Training Category: Population Health and Applied Epidemiology

**Summary and Purpose**

Population Health and Applied Epidemiology focuses on the application of epidemiology, the basic science of public health and the cornerstone of effective population health practice. Applied epidemiology delivers a source of reliable and actionable information from which decision makers and stakeholders can chart an effective course that will result in the promotion and protection of the public’s health.

Course Title: ***Outbreak Investigation and Response***

Overview ***Outbreak Investigation and Response*** will focus on the basics and importance of an outbreak investigation and the role and responsibilities of the main agencies and experts involved in the investigation. This course will also emphasize the standard operating procedures involved in a strategic and organized response. Participants will examine the role descriptive epidemiology plays in an investigation as they implement the steps of investigating an outbreak.

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Duration 5 Days

Course Objectives At the end of the course, the participant will be able to:

* describe the steps of an outbreak investigation
* develop and use case definitions
* recognize what constitutes an outbreak
* describe data by time, place, person
* interpret epidemic curves
* develop line listing
* recognize good interview techniques when investigating cases in the field
* calculate attack rates and incubation periods
* develop an outbreak investigation report

Number of participants 15 to 25

Audience Public Health Officials, Epidemiologists

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Surveillance in Action***

Overview ***Surveillance in Action*** The purpose of this course is to refresh the knowledge of mid to high level managers on concepts of surveillance; types of surveillance including passive and active surveillance, Early Warning systems, HIS, use of EWS and surveillance information on decision making process, the differences between these systems and the usage of each. The course will also provide an insight to the participants on how the surveillance information can be used for better communication and advocacy for program implementation.

Duration 5 Days

Course Objectives At the end of the course, the participant will be able to:

* define Public health surveillance
* recognize the types and uses of surveillance
* identify the sources of data
* examine the components of mortality and injury surveillance
* examine the components of surveillance in refugee, IDP, and mass gathering situations
* discuss the use of surveillance data in emergency response
* apply surveillance data for action and decision making processes
* recognize the considerations when planning public health surveillance
* discuss issues with surveillance data
* examine effective communication methods of public health information

Number of participants 15 to 25

Audience Middle to high level managers, Epidemiologists, and those who are working in processing and synthesizing data into information.

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Public Health Surveillance and Outbreak Response***

Overview ***Public Health Surveillance and Outbreak Response*** aims to examine the role of public health surveillance and develop skills in field epidemiology that focus on early detection of outbreaks and response, implementation of descriptive epi (time, place, person), and analysis and interpretation of surveillance data to detect and respond to outbreaks as well as control and manage them.

Duration 5 Days

Course Objectives At the end of the course, the participant will be able to:

* examine the role of public health surveillance in outbreak response
* analyze surveillance data by time, place, person changing the value of any of the elements
* evaluate a surveillance system
* develop case definitions and hypotheses
* develop utilize a line list
* examine the steps of an outbreak investigation
* recognize response and control measures in an outbreak
* recognize how to effectively communicate evidence based data that will drive decisions in an outbreak setting
* develop an outbreak investigation report

Number of participants 15 to 20

Audience Public Health Officials, Epidemiologists

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Applied Epidemiologic Methods***

Overview ***Applied Epidemiologic Methods*** is intended to emphasize the importance of descriptive and analytic epidemiologic information to promote and protect the public’s health and describe the application or practice of epidemiology to address public health issues.

Duration 5 Days

Course Objectives At the end of the course, the participant will be able to:

* define applied epidemiology
* recognize specific terminology related to applied epidemiology
* summarize the historical evolution of applied epidemiology
* describe the elements of a case definition and recognize the effect of changing the value of any of the elements
* recognize the key features and uses of descriptive epidemiology
* recognize the key features and uses of analytic epidemiology
* explain the three components of the epidemiologic triad
* describe the different modes of transmission of communicable disease in population
* describe primary applications of epidemiology in public health practice

Number of participants 15 to 20

Audience Public Health Officials, Epidemiologists, Policy/Decision Makers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***The*** ***Fundamentals of Public Health***

Overview ***The Fundamentals of Public Health*** provides an introduction to public health and includes the sciences that make up public health practice. Components include introductions to epidemiology, public health surveillance, informatics, the role of the laboratory, and prevention effectiveness.

Duration 5 Days

Course Objectives At the end of the course, the participant will be able to:

* describe the purpose of public health
* recognize the core functions of public health
* recognize how individual determinants of health affect the population’s health
* describe basic concepts of epidemiology
* identify types of data sources
* describe a public health problem in terms of descriptive epi (time, place, person)
* describe the key components of an outbreak investigation
* describe the goal of public health surveillance
* describe the uses of a public health surveillance system
* recognize the types of public health surveillance
* identify sources of data used for public health surveillance
* describe the role of informatics in public health
* recognize the importance of informatics to public health
* explain the role of laboratories in public health
* describe how laboratory results are used in public health
* define prevention effectiveness
* describe the basic key components of prevention effectiveness
* identify data used in the most common types of economic evaluation methods

Number of participants 10 to 15

Audience Public Health Officials, Epidemiologists, Policy/Decision Makers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Management and Analysis of Data using Epi Info 7***

Overview Data are valuable resources that provide information from which evidence based decisions can be made. Effective management and analysis of data is vital to developing an understanding in order to implement interventions and effect policies that will lead to success. Using a scenario based on an actual study and data derived from the case-control study conducted, the participant will learn how to manage and analyze study data. In this training, the participant will use Epi Info for Windows software to perform data management and analysis activities commonly encountered in an analytic study and investigation.

Duration 3 weeks

Course Objectives At the end of the course, the participant will be able to:

* define public health surveillance
* apply a systematic approach to data management and editing
* describe how to conduct quality-control checks, including identification of duplicates and missing data
* conduct and interpret univariate analyses for a case-control study
* discuss when to perform a stratified analysis
* calculate a summary risk estimate using the Mantel and Haenszel test
* conduct and interpret bivariate and stratified analysis
* identify presence of confounding using stratified analysis
* identify presence of effect modification in a dataset
* present findings to interpret effect modification
* describe how frequency matching controls to cases reduces confounding
* list the advantages and disadvantages of matching
* calculate measures of association in a case-control-study
* conduct and interpret multivariate analysis
* describe the purpose of using logistic regression
* describe the process to create a logistic regression model

Number of participants 10 to 12

Audience Public Health Officials, Epidemiologists, Data Analysts

Prerequisites None

Certificate Certificates of completion will be issued

Training Category: Evidence-Based Public Health

Course Title: ***Data for Decision Making***

Overview ***Data for Decision Making*** is a one-year, on the job training program that minimizes the amount of the time the participant spends away from his/her job. The program consists of five one week sessions taught over the course of a year. Each session ends with an assignment that the participant will need to complete before the next session. By the end of the training, each participant will have developed a written document that proposes solutions to an existing health problem. Implementation of this project should produce a measurable health impact.

Duration 5 one week sessions taught over the course of a year

Course Objectives At the end of the course, the participant will be able to:

* describe the key concepts of public health surveillance
* describe the functions of a surveillance system
* recognize the main uses of surveillance data
* recognize sources of surveillance and other data available in your country
* calculate and interpret biostatistical measures (e.g. ratios, rates, proportions, prevalence)
* develop a group consensus in the establishment of priorities
* describe the components of a clear health problem statement
* Identify data needed to complete the health problem statement
* conduct literature searches using on-line and other sources
* deliver an effective oral presentation
* describe data using advanced epidemiologic methods
* develop an intervention strategy
* determine the best study design to address priority health questions
* organize and present data using computer programs as well as manual methods
* describe various sample selection methods
* design a questionnaire
* identify possible interventions for a specific health problem based on data gathered
* apply concepts of cost benefit, cost effectiveness, cost analysis, and cost evaluation in selecting an intervention
* identify resource (funds, personnel, supplies, facilities) needs for projects
* Develop a work plan, budget, and monitoring and evaluation plan
* Develop a communication plan
* Develop a briefing document to deliver to stakeholders
* Develop a 250-word abstract describing the proposed intervention to address the identified health problem
* Develop a complete work plan to a broad audience of colleagues, Ministry of Health officials, donors, media, etc.

Number of participants 10 to 15

Audience Public Health Officials, Epidemiologists, Policy/Decision Makers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Quantitative and Qualitative Research Methods***

Overview ***Quantitative and Qualitative Research Methods*** Qualitative research, used in combination with quantitative research, can effectively investigate public health questions. This training examines the different potential uses of qualitative methods in public health research and diverse qualitative research approaches. Topics include: study design; developing questionnaires, specific data collection methods, sampling for qualitative studies; data management; data analysis; writing results and research proposals; and considerations for choosing qualitative methods at each stage of the study.

Duration 10 Days

Course Objectives At the end of the course, the participant will be able to:

* describe key methodologies used to investigate public health challenges
* describe methodologies that can identify the causes and risk factors including but not limited to determinants of mortality and morbidity; leading causes of health disparities among regional, national, and global populations; and transmission for infectious and chronic diseases
* recognize and implement data collection methods
* analyze scientific data and other information to assess complex public health challenges
* develop a variety of questionnaires
* recognize the components of a research proposals
* deliver, effectively and persuasively, orally and in writing, to communicate complex concepts and information in a clear and concise manner

Number of participants 10 to 12

Audience Public Health Officials, Research Scientists, Epidemiologists, Policy/Decision Makers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Public Health Communication***

Overview ***Public Health Communication*** recognizes that science and communication are essential to promoting and protecting the health of the public. This training focuses on both the art and science of informing, influencing, and motivating individuals, institutional, and public audiences about important health issues. Participants will learn how to target audiences and develop the appropriate communication, scientific abstracts, manuscripts, and briefs and how to identify appropriate peer-reviewed journals for submission. Participant will also develop oral presentations and media releases for a variety of audiences and purposes.

Duration 10 days

Course Objectives At the end of the course, the participant will be able to:

* define IMRAD approach
* identify target audiences and recognize effective communication techniques for each
* develop a scientific abstract and manuscript using the IMRAD method
* describe the peer-review process
* evaluate peer-reviewed journals for which to submit manuscripts
* develop a public health brief
* examine effective techniques for working with the media
* design and deliver an oral presentation
* deliver, effectively and persuasively, orally and in writing, to communicate complex concepts and information in a clear and concise manner
* recognize ethical issues in public health communication
* explain authorship and the roles and responsibilities of authors

Number of participants 15 to 20

Audience Public Health Officials, Research Scientists, Epidemiologists, Policy/Decision Makers

Prerequisites None

Certificate Certificates of completion will be issued

Training Category: Preparedness and Emergency Response

Course Title: ***Principles of Emergency Management***

Overview ***Emergency Management*** focuses on the creation of plans that help reduce vulnerability to hazards and strengthen their abilities to cope with disasters. Disaster management does not preclude or eliminate the threats, but rather focuses on developing plans to decrease the impact of disasters through effective contingency planning.

Duration 5 days

Course Objectives At the end of the course, the participant will be able to:

* describe the five phases of emergency management
* demonstrate the components of the five phases
* recognize possible risks
* evaluate the different risks
* identify partners and their roles and responsibilities
* develop an incident assessment
* develop a communication plan
* develop a contingency plan and recognize its importance
* Define and develop a recovery plan

Number of participants 20 to 25

Audience Public Health Officials, Epidemiologists, Ministry of Health Officials responsible for emergency preparedness

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***The Role of the Epidemiologist in Disaster Response***

Overview ***The Role of the Epidemiologist in Disaster Response*** emphasizes the role of the epidemiologist and the use of epidemiology to assess the short- and long-term adverse health effects of disasters and to predict consequences of future disasters and provide effective response to emergencies and disasters. This workshop focuses on such topics as disaster trends and public health consequences, lessons learned from previous disasters, essential indicators in emergencies, rapid assessments, early warning surveillance systems, surveys and samplings, and personal protection equipment. Participants will also learn about acute and communicable disease, environmental health, chronic disease, injury, mental health, and behavioral health. In disasters, the epidemiologist provides information that helps us understand what the needs are, plan the response, and gather the appropriate resources.

Duration 10 days

Course Objectives At the end of the course, the participant will be able to:

* recognize the different types of emergencies and disasters
* examine lessons learned in past emergency and disaster responses
* examine disaster trends for the eastern Mediterranean Region
* define essential indicators in emergencies
* develop rapid assessments
* define early warning surveillance systems
* recognize the benefits of early warning surveillance systems
* apply effective surveys and sampling in disaster and emergency response
* recognize the importance of epidemiology in effective planning and response to disasters and emergencies
* examine the effects disasters and emergencies have on various areas of health (e.g. communicable disease, environmental health, injury, mental health, chronic disease, etc…)

Number of participants 20 to 25

Audience Epidemiologists, Public Health Officers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title:  ***Risk and Crisis Communication***

Overview ***Risk and Crisis Communication*** is an effective way to talk to people in the midst of a crisis so that messages will get through and be understood. This training focuses on what to say, when to say it, and how to say it so that the public will trust and understand by introducing the principles of crisis and risk communication, the psychology of a crisis, the messages and audiences, crisis communication plans, working with the media, stakeholders and other partners, and the role of public health law.

Duration 10 days

Course Objectives At the end of the course, the participant will be able to:

* define crisis and emergency risk
* recognize different types of disasters
* examine the communication lifecycle
* recognize the ways people process information
* examine mental states and behaviors in crises
* describe cardinal rules of risk communication
* examine risk communication at different stages of crisis
* analyze different messages for different audiences
* develop crisis communication plans
* identify the role of the spokesperson
* examine the media’s role in risk and crisis communication
* Identify the role and responsibilities of stakeholders and other partners

Number of participants 20 to 25

Audience Epidemiologists, Public Health Officers; Communication Officers,

Prerequisites None

Certificate Certificates of completion will be issued

Training Category: Public Health Leadership and Management

Course Title: ***Leadership and Management for Public Health Officials***

Overview ***Leadership and Management for Public Health Officials*** delivers a full range of management skills- from budgeting to public health intervention skills, from team building to conflict resolution. Understanding the role that management plays in achieving success in population health is critical for those who seek to understand public health.

Duration 10 days

Course Objectives At the end of the course, the participant will be able to:

* distinguish between a manager and leader
* define meta leadership
* recognize meta-leadership styles
* develop a public health intervention with a budget
* define financial management and develop foundational skills
* identify supervisory development goals
* develop the elements and phases of project management
* define priorities and establish goals
* examine effective techniques for conflict resolution and negotiation
* identify time management techniques
* recognize the importance of a consistent monitoring and evaluation

Number of participants 20 to 25

Audience Ministry of Health Officials, Public Health Officers, Program Managers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Ethics in Public Health***

Overview ***Ethics in Public Health*** aims to raise the capacity of public health professionals in defining, analysing, and hopefully resolving the ethical issues they encounter in their practice. This training will focus on bioethics, the branch of ethics that is concerned with the analysis of ethical issues encountered during the provision of healthcare and research. The main components of bioethics include clinical ethics, organizational ethics, research ethics and public health ethics.

Duration 10 days

Course Objectives At the end of the course, the participant will be able to:

* describe the categorization and terminology related to healthcare ethics, mainly ethics, bioethics, and public health ethics
* analyze the ethical issues associated with the practice of surveillance and screening
* discuss the global approaches and differences in research and surveillance and other activities similar to research
* define the concepts and scope of health promotion
* analyze the ethical principles that arise from health promotion activities
* discuss the interrelations between the low-moderate economic status of most of the EMR region countries with the ethical issues in occupational health
* apply the ethical principles and frameworks on defining, analyzing, and decision making about the ethical issues encountered in occupational health, with emphasis on the situation in EMR region
* develop and apply strategies for working effectively with populations who may have different ethnic, racial, or religious backgrounds develop the elements and phases of project management
* compare the appropriateness of implementation of the PH ethical core values to the settings of disasters
* apply the ethical frameworks to analyze and manage the ethical issues associated with provision of public health care during disasters
* recognize the significance of ethical review of research and similar activities
* apply an ethical framework for moral reasoning and analysis of the ethical issues related to the conduct of PH research
* utilize ethical analysis frameworks in identifying potential ethical issues and to conduct ethical analysis of public health interventions

Number of participants 20 to 25

Audience Ministry of Health Officials, Public Health Officers, Epidemiologists, Researchers,

Prerequisites None

Certificate Certificates of completion will be issued

Training Category: Specialty Courses

Course Title: ***Food Safety Epidemiology***

Overview ***Food Safety Epidemiology*** combines the concepts of food safety with the science of epidemiology. Food safety is now a common concept, but it’s also a relatively young area of interest and continues to change rapidly. In food safety, epidemiology is used to study the patterns of outbreaks among the public and identify risk factors. In addition to gathering information about human cases, epidemiology can also be applied to the bacteria itself. These details create a picture of risk, and epidemiology aims to map this risk as well as track sources and patterns of outbreaks. This training will introduce the processes and procedures of food safety as well as outbreak investigation and surveillance of foodborne disease.

Duration 5 days

Course Objectives At the end of the course, the participant will be able to:

* explain common causes of foodborne illness
* describe the impacts of foodborne hazards on food safety, environment, and human health
* define the transmission, epidemiology, and pathogenesis of foodborne pathogens
* recognize safe practices in food preparation
* examine methods to control product contamination
* explain product quarantine
* analyze the steps in investigating a foodborne outbreak
* apply statistical methods
* recognize the importance of a foodborne surveillance system
* apply epidemiologic data to identify foodborne outbreaks and evaluate public health impact of food safety control

Number of participants 25 to 30

Audience Ministry of Health Officials, Public Health Officers

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***IHR Toolkit for Epidemiologists***

Overview ***IHR Toolkit for Epidemiologists*** aims to provide the participant with the expertise necessary to utilize and implement the agreement known as the International Health Regulations, or IHR. This training seeks to reinforce the capacities of the epidemiologists in the Eastern Mediterranean Region to effectively contribute to IHR implementation in their countries.

Duration 5 days

Course Objectives At the end of the course, the participant will be able to:

* define IHR and recognize concepts
* define surveillance, alert, and response systems to public health events using IHR as a framework
* categorize epidemiologic competencies with IHR core capacities
* describe the impact IHR has on laboratory systems
* explain risk assessment
* describe steps of risk management cycle
* identify roles and responsibilities of those involved in ensuring global public health security
* describe the WHO event management process

Number of participants 25 to 30

Audience Ministry of Health Officials, Public Health Officers, Epidemiologists

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Public Health in Mass Gatherings***

Overview ***Public Health in Mass Gatherings*** is a workshop designed to provide training on surveillance, preparedness and response for health events during mass gatherings and develop, execute, and publish results from special surveillance projects. This training aims to strengthen the surveillance and response in a mass gathering, but also improve the quality and quantity of scientific publications from the region.

Duration Two 1 week sessions

Course Objectives At the end of the course, the participant will be able to:

* recognize the public health issues that arise from mass gatherings
* examine mass gatherings in the region and respective countries
* analyze effective surveillance systems
* assess a surveillance system at a mass gathering in respective country
* develop appropriate control measures when signals are detected
* collect, analyze, and interpret data
* develop surveillance evaluation reports
* develop scientific abstracts and manuscripts

Number of participants 25 to 30

Audience Epidemiologists

Prerequisites None

Certificate Certificates of completion will be issued

Course Title: ***Ebola Virus Rapid Response Team Training***

Overview ***Ebola Virus Rapid Response Team Training*** is a workshop that focuses on team building, roles and responsibilities of team members, and outbreak investigation and response to the Ebola Virus. This training will emphasize team building among responders, Ebola transmission, response and control, surveillance, outbreak investigation, and contact tracing. Participants will also gain knowledge in infection control and protection, specimen collection, quarantine, isolation, and safe burial. PPE and risk communication will also be included in this training.

Duration 5 days

Course Objectives At the end of the course, the participant will be able to:

* recognize the role of the rapid response team and a member of the multidisciplinary rapid response team
* develop an epidemiological assessment of an outbreak
* examine case definitions
* describe sample collection, transportation, and laboratory confirmation
* develop an environmental risk assessment
* develop a risk communication plan with community behaviors and perceptions in mind
* recognize methods of infection control and prevention
* apply effective PPE practices
* describe the role of surveillance in outbreak detection
* apply the steps of an outbreak investigation
* describe safe burial practices for Ebola victims
* define contact tracing
* demonstrate contact tracing

Number of participants 25 to 30

Audience Mid to Senior Level Experts, Epidemiologists, Laboratorians,

Communication Specialists, Infection, Prevention, Control Specialists,

Veterinarians

Prerequisites None

Certificate Certificates of completion will be issued