: Kamwenge District, Western Uganda, April to August, 2015	Uganda
BEST POSTER PRESENTATION		
Oludare S. Adewuyi	Sexual Behavior and HIV/AIDS Issues Among Youths in Igbo-Ora Oyo State, Nigeria	Nigeria
Uzenia N Mupakeleni	A Case-Control Study of Schistosomiasis Outbreak Investigation at Omindamba Primary School in Omusati Region, Namibia, 2016	Namibia
Husna Ismail	Epidemiology of Drug-Susceptible Tuberculosis in Gauteng, South Africa, 2012-2014	South Africa
BEST SCIENTIFIC INNOVATION		
Baraka Nyakuya	Challenges Facing Mobile Phone Reporting System: An Evaluation of Electronic Integrated Disease Surveillance and Response System In Tanzania (EIDSR)	Tanzania
Nsiewe Tchoubou Natasha	The Development of Outbreak Investigation Toolkit to Strengthen the Public Health System in Cameroon, Chad and CAR, 2016	WA FELTP
Rebecca R. Apolot	The Game Changers: Breaking through Resource Limitation to Ebola Control by Community Structures: The Case of Bombali District, Sierra Leone	Uganda
BEST OUTBREAK RESPONSE		
Uche I. Katchy	Viral Haemorrhagic Fever Prevention Preparedness in Schools: Lessons Learnt from Ebola Outbreak in Rivers State, Nigeria	Nigeria
Meseret Mengesha Bilal	A Retrospective Epidemiological Analysis of Injuries Following the Hawassa Earthquake, Sidama Zone, SNNPR, Ethiopia, January 2016	Ethiopia
Cristolde A. S	Epidemiology, Clinical Features and Risk Factors for Animal Bites and Human Rabies During an Outbreak of Rabies in Maputo:	Mozambique



AFENET Chairman Board of Directors - Prof Tshimanga Mufuta awards Joseph K. L. Opare, Ghana for Best Oral Presentation at the 6th AFENET Scientific Conference

Dr. Zeinab Gura- Program Director -Kenya FELTP receiving an award on behalf of the Kenya FELTP during the 6th AFENET Scientific Conference



Dr. Tatek Bogale – Program Director Ethiopia FETP receiving an award on behalf of the Ethiopia FETP during the 6th AFENET Conference



Uche I. Katchy receiving an award from Dr Issa Makumbi – EOC Manager for Best Outbreak Investigation during the 6th AFENET Scientific Conference 8-12 August 2016





Rebecca R. Apolot from Uganda FELTP receiving an award for Best Scientific Innovation (2 runner up) during the 6th AFENET Conference



Husna Ismail won a third prize at the AFENET Conference in Abuja, Nigeria



Participants at the Scientific Writing Workshop, Arusha Tanzania



Keynote Speakers and Session Moderators recognized and awarded at the 6th AFENET Scientific Conference, Abuja, 2016

## African Ministers Commit to support AFENET through FELTPS

Africa Field Epidemiology Network (AFENET) through the Nigeria FELTP convened a ministerial meeting hosted by Federal Minister of Health of Nigeria, Hon. Prof. Isaac Adewole, and chaired by the Minister of Health from Uganda, Hon. Judith Ruth Aceng from Uganda, ministers and representatives from over 10 African countries. The Ministers pledged to support of training more field epidemiologists to combat outbreaks and strengthen surveillance systems at national and local government levels. The ministers also pledged to support the African Field Epidemiology network in establishing more field epidemiology training programs in Africa.

Dr. Kenneth Ofori-Barko, AFENET and Dr, Sani Gwarzo, Program Director for the Nigeria Field Epidemiology Training Program, made a presentation to ministers on the support FELTPS have offered to Ministries of Health and also advocated for the establishment of a Continental Rapid Response Corp which advocates for a faster response to outbreaks. AFENET would like use her already existing trained public health workforce to create a Rapid Response team. Ministers signed a memorandum in support of AFENET's agenda. Through AFENET, Field Epidemiology Training Programs have been key to enhancing the Ministry of Health's ability to respond effectively to disease outbreaks in Africa.

The meeting was supported by key stakeholders such as CDC, WHO, the UN Food and Agriculture Organization (FAO) the Economic Community of West African States (ECOWAS), among others.



AFENET Ministerial Round Table meeting at the 6th AFENET Scientific Conference, Abuja

### Angola residents at the 6th AFENET Scientific Conference Abuja - Nigeria 2016

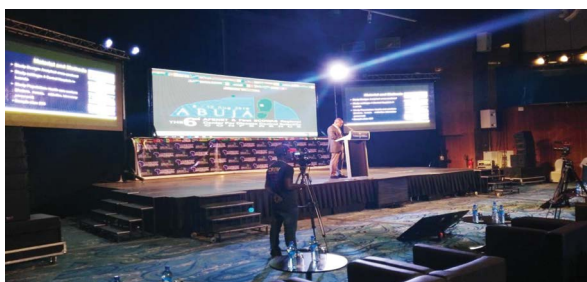
The Masters Alexandre Kapapelo, Joana Paixão, Luís Costa and Pedro Lusukamu participated in the 6th AFENET Scientific Conference held in Abuja from 8-12 August with the following scientific works: Table below

#### Presentations made at the 6th AFENET Scientific Conference Abuja - Nigeria / 2016

Dr.Alexandre Kapapelo	Factors Associated of TB MDR in Sanatorium Hospital in Luanda, 2014 Poster
Dra.Joana Paula Paixão	Prevalence and Factors Associated with Hepatitis B Infection in patients attended at Army Clinic, Luanda, 2014 Oral
Dr. Luís Miguel Costa	Seroprevalence and Risk Factors Associated with Hepatitis B and C Virus Infection among Health Workers at the Four National Hospitals, Luanda, 2014 Oral
Dr.Pedro LusuKamu	Prevalence and Risk Factors of Birth Defect in New Born at the Lucrecia Paim and Augusto N'Gangula Maternities from January 2013 - July 2014 Poster



Euipa from FELIP-Angola, which participated in the 6th AFENET-Abuja-Drs Conference: L. Costa, Maria Soares, A. Kapapelo, R Moreira, P Paixão, J. Teófilo, P Lusukamu (Left for Right)



Luís Costa at the 6th Scientific Conference of AFENET To present his work on: Seroprevalence and Risk Factors Associated with Hepatitis B and C Virus Infection among Health Workers at the Four National Hospitals, Luanda, 2014

### Ghana FELTP participation in the 6th AFENET Conference 2016

Thirty three residents, alumni and faculty of the GFELTP participated in the 6th African Field Epidemiology Network (AFENET) Conference held at the Transcorp Hilton Hotel, Abuja - Nigeria from 8 – 12 August 2016. In preparation for the conference, the GFELTP organized a 2 - day dry run to prepare residents and alumni for the conference. The dry runs were organized from August 2 – 4, 2016 at the University of Ghana, School of Public Health.

A total of Twenty-three (23) abstracts comprising 6 orals and 17 posters by 21 residents and alumni of the GFELTP were presented at the conference. Out of the 23 abstracts selected for presentations, 5 abstracts were from participants of the Ghana Basic FETP for frontline health officers in the Volta and Western Regions while 18 abstracts were from the advanced programme. Dr. Joseph Opere Larbi, a Cohort II alumnus of the GFELTP won the 1st runner-up for the oral presentations at the conference. Dr. Ernest Kenu, Ag. Director of the GFELTP facilitated the Monitoring and Evaluation workshop on August 8, 2016 at the Transcorp Hilton Hotel, Abuja – Nigeria.

#### List of abstracts presented at the 6th AFENET Scientific Conference, August 2016

No	Name	Topic	Prese- ntation Type	Program me
1.	Mr. Daniel Tetteh Agudey	Secondary Analysis of Acute Flaccid Paralysis Surveillance Data in Western Region 2005-2014	Oral	Basic FETP
2.	Dr. Joseph K.L. Opere	Outbreak of Cholera in Veaa-Gunga, Bongo District of the Upper East Region, Ghana	Oral	Advanced
3.	Mr. Francis Broni	Evaluation of Ebola Surveillance System for Bawku Municipal, 2010 - 2015	Oral	Advanced



4.	Mr. Ernest Akyereko	Towards Global Elimination of Trachoma: An evaluation of the trachoma surveillance system in the Upper West Region, Ghana, 2015	Oral	Advanced
5.	Ms. Fortress Y. Aku	Assessment and strengthening laboratory capacity for responding to meningitis outbreak in the three Northern Regions, Ghana, February, 2016	Oral	Advanced
6.	Ms. Akua Boadiwaa Amoh-Yeboah	Cholera Surveillance System Evaluation – Ga South Municipality, Greater Accra Region, Ghana, 2016	Oral	Advanced
7.	Dr. Paul Boateng	Road Crash Injury Surveillance System Evaluation, Ga South Municipality, Greater Accra Region, Ghana, 2016	Poster	Advanced
8.	Mr. Gyesei R. Issahaku	Iron Status among People Living With HIV/AIDS in the Tamale Teaching Hospital, Ghana-2014	Poster	Advanced
		Evaluation of surveillance system for malnutrition in children under five years, Sagnarigu District, Ghana - 2015		
9.	Mr. Alomatu Holy	Four year data analysis of Transfusion Transmissible Infections among Blood Donors at St Joseph Hospital, Koforidua - July 2015	Poster	Advanced
10.	Mr. Elijah P. Edu-Quansah	Knowledge, attitude and practices of residents of a Ghanaian urban slum on waste disposal, 2015	Poster	Advanced
11.	Dr. Basil B. Kaburi	An Evaluation of the Enhanced Meningitis Surveillance System in Yendi Municipal of Northern Region, Ghana	Poster	Advanced
12.	Dr. Boakye-Yiadom Adomako	Evaluation of Tuberculosis Surveillance System, Ghana	Poster	Advanced
13.	Mr. Rufai Tanko	Evaluation of Buruli Ulcer surveillance system in Ga West Municipality-Ghana, 2011-2015	Poster	Advanced

14.	Mr. George K. Kuma	Comparative performance of a resource limited local laboratory and a WHO accredited reference laboratory during a major outbreak of Meningitis in Brong Ahafo, Ghana-March, 2016.	Poster	Advanced
		Antibiotic resistance profile of cerebrospinal fluid bacterial isolates during a meningitis outbreak in the Brong Ahafo Region, Ghana-March, 2016	Poster	Advanced
15.	Mr. Charles L. Noora	Evaluation of timeliness of treatment initiation among smear positive pulmonary tuberculosis patients in Brong Ahafo Region, Ghana	Poster	Advanced
16.	Mr. George Adu-Asumah	Evaluation of Acute Flaccid Paralysis Surveillance System, Ghana, 2015	Poster	Advanced
17.	Mrs. Marijanatu Abdulai	Foodborne disease outbreak in a resource-limited setting: a tale of missed opportunities and implications for response	Poster	Advanced
18.	Mrs. Nancy Ashimah	Stillbirth in South Tongu District 2010-2014	Poster	Basic FELTP for frontline health workers
19.	Mr. Pani Anthony Mawuli K.	Typhoid Fever in the Krachi West District of the Volta Region of Ghana, 2011-2015	Poster	Basic FELTP for frontline health workers
20.	Mr. Amatus Nambagyira	Secondary Analysis of Snake Bite Data in Nkwanta North District, Volta Region of Ghana, 2010 – 2014	Poster	Basic FELTP for frontline health workers
21.	Mr. Joshua M. Tetteh	Analysis of surveillance data on Cholera, Ho Municipal, 2010-2014	Poster	Basic FELTP for frontline health workers

### Kenya FELTP residents and faculty at the 6th AFENET Scientific Conference

The Kenya program presented 34 abstracts: 15 were oral presentations and 19 were poster presentation. Kenya won the award for overall best oral presentation which was won by Hudson Kigen (Cohort XI resident) who presented on Protracted outbreak of cholera in Nairobi, 2015.



Kenya FELTP residents and faculty at the 6th AFENET Scientific Conference, Abuja, Nigeria

### Presentations at the 6th AFENET Scientific Conference, August 2016

Presenter	Title
Esther M. Kamau	High Sero-Prevalence of Middle East Respiratory Syndrome Coronavirus in Camels from a Slaughter House, Kenya, 2015
Josphat M. Muema	Seroprevalence, factors associated With Coxiella burnetti infection in small ruminants and potential risk of exposure to humans in Baringo County, Kenya, 2015 (Oral Poster)
George K. Ondieki	Compositional Quality and Prevalence of Antimicrobial Residues in Informally Marketed raw cow milk in Lamu West Sub-County, 2015 (Oral-Poster)
Allan F. Ogendo	Prevalence and Associated Factors for Cryptosporidium Infection in Calves and Environment, Asembo, Western Kenya: 2015
Augusta N. Kivunzya	Enhanced Syndromic Surveillance System for RVF in Livestock, Kenya, 2015-2016 (Oral-Poster)
Abubakar Hussein	Outbreak of Cholera in Dadaab Refugee Camp, Kenya, December 2015
Muthoni Gichu	Factors Associated with Overweight and Obesity in Adult Kenyan Women, Kenya Demographic & Health Survey, 2008-2009
Eunice W. Wachira	Characterization of Cancer in Patients Enrolled for Palliative Care at Nyeri County Referral Hospital, Kenya, 2011-2014
Isaac A. Ngere	Suspected Outbreak of Cutaneous Leishmaniasis associated with Forest Visits, Gilgil-Kenya, January 2016
Elvis Oyugi	An Outbreak of Cholera in Western Kenya, 2015: A Case Control Study
Hudson K.Taabukk	Protracted Cholera Outbreak in Nairobi Urban Informal Settlement, Kenya-2015
Oramisi Violet Adeke	Predictors of Choice of Place of Delivery Among Women Delivering at Selected Health Facilities in Kenya, 2015
Catherine Githinji	Surveillance of Tuberculosis in Prison Health Facilities, Kenya, 2011-2014
Mwenda Nicholas	Quality and Completeness of HIV Testing Data in Tana River County, Kenya, September 2014 - September 2015
Eunice Omesa	Demographic and Clinical Characteristics of Children Treated for Drug-Resistant Tuberculosis (DRTB) in Kenya, 2008-2015
Esther N Kisangau	Monitoring Progress Towards the Elimination of Measles in Kenya: Analysis of Measles Surveillance Data, 2003-2015
Martin Mwangi	Health Care Worker Knowledge and Practice on Cholera Case Management in Machakos County, Kenya 2015

Dominic Wamamba	Transfusion Transmissible Infections Among Walk-In Blood Donors, Kisumu Regional Blood Transfusion Centre (KRBTC), Kenya, January - December 2015
Bonface Waweru	Outbreak of Cholera in Nakuru, Kenya, 2015: Risk Factors For Transmission
Elvis Oyugi	Factors Associated with Male Partner Involvement in Efforts to Eliminate Mother-to-Child Transmission (MTCT) of HIV by Testing at the Antenatal Clinic in Western Kenya, 2015.
Khadija Chepkorir	Epidemiology and Surveillance of Animal Bites and Rabies Post-Exposure Prophylaxis, Uasin Gishu County, Kenya, 2015
Qabale H. Golicha	Tuberculosis-HIV Co-Infection in Lower Eastern Region Kenya, 2011-2014
Martin Mwangi	Characterization of Fatal Injuries in Nairobi and Kiambu County, Kenya February to July 2015
Lawrence K. Gitonga	Characteristics and Outcomes of HIV Exposed Infants Receiving Early Infant Diagnosis for HIV in Rural Kenya, 2015
Esther N Kisangau	An Outbreak of Cholera in A Border Town: An Assessment of Health Worker Preparedness and Response, Kenya, 2015
Arithi Mutembei	Sero-Prevalence and Factors Associated with Leptospirosis in People in Garissa and Tana River Counties, Kenya, 2014
Molu Salesa Barako	Pandemic 2009 Influenza A (H1N1) Outbreak in a Pastoralist Community in Marsabit County, Kenya, October 2015
Nasimiyu Carolyne	An Explosive Sustained Cholera Outbreak in Wajir County Kenya-2015

### Mozambique FELTP Resident Cristolde Salomão after receiving the 3rd Best Award for her oral presentation

Eleven residents participated in the 6th AFENET Scientific Conference held in Abuja, Nigeria, from 08-12 August (Two oral presentation and 9 oral-poster presentations)

For this meeting Cristolde Salomão, received the 3rd Best Award for her oral presentation: Outbreak Investigation: Epidemiology, Clinical Features and Risk Factors for Animal Bites and Human Rabies during an Outbreak of Rabies in Maputo: implications for public health interventions to Control Rabies - Mozambique, 2014.



Mozambique FELTP resident Cristolde Salomão after receiving the 3rd Best Award for her oral presentation during the 6th AFENET Scientific Conference

## South Africa resident Husna Ismail won a third prize at the AFENET Conference in Abuja, Nigeria

### Awards

Husna Ismail won a third prize at the AFENET Conference in Abuja, Nigeria in August 2016 for her poster presentation titled: “Epidemiology of drug-susceptible tuberculosis in Gauteng, South Africa, 2012-2014”.

The MPH attainment rate increased from 51% in 2011 to the current rate of 85%.



Husna Ismail won a third prize at the AFENET Conference in Abuja, Nigeria

## Uganda FETP residents at the 6th AFENET Scientific Conference

A team of 19 MPH Residents and alumni from Uganda (MakSPH) presented abstracts 6th AFENET Scientific Conference. The MPH Uganda team made 6 oral presentations and 15 oral poster presentations. The presenters acquired knowledge in several scientific concepts, had an opportunity to develop their scientific communication skills and networked with residents from other African Programs.



A group photo of the Uganda team with the Minister of Health (seated front with flowered blouse) at the 6th AFENET Scientific Conference, Abuja, Nigeria



A group photo of the MPH/ Uganda FETP participants at the 6th AFENET Scientific Conference



One of the MPH/ Uganda FETP residents (Ignatius Wadunde) making a poster presentation at the 6th AFENET Scientific Conference

## AFENET SECRETARIAT



Program Directors and Board of Directors at the AFENET Annual General Meeting 31 October – 1 November 2016 at Kampala Serena, Hotel, Uganda

### **AFENET Board of Directors and Annual General Meeting in Kampala**

Board of Directors and Program Directors of the African Field Epidemiology Network attended the Annual General Meeting which took place 31 October – 1 November 2016 at the Kampala Serena Hotel, Uganda.

The meeting, chaired by the AFENET Board Chair – Prof Tshimanga Mufuta, was combined with a Board Meeting Board of Directors to discuss strategies for growth and direction for the organization. The Board also reviewed reports from key units at the Secretariat and discussed key issues that affect the Secretariat and relations with all member programs.

The current Board of Directors was elected at the General Assembly on in November 2015, in Kampala, Uganda.

### **Implementing the Global Health Security Agenda through efficient Medical Counter Measures**

#### **Medical Counter Measures Supply Chain Workshop at the AFENET Secretariat**

The African Field Epidemiology Network organized a Medical Counter Measures Supply Chain Workshop for medical personnel who are key in dispensing vaccines, antiviral drugs, antibiotics, antitoxin, among

others in support of treatment or prophylaxis (oral or vaccination). Medical Counter Measures and Personnel deployment is a package of the Global Health Security Agenda whose main objective is to improve access in an efficient and effective manner of medical and non-medical counter measures during health emergencies.

The workshop focused on establishment of flexible public Health Crisis supply chains so that Medical Counter Measures are at the right place on time to save lives.

In Uganda, the Global Health Security Initiative (GHSI)



(Right) Dr. Issa Makumbi, Manger - Emergency Operations Center (EOC) with participants at the Medical Counter Measures Supply Chain Workshop at the AFENET Secretariat

is implemented as a collaboration of the Uganda Ministry of Health (MOH) with World Health Organization (WHO), US Agency for International Development (USAID), Centers for Disease Control and Prevention (CDC), Defense Threat Reduction Agency (DTRA), US Department of Defense (DoD), US Embassy, Kampala and the African Field Epidemiology Network (AFENET).

### **Building the African Field Epidemiology Network through strategic planning**

The African Field Epidemiology Network developed its first five year strategic plan for the period 2012-2016 in 2011. The six priority plan developed in 2011 advocated for: Strengthening field epidemiology, public health and laboratory capacity in Africa as well as strengthening surveillance and outbreak response and laboratory capacity among others. The plan which was developed in partnership with Ministries of Health guided the operations of the African Field Epidemiology Network.

The 2011 plan which was developed in partnership with Ministries of Health laid the platform for an updated plan to guide the next five years.

A strategic planning workshop was organized by the AFENET secretariat from 2 - 4 November 2016 in Kampala, Uganda to guide the development of a new strategic plan. Some of the themes identified to guide the new strategy include: Surveillance and response, Infectious diseases, mental health issues, Laboratory systems strengthening, Health systems and research and Capacity building for applied epidemiology. The thematic areas are meant to guide AFENET's path in developing Field Epidemiology practice in the African region and address the priority public health meetings.

The strategic planning workshop also assessed AFENET's overall goals, operational capacity to deliver on its strategic goals and objectives. Also discussed the Secretariat's mandate and within countries, capacity of the Board of Directors and Annual General Meeting.



Participants at the Strategic Planning Meeting, Kampala, Uganda

The workshop was attended by Program Directors, Resident Advisors, and key program staff and partners who shared ideas on how to achieve the AFENET goal and Mission in the next years.

#### **The workshop sought to:**

- Assess AFENET's operational capacity to deliver on its strategic goals and objectives
- Identify strengths and weaknesses and other constraints that may have influenced program performance and make recommendation on how they can be addressed.
- Conduct a contextual analysis for the current situation that would increase the impact of Field Epidemiology in Africa (including but not limited to Knowledge management, Resource mobilization, Networking and partnership)

The process of developing the plan as a network is the first step towards building the network work towards achieving its goal of a "Healthier Africa"

### **Frontline FETP Resident Advisors Orientation Workshop**

The African Field Epidemiology Network (AFENET) organized a five day Frontline FETP Resident Advisors Orientation Workshop at the Kampala Serena Hotel, Uganda. The workshop aimed to improve business competitiveness.

#### **The objectives of the workshop:**

- To orient the frontline FETP resident advisors and administrators on the organizational structures and operations of the African Field epidemiology Network.
- To acclimatize FETP resident advisors and administrators on the AFENET business model and its uniqueness as a network.
- To provide a platform for the country program staff to share achievements, challenges, lessons & recommendations in implementing frontline FETP in their respective countries.
- To provide an opportunity for the country staff to work with the AFENET secretariat counterparts to refine work plans and operational budgets for the financial year 2016/2017.

Participants included: Field Epidemiology Laboratory Training Programs countries such as: Nigeria, Kenya, Benin, Gambia, Senegal, Mali, Sierra Leone, DRC, Tanzania, Cote d'Ivoire, Guinea Bissau, Liberia, Mauritania, Burkina Faso, Uganda and AFENET Secretariat administrators. Among these participants were also representatives from CDC.

## Strengthening the capacity of Afenet to achieve its objectives



Participants at the Scientific Writing Workshop, Arusha Tanzania

### Microsoft Project 2013 Training Workshop, Kampala – Uganda

Three faculty members of the GFELTP participated in a one-week MS Project software workshop organized by the African Field Epidemiology Network (AFENET) in Kampala, Uganda. The training was organized for AFENET member country programmes from May 22 – 27, 2016. The objective of the training was to build capacity for country programmes and for staff of the AFENET Secretariat to plan, implement and monitor their projects effectively. The training was a hands-on approach with participants learning by doing. The training focused on setting up work plan, developing tasks and subtasks, developing a resource sheet, assigning resources to tasks, filtering of activities and monitoring of the project. The participants also had the opportunity to interact and share ideas with each other

and with AFENET Secretariat staff. A total of 13 countries participated in this workshop.

### Scientific Writing Workshop, Arusha Tanzania

Following your successful presentation at the 6th AFENET Scientific Conference held in August 2016, it Best presenters during the AFENET conference participated in a residential 5-day Scientific Writing Workshop, organized by the African Field Epidemiology Network (AFENET) Secretariat. The workshop took place in Arusha, Tanzania from 10 – 14 October 2016.

The workshop enabled participants develop skills in writing scientific manuscripts that would be published in peer reviewed journals. The main objective of the workshop is to provide opportunity to write manuscripts out of the presentations made at the AFENET Conference.



Participants at the Microsoft Project 2013 Training Workshop, Kampala – Uganda

## SUCCESS STORIES



Dr. Mohamed Ali Mohamed (Director Quality Assurance, Ministry of Health and Social Welfare, Tanzania) and Dr. Janneth Mghamba (Program Director TFELTP) launching the alumni association in Tanzania on 4 July 2015.

### Field Epidemiology Alumni Associations: an important platform for networking and information sharing between graduates and among FELTPs

During 2015 AFENET supported the launch of four alumni associations; in Tanzania, Ethiopia, Ghana, and Nigeria. The need to establish and support vibrant alumni associations was affirmed during a landmark FE(L)TP Program Directors' meeting held alongside the 20th anniversary celebrations for the Zimbabwe FELTP, the oldest African FE(L)TP, and one of AFENET's founder members. Before 2015, only three FE(L)TPs - Zimbabwe (2008), Uganda (2011) and Kenya (2013) had formed alumni associations. This brings to seven the total number of alumni associations currently under AFENET support.

Alumni Associations serve as forums for information-sharing and foster collaboration amongst graduates of African Field Epidemiology (and Laboratory) Training Programs (FE(L)TPs). The critical importance of vibrant and well-coordinated alumni associations was manifested during the West Africa Ebola Virus Disease (EVD) outbreak. In DRC, graduates played a critical role in the EVD outbreak that hit the country in early 2015. AFENET, in partnership with the US Centers for Disease Control and Prevention (CDC) and the African Union mobilized FE(L)TP graduates to support outbreak investigation and response activities

by participating in a variety of activities in Nigeria and Sierra Leone, including, coordination of response activities, social mobilization and communication, surveillance and case management.

In 2015, AFENET availed the Ethiopia, Ghana, Nigeria, Tanzania and Zimbabwe Programs USD 50,000 each towards their efforts to strengthen their alumni associations. With continued AFENET support vibrant alumni associations will serve as an important platform for networking and information sharing between graduates and among FE(L)TPs, and will be one of AFENET's strong mechanisms for strengthening FE(L)TPs for long term sustainability towards "A healthier Africa".

### Sample of activities implemented by the alumni in their associations:

- Radio programs to create awareness on public health concerns;
- Research projects;
- Writing of scientific articles and bulletins for publication;
- Sharing of scientific information through conference presentations;
- Supporting outbreak investigation and response activities;
- Supporting training of FELTP residents.

## AFENET pioneers the development of a library of Africa-based public health case studies for FE(L)TPs

AFENET, in collaboration with US CDC, rolled out an initiative to build capacity in the development of Africa-based public health case studies. With facilitators from the Emory University Rollins School of Public Health, the objective of this initiative is to ensure that, "...the trainees are able to develop and present refined, culturally tailored case studies that address health concerns in the African geographical context and can be used for public health training." Case studies are an effective tool to reinforce knowledge and skills acquisition in public health training. However, the current set of case studies used by African FE(L)TPs are out of context for the African setting.



Dr Richard Dicker from CDC discusses the "Jaundice in Kenya" case study with the trainees

The first cohort of trainees comprised 13 participants from eight African countries: Uganda, Kenya, Tanzania, Ethiopia, Ghana, Nigeria, Zimbabwe and Mozambique. Nominated by their Program Directors to attend the training as part of capacity building for FE(L)TPs, participants were trained as trainers for their respective Programs, to ensure continuous production of case studies. The first of a series of trainings was phased: a 2-week session took place in August 2015 at the Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, Georgia, USA. This was followed by a one week training at AFENET Secretariat in Uganda in April 2016

The core course competences include: the anatomy of a case study; developing audience profile and learning objectives; selecting appropriate public health events with rich detail and context and evaluating fit for topic; retrieving appropriate details from published data and scientific evidence; applying the components of case study development and lesson planning; developing, pilot testing and refining the case study student and instructor's guide; peer evaluation of case studies for clearness and clarity; presenting newly developed case studies verbally and, developing critical thinking skills.

Commenting on the opportunity offered by the initiative, the Ugandan participant Doreen Tuhebwe referred to it as ".....an exciting progressive learning and skill acquisition experience to develop culturally tailored case studies that can be used as tools for training students and practitioners in public health." To increase their use, the case studies developed by course participants will be disseminated by publication in a suitable journal and also presented at conferences.

This initiative is a critical step in AFENET's effort to ensure effective prevention and control of epidemics and other priority public health problems in Africa, as trainees of African FE(L)TPs will be able to relate case study scenarios to day to day occurrences in their communities.

Best practices for learning	Case study benefits
<b>C</b> : Contextualize with a real scenario →	Illustrates concepts related to goal, generalizable to other/future scenarios
<b>A</b> : Assess in real time →	Facilitators and fellow students provide immediate feedback during class discussion
<b>S</b> : Synthesize concepts and methods →	Encourages critical thinking and layered skill development beyond recitation of knowledge
<b>E</b> : Encourage collaboration →	Non-threatening forum where students collectively share ideas and progress together.
<b>S</b> : Skills application →	Must be relevant to job and context, simulate real life decisions.

*Rationale of case studies*



## AFENET strengthens documentation and sharing of field epidemiology experiences



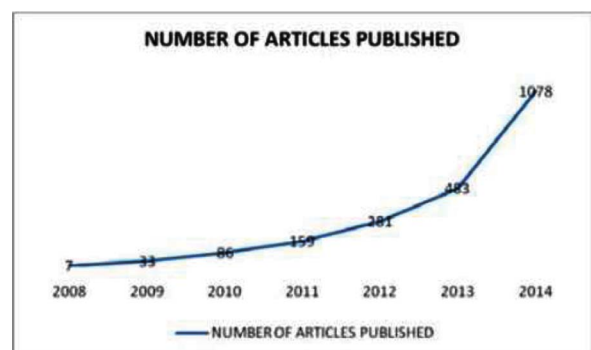
An FETP trainee presents his poster at the 5th AFENET Scientific Conference. An FETP trainee presents his poster at the 5th AFENET Scientific Conference.

One of AFENET's strategic objectives is to strengthen documentation and dissemination of field epidemiology experiences, by supporting research and also facilitating member programs and the Secretariat to document and disseminate their implementation experiences. With a target audience of health professionals, academic researchers, students, policy makers and anybody with interest in Africa health issues, AFENET's aim is to create and support a culture of information sharing and publishing amongst FE(L)TP residents and staff.

Over the period 2010 – 2015, FELTP residents attended numerous national, regional and international scientific conferences where they showcased over 300 poster and 297 high quality oral presentations. Owing to the high level quality of presentations and posters sharing field epidemiology experiences, FELTPs received more than 6 international awards.

Furthermore, a memorandum of understanding signed between AFENET and the Pan African Medical Journal (PAMJ), (an on-line, bilingual (English and French) Open Access biomedical peer-reviewed journal ([www.panafrican-med-journal.com](http://www.panafrican-med-journal.com)) published in electronic format) in May 2008 provided trainees and FELTP graduates additional opportunities and platforms through which their work can be published. AFENET-supported publications in PAMJ alone increased dramatically from 7 in 2008 to 1,078 in 2014.

These achievements demonstrate that the power of information sharing through publications and other means of documentation cannot be underestimated, as it increases the amount of information available to understand, plan and implement solutions to Africa's health challenges for better health outcomes both for Africa and the global community.



Number of publications supported by AFENET since 2008

## ORGANIZATION GOVERNANCE

AFENET's highest body of governance is the Board of Directors, comprising of eight individuals drawn from the membership, and outside. One position is non-voting and is held by a representative for the World Health Organization Regional Office for Africa.

The Annual General Assembly is responsible for performing advisory functions to the Board of Directors. The AFENET Secretariat is based in Kampala, Uganda led by the Executive Director.

### Board of Directors:

- Provision of strategic direction for the network
- Ensuring good corporate governance practices within the Network
- Establishing and maintaining programs and systems designed to ensure compliance with terms of contracts and grants;
- Overall supervision, risk management and monitoring of the organizational performance of the network,
- Approval of the budgets, work plans, strategic and operational plans of the network;
- Mobilization and soliciting prospective funders / Partners of the network;
- Review and approval of the annual financial statements, management financial reports and operational reports of the network.
- Appointment and setting the remuneration of external auditors of the network.
- Approval of policies and procedures of the Network
- Hiring, terminating, evaluating, and working with the Executive Director and Senior Management
- Identifying and proactively dealing with emerging issues.

### Executive Director:

- Day-to-day oversight and management of the network
- Secretary to the Board of Directors though not a member of the Board and without voting rights; subject to provisions of the constitution
- Overall controller of the budgets and activity work plans of the network
- Liaise with the Board on funds mobilization drives for the Network
- Submission of reports to the Board of Directors
- Oversight for all country level activities as led by country coordinators and the focal persons
- Hire of Network staff
- Provide direct supervision, guidance and evaluation of Secretariat staff
- Primary liaison with partners (e.g. USAID, CDC, etc).

### Program Directors:

Each AFENET Member country is overseen by a Country Coordinator/ Program Director appointed by the host institution. The Program Director is responsible for:

- Development and implementation of country work plans in liaison with the Secretariat.
- Country level implementation of the program in liaison with the Secretariat.
- Disbursement and accountability of funds in the area of their jurisdiction

### Resident Advisor / Program officers:

At each country coordination office, there is a Resident Advisor/ Program Officer who is responsible for:

- Technical oversight of the implementation projects and activities within their countries
- Generation and development of new projects, including resource mobilization

## Functions / Roles and Responsibilities of Departments at the secretariat:

### PROGRAMS UNIT

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#### Director Programs:

Based at the Secretariat, the Director Programs is responsible for:

- Technical oversight of all program activities over the entire network and ensuring that programs objectives are met
- Support the Executive Director on the technical aspects of the Network
- Provide support to grant writing process in liaison with Country Coordinators and their Program Officers
- Preparation of network technical reports for submission to stakeholders
- Providing mentorship and guidance to the technical staff with in the network

### ADMINISTRATION UNIT

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#### Director of Administration:

Based at the Secretariat, the Director of Administration is responsible for:

- The day to day running of administration functions within the network
- Mentoring administrative staff within the network
- Developing and ensuring compliance with administrative processes and systems
- The Unit houses key functions like Procurement, Fleet management, Human Resources management and Information Technology.

### FINANCE UNIT

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#### Director Finance:

Based at the Secretariat, the Director of Finance is responsible for:

- The day to day running of finance functions within the network
- Mentoring finance staff within the network
- Developing and ensuring compliance with finance processes and systems

### INTERNAL AUDIT UNIT

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#### Director Internal Audit

Based at the Secretariat, the Director of Internal Audit is responsible for:

- Developing and implementing the formal risk management, governance and internal control framework for the network
- Implementing an effective compliance and internal audit structure
- Technical advice to the Board of Directors, Management and entire network on audit, risk management and governance issues.

### SUPPORT STAFF (SECRETARIAT AND COUNTRIES):

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AFENET shall maintain other staff to support Directors and Program Directors to perform respective roles.

## Appendix

FETP/FELTP	Established	No. of Cohorts enrolled	Residents enrolled since inception	No. of current Year 1 residents	No. of current Year 2 residents	Total no. of residents/alumni by track			Total no. of Graduates
						Epidemiology	Laboratory	Veterinary	
Angola	2011	4	37	8	11	15	16	0	6
DRC	2013	4	162	12	0	25	9	9	12
Ethiopia	2009	7	121	16	16	121	0	0	80
Ghana	2007	10	100	11	20	38	46	16	60
Kenya	2004	11	133	20	18	76	46	11	66
Mozambique	2010	4	37	11	14	22	15	0	10
Nigeria	2008	9	374	59	56	222	85	64	175
Rwanda	2010	3	48	13	15	38	10	0	13
South Africa	2006	9	80	9	5	62	18	0	46
South Sudan <sup>1</sup>	2012 <sup>2</sup>	4	89	0	0	89	0	0	70
Tanzania	2008	7	105	15	13	66	46	0	45
Uganda	1994	22	367	23	15	367	0	0	367
Zimbabwe	1993	23	243	15	18	243	0	0	235

Not a fully-fledged FETP

Frontline FETP only

Last cohort graduated in August 2015 (discontinued due to war)

Outbreaks investigated in the Field Epidemiology and Laboratory Training Programs in 2015

FELTP	Outbreaks investigated	Selected Outbreak	Date	Place	Trainees involved	Key Findings and Public Health Action
Angola	Rabies, yellow fever, cholera, measles.	Rabies	January-March 2015	Viana district, Luanda Province	Joaquina Cambuta	Rabies vaccination Campaign
Democratic Republic of Congo	Ebola	Ebola		Guinea Conakry, Boende		Strengthen the surveillance system by including investigations of rumors, identification of contacts and their follow-up. . . the implementation of a data management system for contacts and alerts
Ethiopia	Influenza, measles, meningitis, malaria, food borne pathogens.	influenza	2016	Gondar, haramaya		Provided Disaster Risk management and Toxicological outbreak investigations Training for 34 University Instructors (Mentors) by three SME who came from Atlanta, Environmental and Disaster prevention Division.
Ghana	Cholera, road accidents, malnutrition, meningitis, tuberculosis, buruli ulcer.	Malnutrition in children.	2015	Sagnarigu, Greater Accra.		Evaluation of surveillance system for malnutrition in children under five years, Environmental assessment, Interviewed the whole population on the school to identify cases and educated the students and staff on causes, presentation, treatment and prevention of respiratory illnesses
Kenya	Lead Poisoning, Cholera, Cutaneous Leishmaniasis, Fatal Injuries.	Cutaneous Leishmaniasis.	January 2016		Cohort 11	Data collection and analysis, blood lead level testing
Mozambique	cholera	cholera		Nampula		Providing Cholera vaccination.
Nigeria	Avian Influenza (H1N1), malaria, lassa fever,	polio	December 2016	Borno and sokoto, E	11 Cohort VI and VII trainees	Sensitization Visit to one of the Clinics in Ifon (OSE) where a suspected case was initially

FELTP	Outbreaks investigated	Selected Outbreak	Date	Place	Trainees involved	Key Findings and Public Health Action
	polio, measles.			ti-osa.		managed
South Africa	Gastroenteritis, Tuberculosis, human rabies.	Human Rabies.	August 2016	Johannesburg, Limpopo.	Phumzile Gladys Phiri and Patience Manjengwa	Records review, contact tracing and case isolation.
Tanzania	Cholera, Trypanosomiasis	Cholera	February 2016	Kigamboni Municipality, Dar es Salaam	Cohort VI residents: Philoteus Sakasaka, Neema Camara, Jabir Makame Six cohort IX residents	Surveillance and dusting of home steads
Uganda	Yellow Fever, Measles	Yellow Fever	June 2016	Masaka, Kalangala and Rukungiri Districts		The team conducted community level focus group discussions, review meeting with the district specific task forces and in-depth interviews with survivors or affected family members
Zimbabwe	Neonatal Sepsis, Anthrax, Malaria, Foodborne outbreak	Anthrax	2016	Makoni District		

## Selected Articles Published from the Field Epidemiology and Laboratory Training Programs in 2016

TITLE	YEAR, VOLUME AND ISSUE	PROGRAM
Risk factors of severe pneumonia among children aged 2-59 months in western Kenya: a case control study	2012; 13: 45	KENYA
Prevalence and factors associated with percutaneous injuries and splash exposures among health-care workers in a provincial hospital, Kenya, 2010	2013;14:10	KENYA
High case fatality cholera outbreak in Western Kenya, August 2010	2013; 15: 109	KENYA
Characterization and factors associated with diarrhoeal diseases caused by enteric bacterial pathogens among children aged five years and below attending Igembe District Hospital, Kenya	2013; 16: 37	KENYA
Human brucellosis: seroprevalence and associated exposure factors among abattoir workers in Abuja, Nigeria – 2011	2013;16:103	NIGERIA
Factors associated with probable cluster of Leptospirosis among kennel workers in Abuja, Nigeria	2013;16:144	NIGERIA
Evaluation of quality of TB control services by private health care providers in Plateau state, Nigeria; 2012	2014;17:77	NIGERIA
Factors associated with interruption of treatment among Pulmonary Tuberculosis patients in Plateau State, Nigeria. 2011	2014; 17:78.	NIGERIA
Couverture vaccinale et facteurs associés à la non complétude vaccinale des enfants de 12 à 23 mois du district de santé de Djoungolo-Cameroun en 2012	2014; 17: 91	CENTRAL AFRICA
Maternal mortality in Central Province, Kenya, 2009-2010	2014;17:201	KENYA
Assessing the prevalence of spina bifida and encephalocele in a Kenyan hospital from 2005–2010: implications for a neural tube defects surveillance system	2014;18:60	KENYA
Knowledge and beliefs on cervical cancer and practices on cervical cancer screening among women aged 20 to 50 years in Ouagadougou, Burkina Faso, 2012: a cross-sectional study	2014;18:175	SECRETARIAT
Setting research priorities to reduce malaria burden in a post graduate training programme: lessons learnt from the Nigeria field epidemiology and laboratory training programme scientific workshop	2014 ;18:226	NIGERIA

TITLE	YEAR, VOLUME AND ISSUE	PROGRAM
Risk factors of severe pneumonia among children aged 2-59 months in western Kenya: a case control study	2012; 13: 45	KENYA
Prevalence and factors associated with percutaneous injuries and splash exposures among health-care workers in a provincial hospital, Kenya, 2010	2013;14:10	KENYA
High case fatality cholera outbreak in Western Kenya, August 2010	2013; 15: 109	KENYA
Characterization and factors associated with diarrhoeal diseases caused by enteric bacterial pathogens among children aged five years and below attending Igembe District Hospital, Kenya	2013; 16: 37	KENYA
Human brucellosis: seroprevalence and associated exposure factors among abattoir workers in Abuja, Nigeria – 2011	2013;16:103	NIGERIA
Factors associated with probable cluster of Leptospirosis among kennel workers in Abuja, Nigeria	2013;16:144	NIGERIA
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Factors associated with interruption of treatment among Pulmonary Tuberculosis patients in Plateau State, Nigeria. 2011	2014; 17:78.	NIGERIA
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Setting research priorities to reduce malaria burden in a post graduate training programme: lessons learnt from the Nigeria field epidemiology and laboratory training programme scientific workshop	2014 ;18:226	NIGERIA



TITLE	YEAR, VOLUME AND ISSUE	PROGRAM
Phenotypic and genetic characterization of <i>Vibrio cholerae</i> O1 isolated from various regions of Kenya between 2007 and 2010	2014;19:8	KENYA
Investigation to determine staff exposure and describe animal bite surveillance after detection of a rabid zebra in a safari lodge in Kenya, 2011	2014; 19: 10	KENYA
Knowledge and practices towards rabies and determinants of dog rabies vaccination in households: a cross sectional study in an area with high dog bite incidents in Kakamega County, Kenya, 2013	2014 ;19:255	KENYA
Antimicrobial resistance: capacity and practices among clinical laboratories in Kenya, 2013	2014;19:332	KENYA
Factors associated with uptake of voluntary medical male circumcision, Mazowe District, Zimbabwe, 2014	2014;19:337	ZIMBABWE
Direct observation of outpatient management of malaria in a rural Ghanaian district	2014; 19: 367	GHANA
Indoor household residual spraying program performance in Matabeleland South province, Zimbabwe: 2011 to 2012; a descriptive cross-sectional study	2015;20:27	ZIMBABWE
Factors associated with low birth weight among neonates born at Olkalou District Hospital, Central Region, Kenya	2015;20:108	KENYA
Factors associated with major structural birth defects among newborns delivered at Muhimbili National Hospital and Municipal Hospitals in Dar Es Salaam, Tanzania 2011 – 2012	2015;20:153	TANZANIA
Evaluation of HIV antigen /antibody combination ELISAs for diagnosis of HIV infection in Dar Es Salaam, Tanzania	2015;20:196	TANZANIA
Cholera: a comparison of the 2008-9 and 2010 Outbreaks in Kadoma City, Zimbabwe	2015;20:221	ZIMBABWE
Determinants of childhood vaccination completion at a peri-urban hospital in Kenya, December 2013 -January 2014: a case control study	2015;20:277	KENYA
Ebola a reality of modern Public Health; need for Surveillance, Preparedness and Response Training for Health Workers and other multidisciplinary teams: a case for Uganda	2015;20:404	UGANDA

TITLE	YEAR, VOLUME AND ISSUE	PROGRAM
Prevalence of helmet use among motorcycle users in Dar Es Salaam, Tanzania	2015; 20: 438	TANZANIA
Field Epidemiology and Laboratory Training Programs have been in Africa for 10 years, what is their effect on laboratory-based surveillance? Reflections from a panel at the African Society of Laboratory Medicine Cape Town meeting	2015;20:451	SECRETARIAT
Delayed initiation of anti-retroviral therapy in TB/HIV co-infected patients, Sanyati District, Zimbabwe, 2011-2012	2015;21:28	ZIMBABWE
Post exposure prophylaxis following occupational exposure to HIV: a survey of health care workers in Mbeya, Tanzania, 2009-2010	2015; 21: 32	TANZANIA
Risk factors for tuberculosis treatment failure among pulmonary tuberculosis patients in four health regions of Burkina Faso, 2009: case control study	2015; 21: 152	SOUTH AFRICA
Proceedings of the African Field Epidemiology Network (AFENET) Scientific Conference 17-22 November 2013 Addis Ababa, Ethiopia: plenaries and oral presentations	2015 ;21:208	SECRETARIAT
Proceedings of the African Field Epidemiology Network (AFENET) Scientific Conference 17-22 November 2013 Addis Ababa, Ethiopia: posters sessions	2015; 21: 209	SECRETARIAT
Methicillin-resistant staphylococcus aureus (MRSA) colonization among Intensive Care Unit (ICU) patients and health care workers at Muhimbili national hospital, Dar Es Salaam, Tanzania, 2012	2015 ;21:211	TANZANIA
Exclusive breastfeeding and HIV/AIDS: a cross-sectional survey of mothers attending prevention of mother-to-child transmission of HIV clinics in southwestern Nigeria	2015;21:309	NIGERIA
Epidemiological profile of the Ebola virus disease outbreak in Nigeria, July-September 2014	2015;21:331	NIGERIA
Rubella outbreak investigation, Gokwe North District, Midlands province, Zimbabwe, 2014 - a case control study	2015; 22: 60	ZIMBABWE
Prevalence of undiagnosed diabetes and pre-diabetes among hypertensive patients attending Kiambu district Hospital, Kenya: a cross-sectional study	2015;22:286	KENYA

TITLE	YEAR, VOLUME AND ISSUE	PROGRAM
Isolation and characterization of Escherichia colipathotypes and factors associated with well and boreholes water contamination in Mombasa County	2016 ;23:12	KENYA
Foodborne disease outbreak in a resource-limited setting: a tale of missed opportunities and implications for response	2016;23:69	GHANA
Knowledge and prevalence of Human African Trypanosomiasis among residents of Kachia grazing reserve, Kachia local government area, Kaduna state, Nigeria, 2012	2016; 23: 89	NIGERIA
Community vaccine perceptions and its role on vaccination uptake among children aged 12-23 months in the Ileje District, Tanzania: a cross section study	2016;23:162	TANZANIA
The role of the laboratory in outbreak investigation of viral haemorrhagic fever in Nigeria, 2014	2016;23:233	NIGERIA
Management of biomedical waste in two medical laboratories in Bangui, Central African Republic	2016;23:237	CENTRAL AFRICA
Trends in health facility based maternal mortality in Central Region, Kenya: 2008-2012	2016;23:259	KENYA
Sexual risk related behaviour among youth living with HIV in central Uganda: implications for HIV prevention	2016;24:49	UGANDA
Cholera public health surveillance in the Republic of Cameroon-opportunities and challenges	2016;24:222	CENTRAL AFRICA
Accuracy of clinical diagnosis and malaria rapid diagnostic test and its influence on the management of children with fever under reduced malaria burden in Misungwi district, Mwanza Tanzania	2016;25:48	TANZANIA
Factors associated with adverse pregnancy outcomes and perceptions of risk factors among reproductive age women in Soba LGA, Kaduna State 2013	2016;25:111	NIGERIA
Changes in prevalence of tobacco use and the factors that may affect use among Uganda youth: the Global Youth Tobacco Survey (GYTS) 2007-2011	2016;25:152	SECRETARIAT
Bovine tuberculosis: a retrospective study at Jos abattoir, Plateau State, Nigeria	2016;25:202	NIGERIA

## AFENET Partners

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### Academic Institutions

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Addis Ababa University, Ethiopia  
Agostinho Neto University, Angola  
Ahmadu Bello University, Nigeria  
Bernhard Nocht Institute for Tropical Medicine, Germany  
Emory University School of Medicine, USA  
Jomo Kenyatta University of Agriculture and Technology, Kenya  
Makerere University, Uganda  
Muhimbili University of Health and Allied Sciences, Tanzania  
National University of Rwanda School of Public Health  
Swiss Tropical and Public Health Institute,  
University of Ghana  
University of Kinshasa  
University of Pretoria, South Africa  
University of Yaoundé 1, Cameroon  
University of Zimbabwe  
University of Ibadan, Nigeria  
University of Ohio, USA  
University of Ouagadougou

### Associations/Nonprofit Organization

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Ethiopian Public Health Association (EPHA)  
Ethiopian Public Health Institute (EPHI)  
USAID RESPOND Emerging Pandemic Threats Program  
Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)  
Task Force for Global Health

### Government Agencies

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Ethiopia Federal Ministry of Health  
Ghana Ministry of Health  
Rwanda Ministry of Health  
Kenya Medical Research Institute  
Kenya Ministry of Health  
Mozambique Ministry of Public Health and Sanitation  
National Institute for Communicable Diseases  
South Africa Ministry of Health  
Southern Sudan Ministry of Health  
National Health Laboratory Services, South Africa  
National Institute for Communicable Diseases South Africa  
Nigeria Federal Ministry of Health  
Tanzania Ministry of Health and Social Welfare  
Treatment and Research AIDS Center (TRAC) Plus, Rwanda  
Uganda Ministry of Health  
Uganda Virus Research Institute (UVRI)  
Uganda National Expanded Program on Immunization (UNEPI)  
National Institute for Medical Research Tanzania  
Zimbabwe Ministry of Health and Social Welfare  
National Center for Zoonotic, Vector-Borne, and Enteric Diseases, Nigeria

## Corporations

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PepsiCo

## Foundations

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Bill and Melinda Gates Foundation (BMGF)  
CDC Foundation  
Ellison Medical Foundation  
Merck Company Foundation

## Regional and Multinational Agencies

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European Union (EU)  
United Nations Children's Funds (UNICEF)  
WHO/ Global Outbreak Alert and Response Network (GOARN)  
World Health Organization Multi Disease Surveillance Center (MDSC)  
World Health Organization (WHO)  
World Health Organization Regional Office for Africa (WHO AFRO)

## U.S. Government

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U.S. Agency for International Development (USAID)  
U.S. Centers for Disease Control and Prevention (CDC)  
U.S. Department of Health and Human Services (HHS)  
U.S. Department of Defence  
U.S. Department of State  
National Institutes of Health (NIH)

The list of partners is non exhaustive of all AFENET partners since establishment. AFENET remains sincerely appreciative of all partnerships to date.





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