Building capacity in Field Epidemiology

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Field Epidemiology

Almost all outbreaks are "natural experiments."

Epidemiologists work in field settings in different contexts, the term *field epidemiology* is described investigations initiated in response to urgent public health problems.

Source: USCDC

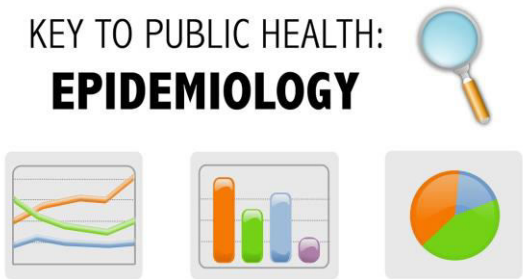
Field Epidemiology

Field epidemiologist

The importance of combining good science with prudent judgment and a better description of a good field investigation would be "quick and appropriate."

sometimes called "quick and dirty" epidemiology.

Field investigation



Source: USCDC

Goal of field epidemiology

A primary goal of field epidemiology is to guide, as quickly as possible, the processes of selecting and implementing interventions to lessen or prevent illness or death when such problems arise.

Source: USCDC

Field epidemiological services focus on in the following three key areas:

Implementation of surveillance, early warning alert and response systems in acute emergencies

Outbreak investigation and response

Surveillance reviews, surveys, programme monitoring and evaluation

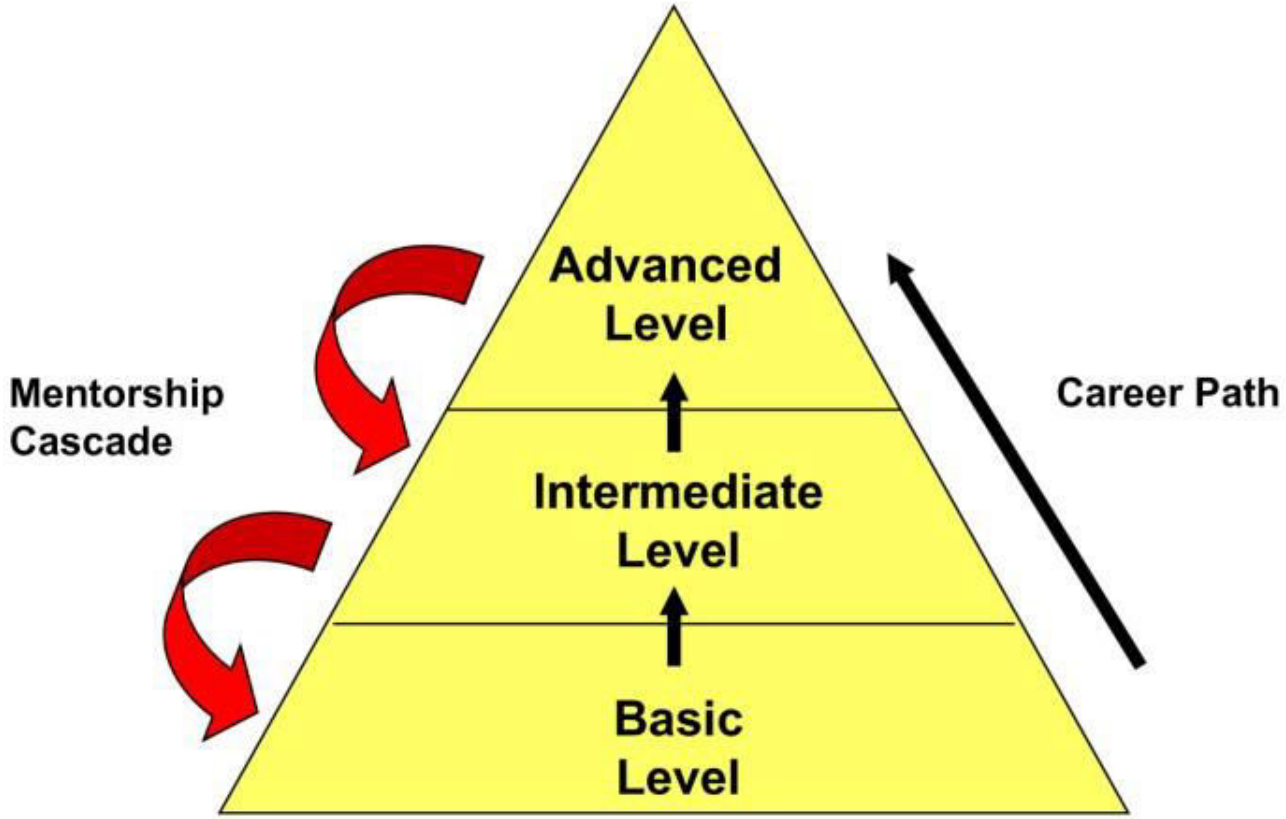
Capacity building for human recourses

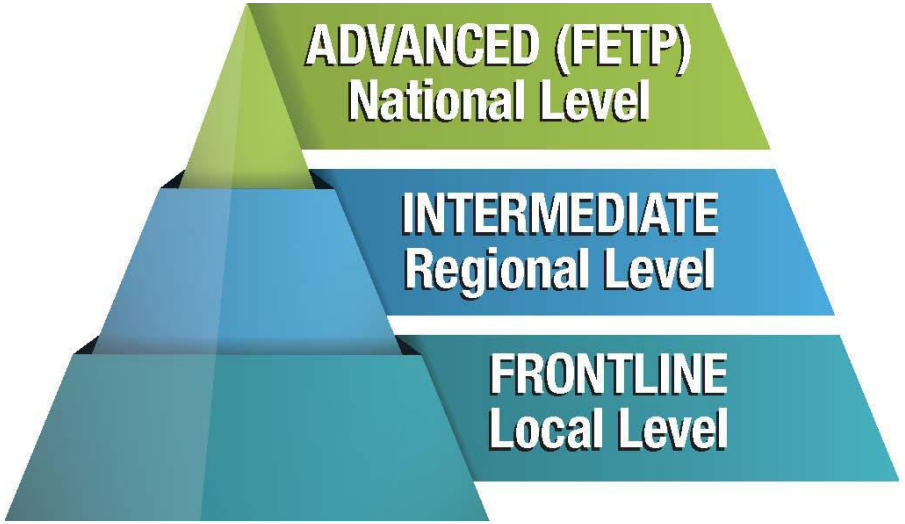
One way we keep people safe is through the Field Epidemiology Training Program (FETP), which trains a global workforce of field epidemiologists, or “disease detectives.”

Background of FETP in global

- Since 1975, a total of 28 Field Epidemiology Training Programs (FETPs) have been established worldwide
- Most FETPs have resulted from partnerships among CDC, host country health agencies, the World Health Organization and other development partners.

Pyramid FETP Model

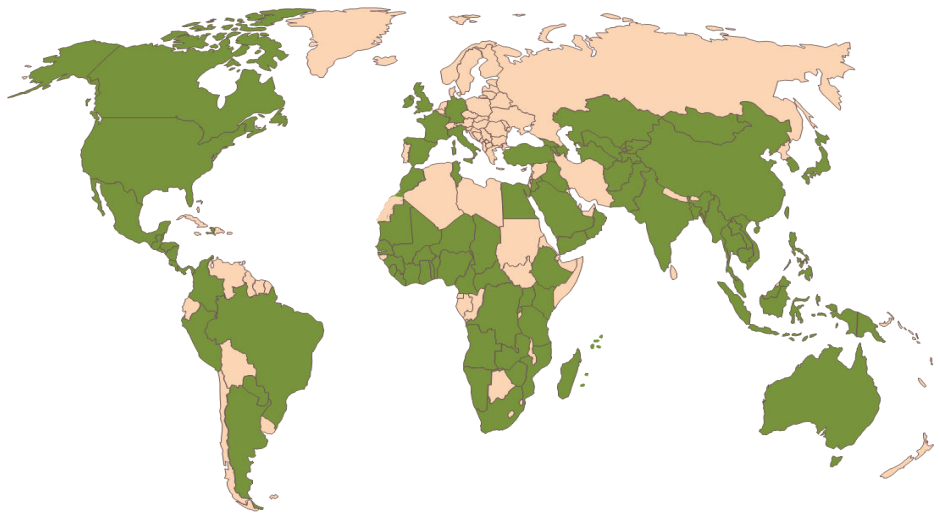




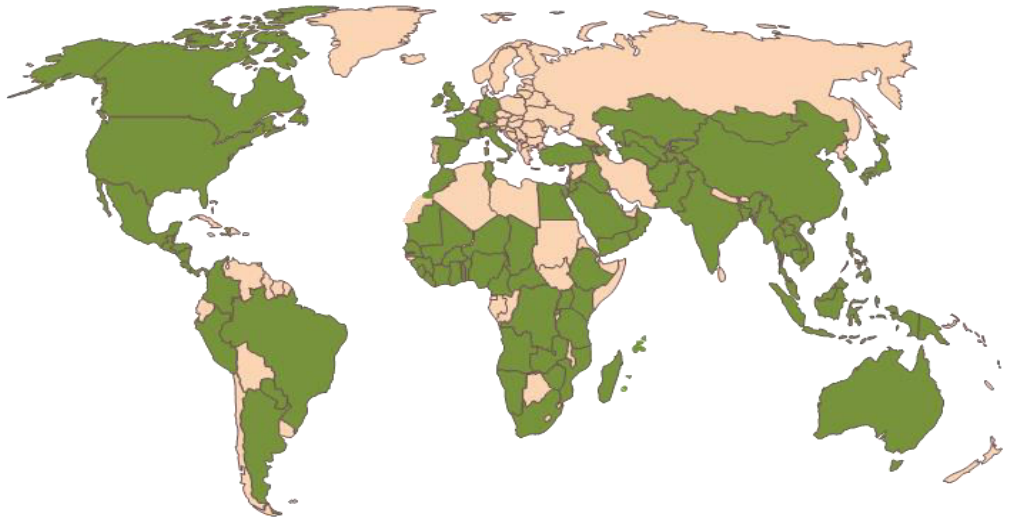
Source: USCDC

Maps of FETP candidates in different countries(2020)

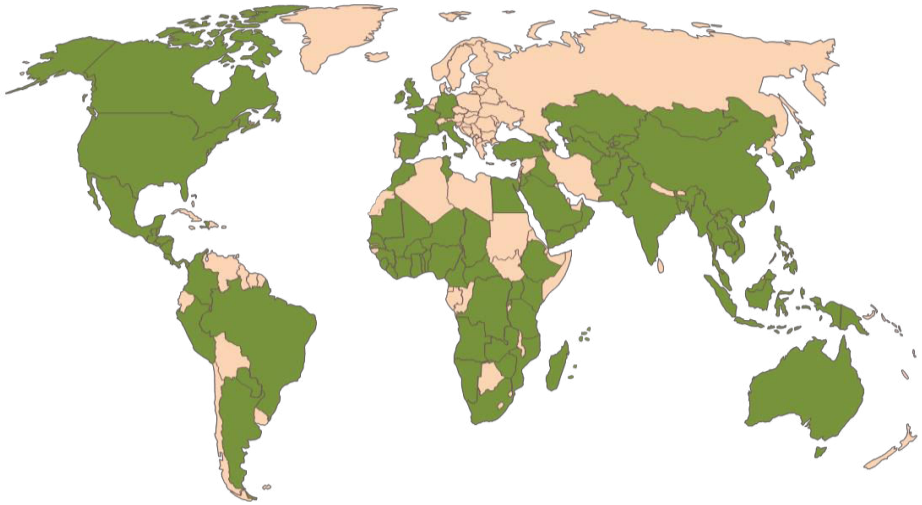
Advanced FETPs 2020



Intermediate FETPs, 2020



Frontline FETPs,2020



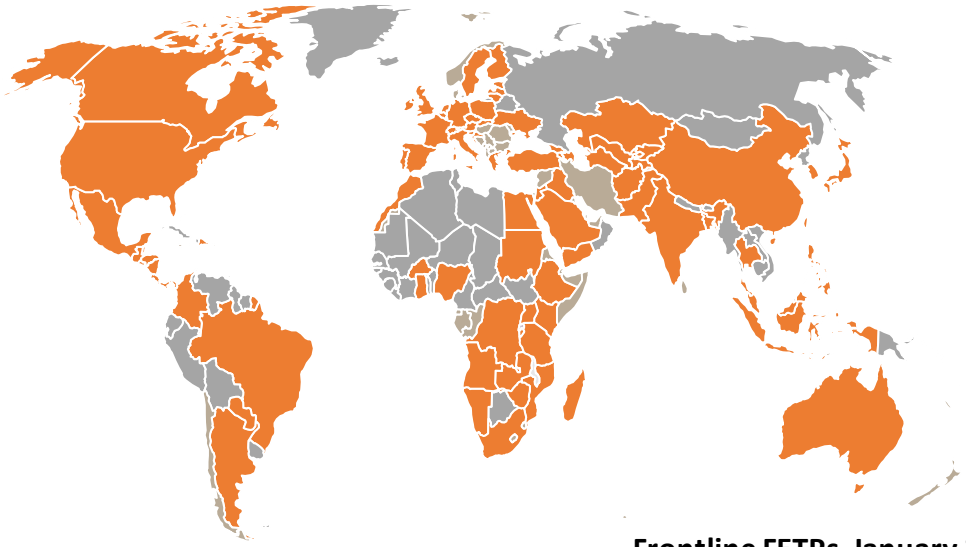
FETP candidates(+)

FETP candidates(-)

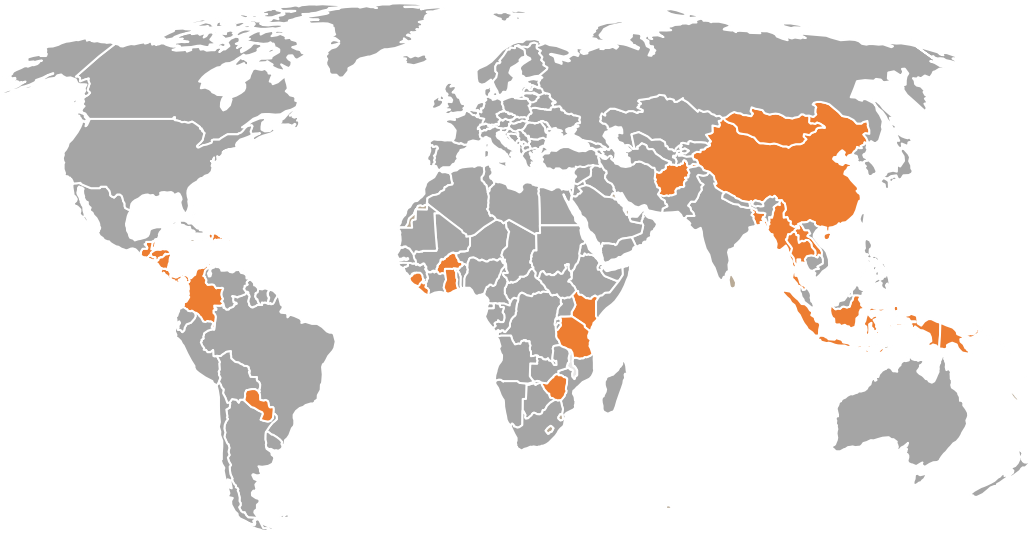
Source: USCDC

Maps of FETPs programs of USCDC in different countries(2021)

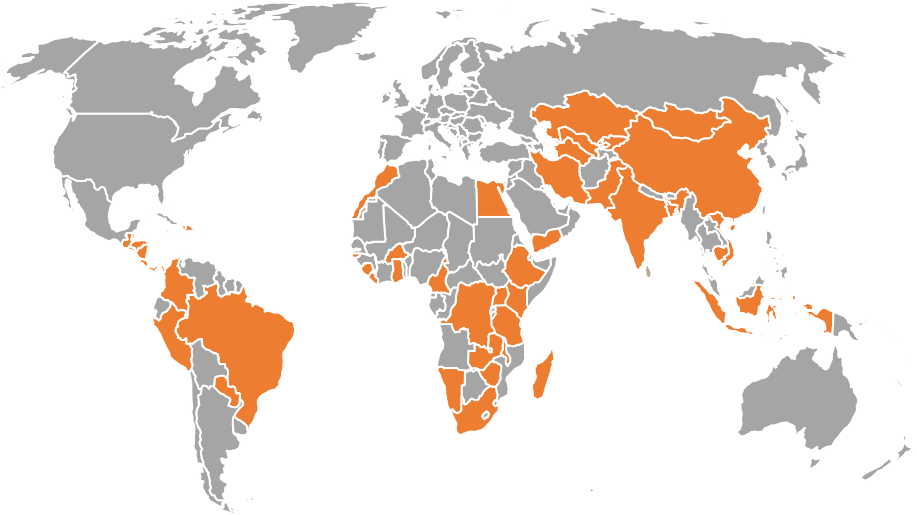
Advanced FETPs, January 2021



Intermediate FETPs, January 2021



Frontline FETPs, January 2021



USCDC FETP program(+)

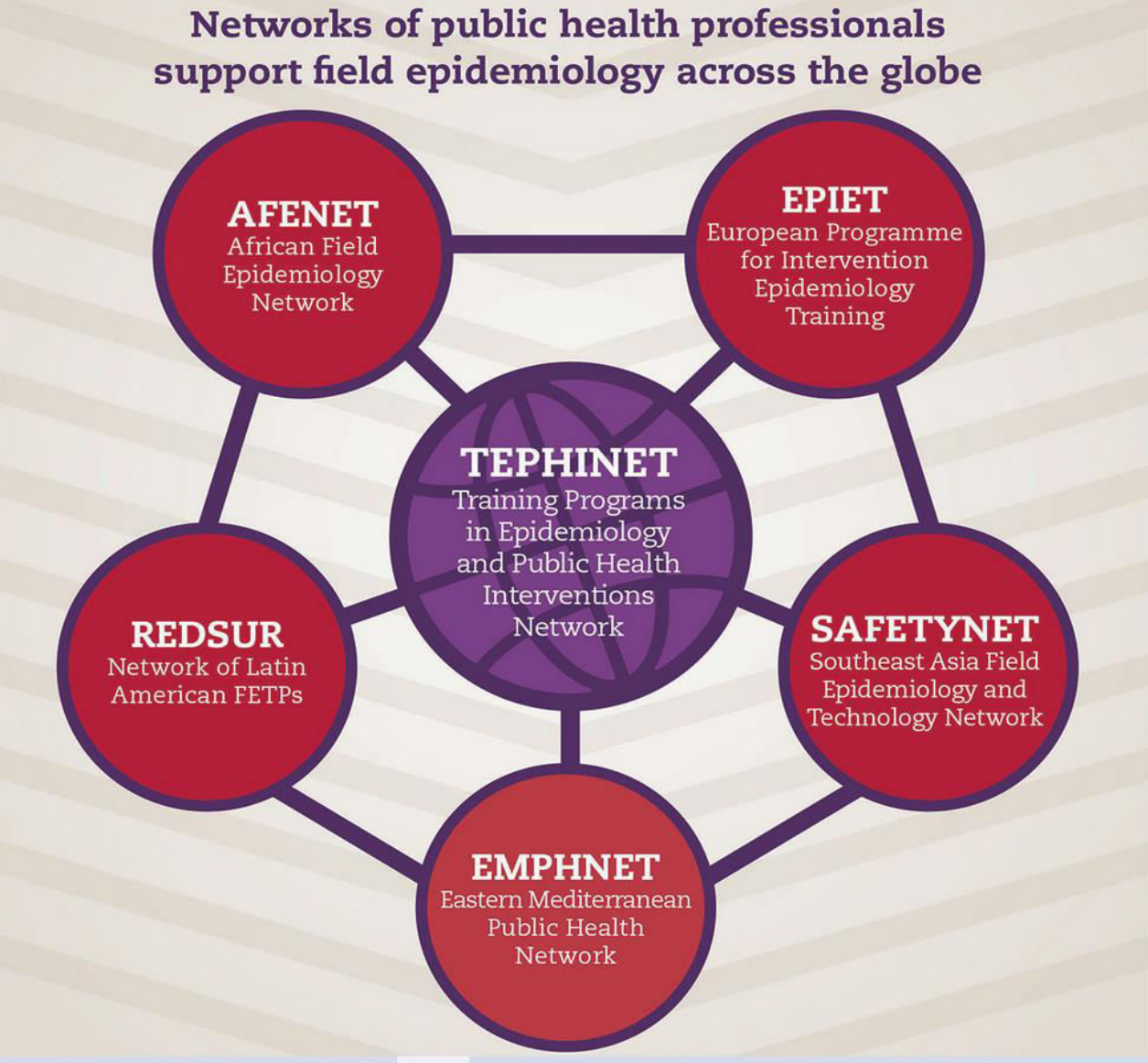
USCDC FETP program(-)

Source: USCDC

FETP Programmmes

- FETPs also assist countries to meet their core capacity requirements for surveillance and response under the International Health Regulations (IHR, 2005) and Global Health Security Agenda.
- The current shortage of human resources for health threatens.
- FETPs which provides a network for information sharing, program development, and quality improvement.
- The largest of these networks is TEPHINET, which reaches more than 100 countries.

FETP networks



Source: USCDC

Regional FETP Conferences

Myanmar Field Epidemiology Training Programme

Myanmar Field Epidemiology Training Programme

Background

- Since 2008, after Nargic cyclone, short courses of Field Epidemiology trainings (FETP) and Rapid Response Team (RRT) training have been established in Myanmar for capacity building of health workforces to strengthen the emergency preparedness and rapid response to disease outbreak and disasters.
- First cohort of intermediate FETP was established on Sept 2018 to April 2019.

World Health Organization
ADB
URC

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World Health Organization
USAID
ADB
URC

Field Epidemiology Training Programme for RRT
Department of Public Health
(16-5-2016) to (20-5-2016)
Myanmar FETP - Our Strength for the Country
Changing Mindset & Attitude
Do Good Job with Good Practices
"Save Lives"
HEALTH TEAM

Field Epidemiology Training Program
(Intermediate Course)
Orientation Workshop
FETP

Field Epidemiology Training Program (Intermediate Course)
FETP

(One month course)

MYANMAR
FETP
Field Epidemiology Training Program (Intermediate Course)
July, 2018 to April, 2019
Lewe, Nay Pyi Taw

July, 2018 to April, 2019

Myanmar Field Epidemiology Training Programme

- Service-based training program with the purpose of training public health workers in the principles and practices of field epidemiology

Objectives

1. Improve the skills of public health workers in the collection, analysis, and interpretation of data, and communicate information on health risks to people
2. Improve the quality and use of surveillance data and public health data for decision-making.
3. Strengthen capacity to timely investigate, respond and control outbreaks and other public health threats, and
4. Improve critical thinking and problem solving skill

According to National Action Plan for Health Security(NAPHS) (2018-2022)

JEE Indicator		D.4.2	Field Epidemiology Training Programme or other applied epidemiology training programme in place
JEE Scores		3	
JEE recommendations			* To train more epidemiologists, biostatisticians and social scientists abroad or set-up in country training for those specialties which facilitate further strengthening of IHR core capacities
	Objective		To strengthen the capacity for workforce development
1.	Finalized and approved the draft curriculum for national FETP basic course and intermediate course(9 months)	5 year plan according to Myanmar FETP Strategic Plan, July 2017	
2.	Mentorships programme for FETP		
3.	Train more field epidemiologists to strengthen health security interventions and IHR related activities through FETP courses and other applied epidemiology training programmes		

Achievements in 5 years

- Implement frontline, intermediate and advanced training programs
- Graduates will be used for outbreak and disaster response
- Become a WHO Collaborating Center for field epidemiology
- Establish a career path for graduates
- Link universities in training all levels
- University degree for advanced graduates
- Strengthen mentors training and field projects

Source: Myanmar FETP Strategic Plan, July 2017

2 year Plan for Myanmar FETP

Proposed training and workshops/meetings

No.	Programme	Trainees/ Participants	No. of participants	Duration
1.	FETP	Health Assistants	22	1 month
2.	Mentors and superiors training	Mentors & Supervisors	30-40	-
3.	Mentor workshop	Mentors	-	-
4.	FETP intermediate-pre-requisite course	MO	30	2 weeks
5.	Intermediate 2nd Cohort	MO	15	9 months
6.	Evaluation workshop	MOHS, Advisory, Partners, Fellows	-	-
7.	FETP front line course	HA/PHS	25	3- months
8.	Stakeholders meeting / Planning meeting	MOHS, Advisory & partners	-	-

2 year Plan for Myanmar FETP

Proposed international training and workshops/meetings

No.	Programme	Trainees/ Participants	No. of participants	Duration
1.	FETP	Central/S&R	2	2 years
2.	MAE course in ANU	CEU/Disaster/Disease control	2	2 years
3.	FETP	Central/S&R	2	(3-months)
4.	FETP TOT	Central/S&R	2	(1-month)
5.	FETP (paramedics)	Central/S&R/Townships	2	(1-month)
6.	Mentorship Trainings	Mentors	10-15	-
7.	Scientific writing workshop	Fellow/alumni	5-8	-
8.	Conferences	Central/S&R	4	-

Resource persons

- **Myanmar Advisory group**
  - Technical advisors, DPH, DHRH
- **Facilitators**
  - MOHS (Faculties of UPH/UCH/UMs, DMR, FETP fellows, Program Managers)
  - External (WHO, USCDC, ANU, PHE)
- **Mentors**
  - FETP graduates, PhD & Master (Epidemiology/Trop Med)
- **Supervisors**
  - State/Regional Public Health Director/ DyD
- **Myanmar FETP Secretariat**
  - CEU, Partners

Supporting Organizations

- **Technical Support**
  - WHO
  - USCDC
  - Public Health England
  - Australian National University

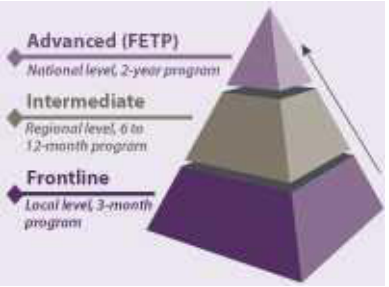
- **Logistics & Financial Support**
  - WHO
  - USCDC
  - ADB (GMS HS)
  - World Bank
  - Public Health England
  - USAIDS
  - URC
  - DFID, UK
  - DFAT, AUS
  - JICA

Strength of Myanmar FETP

- High-level commitment
- Infrastructure
- Trained public health epidemiologists
- Utilized graduates in the health emergencies & disasters
- Supportive partners
- Career ladder for FETP graduates

Myanmar Field Epidemiology Training Programme

How we do it

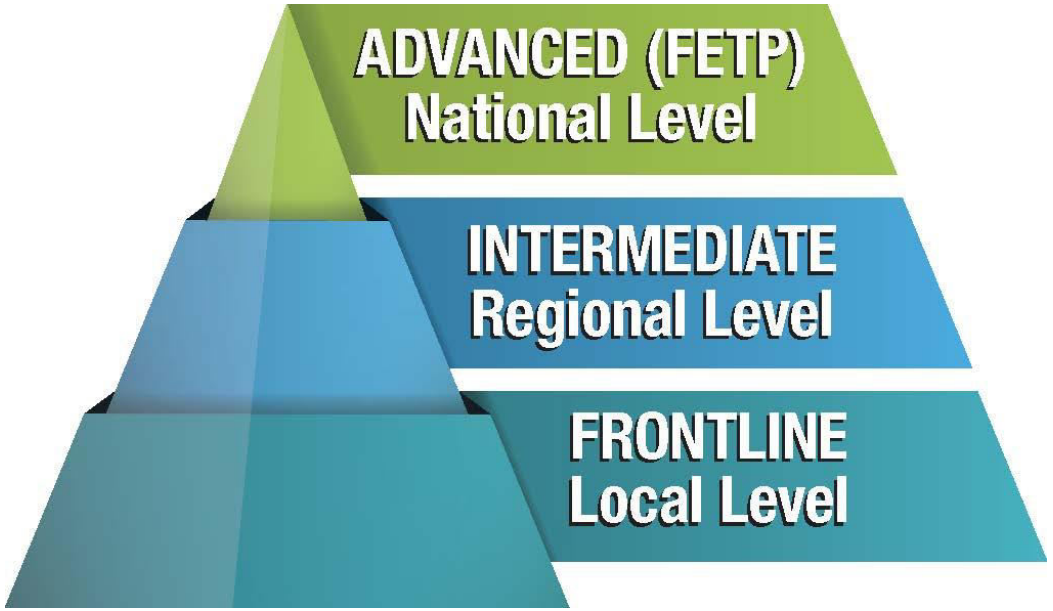


Levels of training

Build health workforce through three levels of training

- Increase public health capacity at national levels and all States and Region levels
- Address different skill levels within the public health system
- International FETP trainings for advanced level

FETP graduate staffing by level (as of January 2021)



	Target	Trained
ADVANCED (FETP) National Level	25	9
INTERMEDIATE Regional Level	118	15
FRONTLINE Local Level	990-1650	831

Source: Myanmar FETP Strategic Plan, July 2017

How we do it

Learning

by doing

Provide hands-on training modeled

- Teaches residents to collect, interpret, and apply information on infectious and non-communicable diseases
- Residents spend approximately 75% of their time in the field

Competencies of FETP

Competency Domain	FETP-Frontline	FETP-Intermediate	FETP-Advanced
Public Health Surveillance	Summarize data from and monitor reporting to a local surveillance system	Summarize data from and evaluate surveillance systems reports for external distribution	Summarize data from and implement improvements to surveillance systems
Field Investigation	Participate in epidemiologic field investigation	Conduct outbreak investigations using descriptive epidemiology	Conduct (lead) outbreak investigations using analytic epidemiology
Epidemiologic Methods	Summarize and interpret surveillance data	Design, conduct, analyze, and interpret data from descriptive epidemiologic studies	Design, conduct, analyze, and interpret data from analytic epidemiologic studies
Scientific Communication	Prepare timely surveillance reports for internal use	Produce epidemiologic reports for external distribution	Develop and deliver written and oral epidemiologic reports to an external audience

Source: USCDC

How we do it

Curriculums and Competencies

Using the U.S. CDC FETP Intermediate and frontline curriculums

- Develop curriculums and competencies of Intermediate FETP course by technical supports from USCDC and advisory group
- Modify case studies and case scenarios in Myanmar contexts

How we do it

Teaching methods

Using the interactive learning styles coaching by mentors, supervisors and facilitators

- Group discussion and case scenarios
- Individual field projects in their residents
- Group field project

International FETP Programmes for Myanmar Candidates

- Master of FETP course in Thailand - 2 years
- Field Epidemiology Training Program in Thailand - 2 years
- Master degree of philosophy in applied epidemiology in Australian National University - 2 years
- FETP course at National Centre for Disease Control in India - 3 months
- FETP course for paramedic at National Centre for Disease Control in India - 1 month
- TOT training for FETP in Thailand - 1 month
- Mentorship training

Opportunities for Myanmar FETP Candidates

- Attending the internal FETP conferences
- Joining the international conferences on infectious diseases
- Publication of individual/group projects

INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES
INTERNATIONAL SOCIETY FOR INFECTIOUS DISEASES

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PDF [364 K

Measles outbreak investigation in Yone Daw Village, Lewe Township, Naypyitaw Union Territory, Myanmar (2019)

A. Thura

Open Access • DOI: https://doi.org/10.1016/j.ijid.2020.09.983 • Check for updates

Article Info

Background: Measles is one of the most infectious viral diseases. Suspected Measles is an immediately notifiable disease. On 15th January 2019, three suspected cases of Measles from Yone Daw village sub-center were reported. Naypyidaw Public Health Department organized an outbreak investigation team. The team conducted outbreak investigation on 24th January 2019 to characterize the extent of the measles outbreak, to identify the source of infection, mode of transmission and risk factors, to implement control and prevention measures.

Methods and materials: Study designs were both descriptive and analytical studies. All statistical analyses were performed using Epi-info 7. The routine surveillance data reviewing, retrospective case finding, active case search were done. All suspected cases were interviewed using questionnaire of Measles case investigation form.

Cases definition were Suspected case of measles – an individual who lived in Yone Daw Village and developed fever with maculo-papular rash during January 2019 and Laboratory confirmed case – a suspected case of measles that has been confirmed by serology tests in National Health Laboratory. Four suspected cases were serologically tested for measles using enzyme-linked immune-sorbent assay (ELISA).

- All levels of Myanmar FETP candidates contributes diseases surveillance and outbreak response in all levels (Central and States/Region levels)
- International FETP training for SDCU team leaders in all States/Regions

Future Leaders of MoHS

FETP contribution during covid-19 pandemic

- Disease surveillance activities at community and border areas
- Contribution in RRT members
- Development of preparedness and response plan at central level and State/Region level (Intermediate FETP candidate)
- Identification and monitoring of COVID-19 suspected cases , confirmed cases and close contacts
- Data analysis, dissemination and timely reporting
- Publication of daily COVID-19 situation report
- Community awareness activities
- Risk communication and assessment

FETP contribution during covid-19 pandemic

No.	Levels of FETP	No. of RRT Members	Places of outbreak response
1.	International FETP(2 year FETP ,3 month FETP and MAE student)	5	Central Command Centre Central Epidemiology Unit Tedium, Chin State Myawaddy , Kayin State Mandalay Region
2.	FETP Intermediate course(9 months)	7	Central Epidemiology Unit Central Command Centre Kyaukphyu, Rakhine State Myawaddy, Kayin State Myingyan, Mandalay Region Bago Region (COVID-19 Outbreak in Prison)
3.	FETP short course for Health Assistants (1 month)	6	Yangon International Airport, Myawaddy, Kayin State, Rakhine

How we do it

Monitoring and Evaluation

Continuous monitoring of FETP candidates and make external and internal evaluation of the trainings and programme.

- Programme improvement
- Quality of the training
- Sustainability

Recommendations from Evaluation of First Cohort

MoHS

- Increase advocacy with State and Regional Health Directors
- Hire full-time staff for the FETP Secretariat
- Activate the FETP Advisory Committee and hold regular meetings

Field Supervisors

- Advocacy on FETP to supervisors to understand their responsibilities to the Participant's FETP training

Recommendations from Evaluation of First Cohort

Mentors

- Training mentors to become better mentors
- Use a ratio of one Participant per mentor
- Mentors and Participants should be in the same State/Region whenever possible

Instructor

- Use FETP graduates as course assistants and then as instructors and mentors as they become competent and confident of the materials

Way forwards for Myanmar FETP

- Cooperation and collaboration with Global and Regional FETP network
- Cooperation and collaboration with development partners

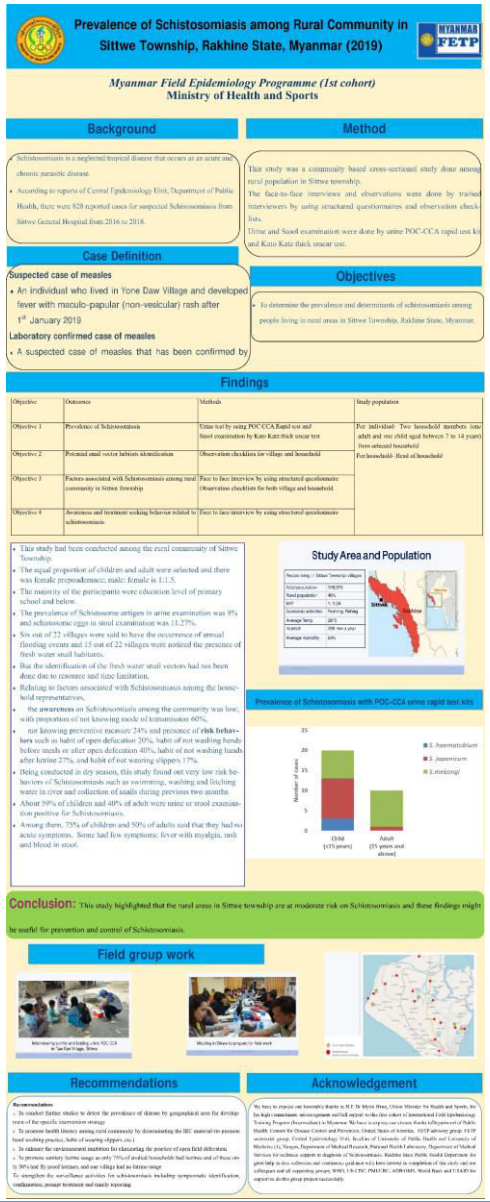
USCDC

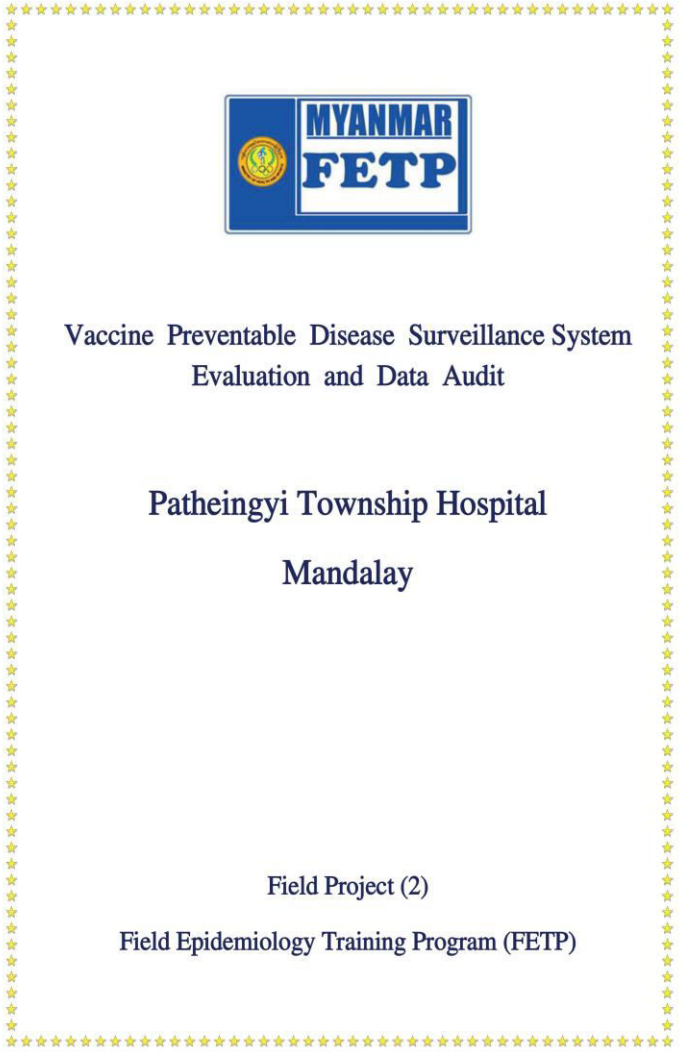
WHO

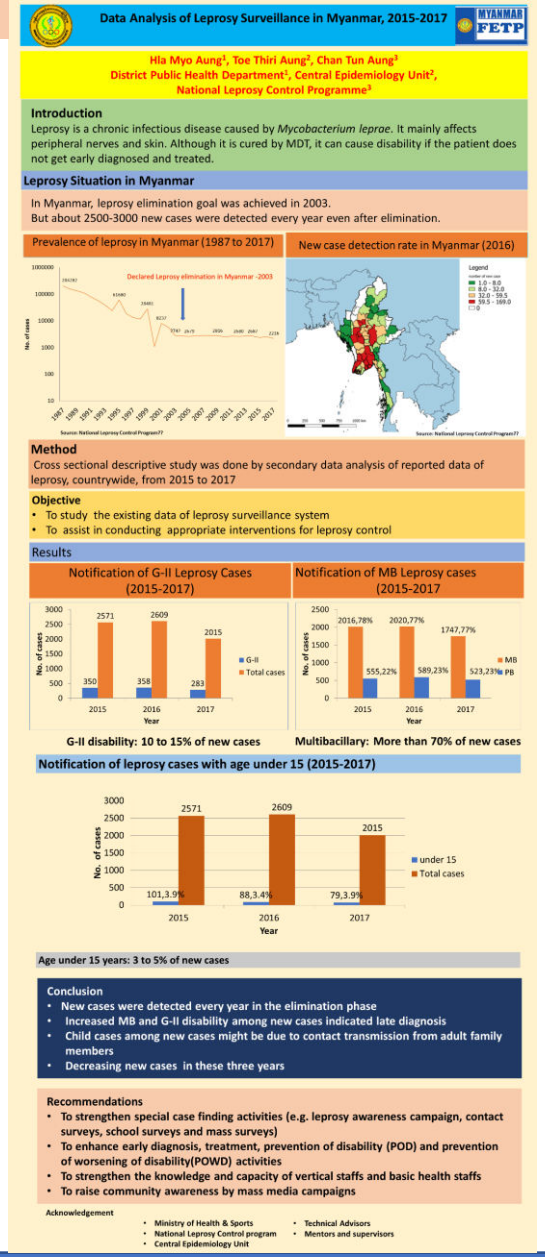
ASEAN +3 FETP Network

SAFETYNET

Output of FETP candidates (intermediate course) 2018 in Myanmar







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Thank You