

# EMPHNET IN IRAQ

A Growing Partnership Towards Strengthened  
Public Health System

Iraqi Ministry of Health and EMPHNET ...  
a decade-long partnership

كۆمارى عىراق  
وهزارهتى تهنروسىتى  
تهنروسىتى نىودهولتهتى



جمهورية العراق  
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تحية طيبة

نظرا" للجهود التي بذلتها منظمتكم في دعم برامج الصحة العامة في عموم محافظات العراق للارتقاء بمستوى الخدمات الصحية المقدمة للمواطنين لايسعنا الاأن نقدم شكرنا وتقديرنا امين منكم المزيد من العطاء خدمة للاهداف النبيلة المشتركة .

مع الاحترام

الدكتورة  
كريمة الفتلاوي  
مدير قسم الصحة الدولية  
٢٠١٩/٧ / ٧



**Health is the greatest  
possession**

Lao Tzu

## Introduction

Since written in the year 1750 B.C., Hammurabi's code regulated the practice of medicine which made Iraq the civilization of the first recognition of human health rights. Despite the overwhelming challenges, Iraq has been seriously striving to maintain a minimum level of health services as a basic human right through strengthening its health systems based on national priorities in coordination with concerned stakeholders.

During the past ten years, the Eastern Mediterranean Public Health Network (EMPHNET) has worked with the Iraqi Ministry of Health and Environment (MoH) together with relevant governmental entities and international organizations on various projects that address health systems components in the country. Throughout a strategic and continuous collaboration over the past decade, EMPHNET is proud to have supported the Iraqi MoH in areas of capacity building for the public health workforce, preparedness and response to health threats in line with the International Health Regulations (IHR 2005), field epidemiology, routine immunization (RI), health management information system as well as the prevention and control of infectious diseases.

EMPHNET sees the decade-long partnership with Iraqi Ministry of Health and Environment as a step towards further collaboration for a strengthened public health system that would improve health outcomes for all communities across the country.

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## List of Abbreviations

AFP	Acute Flaccid Paralysis
BEP	Biosecurity Engagement Program
BRM	Biorisk Management
CDC	Centers for Disease Control and Prevention
EPI	Expanded Program on Immunization
FETP	Field Epidemiology Training Program
IHR	International Health Regulations
MoA	Ministry of Agriculture
MoH	Ministry of Health and Environment
MDGs	Millennium Development Goals
NGO	Non-governmental Organization
PHC	Primary Health Center
RI	Routine Immunization
SDGs	Sustainable Development Goals
ToT	Training of Trainers
UNICEF	The United Nations Children's Fund
VPD	Vaccine Preventable Diseases
WHO	World Health Organization

## Executive Summary

EMPHNET's collaboration with Iraq has grown to encompass other important health areas for the country. Since 2010, EMPHNET has been working with the MoH towards enhancing the health system's performance in different priority areas including developing guidelines and training curricula, health management information system, primary care services provision, mass gatherings, health communication and surveillance and outbreak response.

### Main areas of intervention include:

**Health Services Provision** through the Applied Epidemiology capacity building programs to enhance the surveillance system of Iraq. Since 2010, EMPHNET has been working with the MoH towards strengthening the surveillance capacities and control of diseases and outbreaks in various parts of the country. EMPHNET is also working with the MoH on hospital-based surveillance in order to provide policy makers with evidence-based data to be used for controlling diseases with high incidence and prevalence rates.

**Emergency Response** in collaboration with the relevant programs of the MoH. EMPHNET supported the training of rapid response teams with the aim of improving timely response to health emergencies and disease outbreaks. The training programs have been designed to build the participants' capacities through investing in the FETP network of graduated health professionals to improve the information-sharing processes and timeliness and completeness of the interventions.

**Infectious Diseases Prevention and Control** to contribute to reducing morbidity and mortality and timely respond to major threats. EMPHNET and the MoH, in collaboration with the Ministry of Agriculture, have been working to strengthen the surveillance, diagnosis, and control of brucellosis in the country. Starting in 2018, EMPHNET embarked on another project to support the MoH in studying the epidemiology of meningitis, a disease with a relatively high incidence in Iraq in comparison with other countries in the region.

The MoH and EMPHNET worked towards achieving stronger control and prevention of infectious diseases through enhanced information-sharing processes and response mechanisms.

**Biorisk Management** to fill the gaps related to biosecurity, occupational health, chemical safety, handling of infectious waste, risk assessment and mitigation plans, hazard identification, reporting mechanisms, and safety measures.

**Polio and Immunization as** priority interventions towards improving health outcomes and reducing morbidities and mortalities among the Iraqi populations. With more focus on the most vulnerable groups, EMPHNET supported the MoH in working towards achieving the Millennium Development Goals' (MDGs) of 2015. Building on the achieved results, EMPHNET will resume its support to contribute to achieving the Sustainable Development Goals (SDGs) as part of Iraq's commitment to the global efforts.

**Public Health Surveillance** during the Arba'een Pilgrimage, the largest mass gathering worldwide. EMPHNET supported the MoH in conducting real-time surveillance with the purpose of contributing to early detection, prevention, and control of numerous health threats associated with this large-scale event.

**Capacity Building** to enhance human resources at the national level. EMPHNET implemented capacity building activities for main public health programs and also supported Iraq in implementing the Appreciative Inquiry (AI), an innovative approach aimed at engaging local communities towards achieving full immunization goals for children under the age of two.

In order to serve the implementation requirements of the priority health programs, EMPHNET facilitated partnership coordination among relevant organizations and public health professionals.

Healthcare providers from Iraq participated in various regional training workshops supported by EMPHNET to contribute to ongoing learning for the public health workforce from the region. Moreover, exchange of knowledge and lessons learned from the region enhanced the managerial and leadership capabilities of the involved public health programs.

Health communication on the other hand has been given high priority through building consensus among stakeholders on the strategic directions towards improving coverage of the immunization program. Working closely with the



MoH, as well as national and international partners, EMPHNET supported the development of the Expanded Program on Immunization's (EPI's) Communications Strategy. Moreover, EMPHNET supported the introduction of the risk communication training modules and the appreciative inquiry initiative to Iraq with the aim of improving response to emergencies and outbreaks and working with the local communities in planning, implementing and evaluating health communications activities.

To strengthen the country's emergency preparedness and response, in line with the IHR (2005), the MoH and EMPHNET, in coordination with national and international stakeholders, developed a detailed action plan for building the country's capacity in rapid response, starting with areas of the highest priority. Based on the plan, EMPHNET supported Rapid Response Teams (RRTs) training workshops at the provincial level.

# Health Service Provision



# Health Service Provision

## **1** Improving equitable access to quality basic health services:

For more than a decade, accessibility to basic health services has been a challenge in Iraq. The security compromised situation in many provinces resulted in interrupted health care services and negatively affected the quality of the provided interventions. Health protection and promotion on the other hand encountered difficulties in empowering people to make the right decisions over their health and preventing diseases and outbreaks.

EMPHNET supported the MoH in responding to priority areas of interventions to improve accessibility to basic health services with acceptable quality as part of achieving health equity for Iraqi citizens. This area focuses on field epidemiology including capacity building programs to ensure timelines and continuum of care.

### **1.1. Field Epidemiology**

EMPHNET worked closely with teams from the Iraq Ministry of Health, the Ministry of Higher Education, the CDC, and the WHO in Iraq in the launching of the Iraqi Field Epidemiology Training Program (I-FETP).

The FETP Iraq was established in 2010 as a two-year postgraduate program affiliated with the University of Baghdad and the Baghdad College of Medicine. The program focuses on strengthening the national public health workforce in response to priority health problems, use of evidence-based data for decision making, communication of epidemiologic information and evaluation of surveillance systems. The program offers didactic as well as field training within various departments of the MoH in areas relevant to disease detection, outbreak investigation, response to public health threats, disease surveillance, public health programs evaluation, and use of data for decision making.

This collaboration started with supporting the establishment of the I-FETP back in 2010 and with assisting in capacity building for its residents and graduates. Since then, the I-FETP graduated seven cohorts who are now members of the national public health workforce and whose competencies in public health surveillance, biostatistics, and epidemiology of priority diseases are needed to strengthen the health system in Iraq. Seven years later, and in the year 2017, the Public Health Empowerment Program (PHEP), a training program in the basics of field epidemiology and outbreak response, was launched by the

MoH and EMPHNET to enhance the knowledge and skills of national public health professionals in disease surveillance, particularly polio and other Vaccine Preventable Diseases (VPDs). Thus far, three cohorts have been graduated from the program. Additionally, other training programs were prioritized including water and food safety and foodborne diseases, excellence in reporting, risk communication and appreciative inquiry for community engagement.

Since 2010, the FETP Iraq has graduated 7 cohorts. The first cohort celebrated its graduation in 2012, the second in 2014, the third in 2015, and the fourth in 2016. Recently, the graduation ceremony for the fifth, sixth, and seventh cohorts was held in March 2019 during the third Iraq FETP Conference.

EMPHNET supported three of the four conferences held by the I-FETP, where the achievements of field epidemiologists from Iraq and the region were presented and where knowledge was exchanged among these professionals. From the very beginning of the program's establishment, EMPHNET has supported residents and graduates in capacity building, focusing on areas that serve Iraq's priority health issues: EMPHNET conducted as well as supported the I-FETP in training workshops within and outside the program's curriculum.

### **Regional Case Study Design and Development Workshop**

EMPHNET conducted a regional training workshop in Amman, Jordan, between September 2 and 2018,<sup>6</sup> on case study design and development. This workshop targeted FETP directors, resident advisors, graduates, and trainees in the region, as well as other public health professionals. Participants represented various countries from the region, including Iraq.

Through didactic and hands-on sessions, participants learned the format, process, and guidelines for developing a public health case study. They also create case studies based on a relevant public health issue. Participants are technically equipped to finalize regional case studies to be used in the FETP's curricula for the benefit of upcoming cohorts.

### **Advanced Epidemiology and EPI Info Training for Iraq FETP**

Between July 31 and August 2016,<sup>10</sup> EMPHNET conducted a training workshop to familiarize participants with the different aspects pertaining to the EPI Info software: form design, data entry, cleaning and validation, data analysis using maps, and the use of EPI info on android devices. The workshop also involved training in advanced epidemiological methods to be used in the field, including measures of central location and spread, displaying data, study designs, hypothesis generation, and statistical testing.

## **Workshop on Emergency Response for Internally Displaced Persons (IDPs)**

In collaboration with International Medical Corps (IMC), Baghdad office, the I-FETP conducted a workshop on Emergency Response for IDPs. Hosted in Baghdad during April 2015, the workshop was attended by 24 participants from six provinces. The aim of this workshop was to build the capacities of public health specialists working in the field of epidemiology and especially those field specialists directly working with IDPs in Iraq.

Applying epidemiologic methods during complex humanitarian emergencies such as rapid assessment, surveillance, population estimation and survey design is crucial for Iraq. EMPHNET's role in organizing the emergency response workshop sessions was highly appreciated by the government and the participants. Other public health concerns such as nutrition, mental health, and mortality were addressed while highlighting the relevance of these issues to the IDP crisis in Iraq.

## **Scientific Writing Workshop to Support Iraq Mass Gatherings Project**

During May 2015, EMPHNET held a three-day Scientific Writing workshop in Amman, Jordan targeting I-FETP residents and graduates. The workshop formed an important component within the Iraq Mass Gatherings project initiated by EMPHNET in October 2014. It introduced participants to basic structure, formatting and referencing practices used for writing papers published in scientific journals.

The workshop sessions introduced participants to referencing software and online resources designed to ease the scientific writing process. Throughout the three days, participants applied the information they received to edit the research reports they have written as part of the Mass Gatherings Project under the Mini Grants component.

## **Ebola Virus Disease Workshops**

EMPHNET, in collaboration with the WHO, held this workshop between May 24 and 2015 ,28, in Amman, Jordan. The workshop's facilitators included the Iraq FETP team, while the participants were 35 epidemiologists, laboratory experts, prevention and control specialists and experts of veterinary epidemiology from Syria, Jordan, Palestine, and Libya.

Designed to enable participants to effectively investigate and respond to the cases and outbreaks of EVD and other emerging infections, the Ebola control workshop's sessions covered topics relevant to epidemiological assessments of outbreaks, case definition and clinical assessment of cases, sample collection, environmental risk assessment, risk communication and EVD infection

prevention and control in health facilities.

### **Research Protocol Workshop**

Supported by the CDC, EMPHNET held a workshop on research protocol in Amman, Jordan, between April 6 and 2014 ,10. The workshop offered its participants a survey of the most commonly used scientific research methodologies. At the end of the workshop, attendees finalized their own concept papers and later transformed them into research protocols, ready for future implementation.

### **Public Health in Emergencies**

Between August 17 and 2014,21, ten graduates from the Iraq FETP participated in a workshop held in Amman, Jordan. The workshop targeted field epidemiologists working on emergency response related to the Iraqi IDPs crisis and emergency situations. Its sessions were held in coordination with both EMPHNET and the Emergency Response and Recovery Branch (ERRB) of the CDC.

### **Mentorship Workshop**

Recognizing mentorship as the crucial component for enhancing the educational experiences of FETP residents, EMPHNET in collaboration with the CDC hosted a three-day mentorship workshop in Amman, Jordan. The event was held in November 2014, and was attended by FETP resident advisors, residents and graduates from Iraq and Yemen.

### **Independent Assessment of Polio Activities in Iraq by FETP Graduates**

The Iraq FETP was requested by WHO-EMRO and the Iraq MOH to conduct an independent assessment of Polio activities in Iraq, following two reported cases of Polio in Iraq in early 2014. To carry out this task, a number of Iraq FETP graduates attended a one-day training session. The training, supported by EMPHNET, was hosted in Amman on August 2014 ,22. The main aim of the assessment was to determine if the activities implemented in Iraq fall in line with WHO recommendations for post outbreak period. The team assigned for this investigation developed a work plan comprising a detailed timetable for implementation and submission of final reports.

### **Polio Training Workshop**

In cooperation with the WHO, the UNICEF MENA, and the CDC, EMPHNET conducted this workshop targeting I-FETP cohort 3 residents on April 2014 ,30. The overall benefit of the training was to provide polio eradication knowledge and concepts to the residents.

### **FETP Mentors and Field Supervisors Training Workshop**

EMPHNET supported I-FETP at this training workshop held Between May -20 24 of 2012. Hosted at the Dead Sea in Jordan, the workshop familiarized the field supervisors with the core competencies they needed for ensuring the success of the second Cohort of residents.

### **Regional Vital Registration Training for FETPs in the Eastern Mediterranean Region**

EMPHNET, in collaboration with the CDC, conducted this training between September 2012, 28-24 in Rabat, Morocco. The training participants represented various FETPs from the region, including Iraq.

This regional workshop aimed providing training and information on the source and range of uses of existing vital statistics data, identifying identify potential areas for country-level improvement. It also aimed to pilot the CDC civil registration and vital statistics (CRVS) curriculum before releasing it for general use by country FETP programs, thus providing a regional platform for exchanging views, ideas, and best practices on CRVS in the region.

### **Excellence in Reporting Science Workshop**

From May 1 through 2011, 12, a course jointly sponsored by EMPHNET, TEPHINET, and the CDC was conducted for FETP residents from Iraq and Yemen in Amman, Jordan.

For this workshop, each participant searched the international peer-reviewed literature, chose a journal that seemed appropriate for his/her subject matter, wrote a brief scientific report, and submitted it for review. These reports were reviewed by the workshop leader and by at least three additional resource reviewers, who attended the course and are senior staff members in the participating FETPs. At the end of the course, each participant translated her/his scientific report into a non-technical oral presentation for an audience of choice and presented it orally to participating colleagues and mentors.

### **Water and Food Safety Workshop**

The Iraq MoH and the CRDF Global conducted a workshop between July, 27-20 2011 on water and food safety. The workshop included lectures and case studies facilitated by a number of experts from CDC, Bahrain University, and Jordan University of Science and Technology (JUST).

## Second Cohort Didactic Course

On December 1st, 2011, the second cohort started their didactic course. The didactic course included lectures and case studies given by the faculties of the Community Medicine Department, covering the ten core competencies of FETPs, and other subjects relevant to public health in Iraqi settings.

## Public Health Surveillance During Mass Gatherings

EMPHNET together with the CDC and Council of State and Territorial Epidemiologists (CSTE), conducted this workshop which was held in Amman, Jordan between September 2010 ,29-25. The workshop aimed to raise the knowledge on the preparedness, surveillance, and response during mass gathering events among FETPs in the MENA region.

Another workshop was conducted in Morocco between February 2011 ,24-19, targeting FETP residents from the region. The objectives of the workshop were to enhance the participants' understanding of public health surveillance at mass gathering events and to improve oral and written scientific communications during and, for such events.

In addition, the I-FETP hosted the "Introduction to Public Health in Mass Gatherings Workshop" in Najaf, October 14 and 2014 ,18. The workshop was held under the patronage of the Director General of Public Health Directorate, Director General of Operations and Specialized Medical Services Directorate, and the Najaf Directorate of Health. Representing the first phase of a one-year Mass Gatherings project, the workshop was attended by around 50 participants including all officials concerned with Mass Gatherings in Najaf, Karbala, Babylon and Baghdad provinces.

## First Cohort Didactic Training Course

On November 2010 ,7, the first Iraq FETP Cohort began their twelve-week didactic training course on the foundations of epidemiology. The course was conducted in the Department of Community Medicine at the College of Medicine of Baghdad University. Following this course, they then went on to complete eight weeks of short-term assignments, followed by nine months of long-term field assignments within the MoH and finally they completed field work at the provincial level.

## 1.2 Public Health Empowerment Program (PHEP)

To strengthen the epidemiologic capacity of the public health workforce within the Ministry, the Iraqi MoH, in collaboration with EMPHNET, launched the Public Health Empowerment Program (PHEP) in 2017. PHEP is a three-month,



in-service training program designed to strengthen its participants' skills and knowledge in areas of disease detection and response to public health events of national significance and international concern.

Linked to the MoH goals for improved surveillance and outbreak response, PHEP's didactic and in-service training focuses on surveillance, outbreak investigation, and basic management skills. Specifically, PHEP's courses focus on topics such as case definitions; disease detection; reporting, interpretation, and summarization of data using tables and graphs; case investigation and response; surveillance monitoring and evaluation; and the analysis of data for use in decision-making.

Comprising three training workshops, PHEP is also complemented by two mentor-supervised field projects: the first is a five-week project implemented after the first training, while the second is a three-week field work period implemented after the second workshop.

The PHEP participants are public health professionals working on surveillance at the provincial and district health authority levels. These professionals are responsible for collecting and compiling surveillance data on diseases and other health-related events; reporting disease information to higher levels of the public health system; and participating in the investigations and response to disease outbreaks.

PHEP builds on the existing capacities of its participants, especially in the newly liberated provinces of Iraq, to enable them to efficiently and effectively conduct disease surveillance and respond to outbreaks. This is because effective disease detection, investigation, control and prevention require a public health workforce well trained in the principles of knowledge and practice of field epidemiology.

The first cohort of the program was implemented between July and October 2017 in Najaf, while second targeted polio surveillance offers from newly liberated provinces and was implemented between April and August 2018 in Erbil. The third also targeted polio surveillance officers, and it was run between December 2018 and March 2019 in Erbil.

PHEP represents an important support for the national health system, especially during emergency situations as it equips participants with the needed capacities to effectively and immediately respond to the local needs in cases of outbreaks and other health threats.

**N95 Particulate Respirator**

Pay attention to (S, M, L)  
Place over mouth and chin  
flex the top edge over nose bridge  
Secure with elastic  
Check for fit:  
Inhalation  
Exhalation



EMPHNET  
National Rapid Response  
Team Training



# Emergency Response

## 2 Health Security and Emergency

Within Iraq, the need for enhanced health security and emergency preparedness and response has been officially reported. While the country is in the recovery period after a long-standing, wide emergency, the country is still at risk of public health threats that necessitate preparedness and response in order to protect health and save lives.

The partnership between the MoH and EMPHNET resulted in enhanced response to the security constraints and improve the interaction between all players to expand the provision of quality health services and help Iraq in achieving the SDGs with more focus on SDG 3.

### 2.1 Development of National Public Health Response Operations Strategy

Complementing the ongoing efforts to support Iraq's health policies and decision makers in building health system capacity in response and preparedness for outbreaks, EMPHNET took the initiative to hold a meeting with public health stakeholders from the MoH: Disease Control Directorate staff working on disease surveillance/early warning system, veterinarians working on zoonotic diseases, I-FETP, health communication officials, the Central Public Health Lab officials, clinicians working on respiratory and enteric diseases and National Monitoring Committee in Iraq.

The meeting took place on December 2017<sup>16</sup>. Its success was in the consensus reached among participants on the most suitable national public health emergency response operations strategy to be adopted, which includes sections on Rapid Response Teams (RRTs) and Emergency Operations Center.

To implement the national public health response operations strategy, EMPHNET supported the participants in outlining a national action plan and developing a one-year detailed action plan for building capacities in the area of rapid response teams, prioritizing areas with the highest needs.

## 2.2 Rapid Response Teams Training

EMPHNET supports the MoH in establishing national rapid disease and outbreak detection response teams for enhanced prevention and detection of emerging infectious diseases and outbreaks. Within this collaboration, EMPHNET and the MoH developed a national curriculum based on WHO and CDC training material adapted to suit the context of Iraq. This curriculum was used in conducting three Rapid Response Teams (RRTs) training workshops between 2017 and 2018.

Between December 17 and 2017 ,21, in Baghdad, a training targeted four newly retaken provinces: Al-Anbar, Ninawa, Diyala and Salah-Eddin. A total of 30 public health professionals, physicians, veterinarians, and laboratory personnel from the Iraq MoH participated in this training.

The workshop focused on effective detection and response to disease outbreaks caused by biological pathogens. With the participation of professionals from both the human and animal health sectors, the workshop contributed to enhancing disease detection and response capacities by connecting the relevant health sectors together in the spirit of the One Health concept.

During this workshop, practical exercises were presented engaging participants in topics associated with pre-deployment, deployment, post-deployment stages of a disease outbreak response, as well as coordination required between different members of a local multi-disciplinary rapid response team.

Participants of the RRT training were briefed on the IHR 2005, the national public health emergency preparedness and response framework as well as the national human and animal health surveillance systems. Participants were also given the chance to practice donning and doffing of personal protective equipment (PPE).

Taking place between April 22 and 2018 ,26, the first constituted rapid response ToT contributed to preparing health professionals to become future trainers of RRT and help the Iraq MoH to roll out RRT training in their provinces in line with the Public Health Department's plans.

The workshop targeted participants working in communicable disease surveillance, laboratories, preventative medicine, and FETP graduates

(physicians) working in primary health care and epidemiology. A total of 20 participants attended the training: three from Baghdad, and one from each of province.

Conducted between August 12 and 2018 ,16, the second cohort was an RRT training targeting public health professionals working at the provincial level. Thirty-eight staff members working in preventive health departments and primary health care participated in this training. They represented core members of the RRTs within six priority provinces, including Najaf, Basrah, Babylon, Kerbala, Baghdad (Karkh and Resafa) and concerned staff from the central MoH directorates.

In addition to senior officers from the central directorate of Public Health, and the Central Public Health Laboratory, two previously trained public health staff as well as EMPHNET staff members facilitated the workshop's sessions. Emphasizing the One Health Approach, the training reinforced the capacity and skills of these health professionals, as members of provincial rapid response teams, in the above six mentioned priority provinces to rapidly, securely, safely, and effectively detect and contain outbreaks caused by especially dangerous biological pathogens as well as to support surveillance and epidemic investigation mechanisms.

Focusing on epidemic emergencies, the sessions also covered content relevant to the region and the public health sector in Iraq. This training also focused on ways to enhance the security of dangerous samples that are collected during outbreak investigations and reduce the likelihood that terrorists can obtain dangerous pathogens from natural outbreaks.

With the objective to develop a network of multi-sectoral RRTs to securely, safely and responsibly prevent and detect outbreaks of disease throughout Iraq, EMPHNET jointly with the Iraq MoH organized two additional RRT training workshops.



## Infectious Diseases

### **3** Control and Prevention of Infectious Diseases

Serving Iraq's need for enhanced control and prevention of infectious diseases, EMPHNET joined efforts with the MoH towards strengthening the surveillance of such diseases in a step towards providing decision makers with evidence-based data to inform policies in disease control, including vaccination strategies and health promotion.

#### **3.1 Strengthening Surveillance, Diagnosis, and Control of Brucellosis**

Adopting the One Health Approach, the MoH, the MoA, and EMPHNET are implementing a project to strengthen the surveillance, diagnosis, and control of brucellosis in the country. This is a collaboration that has started in 2016 in the provinces of Bayelon and Diala, and it continues today to include Maysan and Wasit.

A major achievement within the strengthening of the surveillance project was related to the introduction of the PCR diagnostic test into the CPHL and the ELISA diagnostic technique at the Public Health Laboratory (PHL) in the afore-mentioned provinces.

The project also comprised extensive training of public health professionals involved in the cycle of diagnosis, case definition, and control of the disease. In 2017, EMPHNET conducted a training on the ELISA diagnostic technique between December 17 and 2017, 18 at the CPHL in Baghdad. Laboratory technicians from Maysan and Wasit sat through practical sessions on the ELISA technique. These technicians also took part in sessions on the differentiation between acute and chronic infections and the referral process of the ELISA positive samples to the CPHL in Baghdad for further testing.

In the same month, EMPHNET conducted two refresher training workshops for clinicians on brucellosis surveillance, diagnostics, and control. The first training was conducted on December 2017, 18 at Wasit Health Directorate; and the second was on December 2017, 20 at Maysan Health Directorate in Iraq.

The training's sessions focused on the signs and symptoms of the illness and the best treatment options given to patients, emphasizing cases of children

and pregnant women as well as minimizing the risk of multi-drug resistance. (The training also covered topics relevant to laboratory tests for suspected cases and the notification process, to higher authorities, for positive cases using the case investigation form.) The training also emphasized the correlation between animal and human cases to correctly identify *Brucella* strains in Iraq. Immediately following these two training workshops, EMPHNET conducted another two for laboratory technicians from Maysan and Wasit, at the respective health directorates of these provinces.

The objective of this training was for laboratory personnel to understand their role and the mechanisms of serological testing, by explaining the different laboratory tests that can be used to detect and diagnose the illness. During the training, the mechanism for samples' collection, preservation and transportation was thoroughly explained and integrated in the transportation mechanism of other samples to PHL in the provinces and to CPHL in Baghdad. Furthermore, the training thoroughly explained the brucellosis testing methodology from screening to confirmation.

Previously in 2016, similar training workshops targeting clinicians and laboratory technicians were conducted for the provinces of Diala and Babel.

Health promotion activities are given high priority by the MoH and EMPHNET. Effective communications interventions have been prioritized and communications tools and awareness sessions with the communities were implemented to raise the public's awareness on brucellosis prevention.

### **3.2 Studying the Epidemiology of Meningitis**

Funded by SANOFI PASTEUR, EMPHNET is implementing, in collaboration with the MoH, a two-year project titled The Epidemiology of Invasive Meningococcal Disease: multi-center, hospital-based surveillance of Meningococcal meningitis in Iraq. The project aims to determine the annual incidence of cerebrospinal fluid (CSF) positive cases for *Neisseria meningitidis* and to identify the commonly circulating serogroups of *N. meningitidis* in Iraqi population. This project also aims to characterize risk groups and their host factors data, ultimately informing future vaccination strategies in Iraq.

For this project, 18 hospitals were selected as study sites (twelve hospitals in Baghdad province and six hospitals in three provinces (Karbala, Karkouk, Maysan). This selection represents different geographical areas of Iraq where accessible, high standard health care is provided to a well-known number of populations of the catchment area.



For the purposes of this project, training activities were implemented for laboratory technicians and other hospital personnel involved in the study.

### PCR Training

EMPHNET, in collaboration with the American University of Beirut (AUB), the Center for Infectious Diseases Research in Lebanon conducted this training for five laboratorians from the CPHL in Baghdad on using the PCR for detection and subtyping of *N. meningitidis* from clinical specimens. Held between February 2018, 21-19, the training focused at Deoxyribonucleic Acid (DNA) extraction from clinical specimens; real-time PCR for detection and subtyping of *N. meningitidis*; and interpretation and reporting of PCR results.

### **Hospital and Laboratory Focal Points Training**

EMPHNET in collaboration with Iraq MoH conducted two back-to-back training workshops between May 2018, 10-7. The workshops trained hospital focal points on meningitis case detection and definition; the use investigation form to collect the data; as well as specimen collection and transportation.

The first training targeted twenty-four physicians and laboratorians from the selected hospitals in Baghdad, in addition to the heads of communicable disease units at the MoH. The second training targeted nineteen participants from twelve hospital focal points and five directors of communicable diseases units from Maysan, Karbala, and Karkouk provinces.

### **Data and Specimen's Collection and Analysis**

Following the above-mentioned training, the specimen's collection started on June 2018, 1. Data is being collected from active surveillance of suspected bacterial meningitis cases treated at the 18 selected hospitals. Samples are being forwarded to CPHL for processing, isolation, and identification of pathogens by RT-PCR. Statistical analysis is currently being performed.

### Epi Info Training

This workshop was conducted between January 2019, 10-7, in collaboration with the MoH and the CDC Iraq, targeting twelve focal points from four provinces: Baghdad (Rusafa, Karkh), Karbala, Kirkuk, and Maysan. Participants also included the Iraq CDC and the CPHL in Baghdad.

The purpose of the training was to equip participants with the knowledge and skills of Epi Info for Windows, using it for data entry and analysis. Following the workshop, participants returned to their jobs where they entered the all data collected and received from hospitals thus far.



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Pathogen inventory and MTA  
GHD and EMPHNET Working together for better health

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Participants seated at round tables with white tablecloths. Tables are equipped with water bottles (some labeled 'الولوة' and 'Pearl'), glasses, and papers. A brown briefcase is visible on one of the tables.

# Biorisk Management

## **4** Enhancing the MoH capacities in biosecurity and biosafety

Working with the MoH and MoA, EMPHNET supports strengthening biosecurity and biosafety practices for priority public health and veterinary laboratories throughout Iraq that handle especially dangerous pathogens.

Within this collaboration, EMPHNET conducted assessments in the sixteen targeted public and animal health laboratories in eight Iraqi provinces (Baghdad, Wasit, Dyala, Najaf, Salah Al-Deen, Karkouk, Babylon and Karbala) from April 2018 ,19-15. The questionnaire was developed to meet the requirements of the international policies for biosafety and biosecurity, highlighting different areas of BRM such as training and safety management; occupational health; fire, electrical, chemical, biological, and laboratory safety; biosecurity; as well as risk assessment and mitigation.

Four FETP graduates and eight representatives from public and animal health laboratories participated in conducting the assessment trips after receiving the needed training on how to use the assessment tool and data entry using the Epi Info.

Analysis of data generated from the assessment of laboratories revealed a significant degree of adherence to the internationally accepted norms and protocols when it comes to biological and laboratory safety.

To address the identified gaps, the MoH, the MoA, and EMPHNET conducted two back-to-back Biorisk management training workshops. Taking place in Baghdad between November 2018 ,22-17, the workshops targeted 70 laboratory professionals from the Iraqi public and animal health laboratories.

The BRM training workshop enhanced the skills of the health professionals from the targeted public and animal health laboratories to prevent and respond to intentional and natural biological risks. This ensured that the target audience had the required professional competency to use skills and work safely and securely with biological samples.



# Polio and Immunization

## 5 Improving EPI Coverage

Partnering with the Iraq MoH and the CDC, EMPHNET is working towards strengthening the country's public health capacity to prevent, detect, and respond to polio as well as other VPDs. This collaboration falls within EMPHNET's support to countries throughout the EMR in achieving and sustaining polio eradication, as well as measles/ and other VPDs elimination and control goals.

### 5.1 RI Microplanning

Improved microplanning for RI is seen as an effective means to close gaps in vaccinations and to ensure vaccination of every child according to the national immunization schedule. For this reason, EMPHNET is supporting the MoH in upgrading and updating its RI micro-plans within PHCs.

In 2016, in close coordination with Iraq MoH, WHO, and UNICEF, EMPHNET conducted cascade training workshops for the MoH EPI staff at national, provincial, and district levels. The aim of these training workshops was building the capacity of MoH EPI staff on microplanning and supporting them in the updating of PHC micro-plans.

Five training workshops on the standards and methods to update micro-plans were conducted in Irbil, Iraq, between August 23 to September 1. The first workshop was a ToT for 26 EPI focal point at national level and provincial level covering all Departments of Health. These trainers, in turn, facilitated the four training workshops which followed for 127 EPI staff from all districts within the 18 provinces of Iraq. Using a curriculum that was developed based on international guidelines, the workshop was co-facilitated by experts from WHO, UNICEF, and EMPHNET.

In 2017, EMPHNET provided technical and logistic support to MoH in training EPI staff at PHCs on developing and regularly updating RI micro-plans. Between April and May, EMPHNET and the Iraq MoH completed training of 249 EPI staff at PHCs in Missan and Kirkuk provinces. The training workshops started with a one-day refresher training for the district-level EPI focal points of the two provinces, followed by a two-day classroom training facilitated by provincial and district level EPI focal points also from the two provinces.

Following this training, the participants developed their PHC micro-plans which they presented for facilitators and other participants for comments. These micro-plans were also reviewed by EMPHNET, as part of the continued technical support to the MoH in this area.

In 2018, EMPHNET, in cooperation with the MoH, conducted a two-day ToT for 25 master trainers on RI microplanning from March 19-18, in Baghdad. These trainers facilitated a total of 43 cascade trainings for 939 EPI district and health facility staff from eight provinces: Baghdad Al Karkh, Thi-Qar, Wasit, Diwanyah, Al Muthana, Diyala, Babylon, Karbala.

Following classroom instruction in these training workshops, participants returned to their places of work to prepare their micro-plans which they presented to the facilitators who in turn communicated their feedback on areas for improvement.

In 2019, EMPHNET supported the MoH in operationalizing RI Micro-plans. An assessment of the RI micro-plans implementation was conducted.

The assessment started with conducting a training from January 2019 ,3-2, in Baghdad, for a team of 14 assessors from the provincial EPI managers and FETP graduates. The assessment data collection took place during January 2019 ,10-7 using an assessment tool developed by EMPHNET.

The assessment was conducted at seven randomly selected districts within six provinces out of the 50 districts in eight provinces that were reached with RI microplanning trainings before November 2018: Dura and Abu Ghareeb districts in Baghdad Kerkh, Al Hamza district in Diwayniya, Nasriya district in Thi Qar, Samawah district in Muthana, Azezayah district in Wasit, and Al Mesaib district in Babylon.

Based on the findings, the MoH and partners will be engaged in developing a multi-partner action plan to address identified gaps and capitalize on successes achieved to support MoH efforts to reach targets of full immunization.

## **5.2 EPI Communications Strategy**

Since early 2018, EMPHNET started supporting Iraq in developing and implementing an EPI Communications Strategy, as part of the National EPI planning in Iraq.

During the period January 17-15, and in collaboration with the MoH, EMPHNET conducted a national workshop in Baghdad to develop the strategic directions for immunization and the EPI communication strategy. Twenty-eight participants from ministries of health, education, and religious affairs, UNICEF and WHO were in attendance.

To support the EPI communication strategy endorsement, EMPHNET, in coordination with the MoH, conducted the stakeholder consensus building workshop and advocacy meeting for EPI communication strategy on April ,15 2018, in Baghdad, Iraq.

The workshop was attended by senior officials from the MoH (EPI division and Health Promotion Department) and representatives from 11 provincial and districts levels. In addition, officials from other relevant governmental entities and international partners including Ministry of Education, Ministry of Information, WHO, and UNICEF were also in attendance. These participants provided their inputs for this strategy.

To disseminate the strategy and support its implementation plan to all provinces, a workshop was conducted in Baghdad during September ,18-16 2018. The workshop was attended by directors of immunization and health promotion in 16 provinces as well as Health Information Officers of the Ministry of Health and a representative from UNICEF. It was during this workshop that the strategic directions and related objectives were introduced to the provincial level EPI officials and Health Promotion Coordinators. This is seen to be helpful in enhancing the strategy through applying behavioral change models towards increased demand of local communities for immunization services.

### **5.3 Initiating the Appreciative Inquiry Model for Improved RI**

Funded by the CDC, the MoH and EMPHNET piloted the Appreciative Inquiry (AI) initiative as an innovative approach to improve vaccination coverage at all levels of health care provision. By focusing on existing strengths and achievements, AI engages, in its implementation, local authorities, NGOs, communities, and the private sector towards achieving the goal of full immunization for children in selected provinces: Babylon and Karbal'a.

The initiative was piloted in Mahaweel district in Babylon province and the Al Hurr district in Karbala province and the initiative was implemented at the central, provincial, and district levels.

The AI initiative started with forming a team of capable trainers on AI-related materials. A ToT was conducted in Baghdad from August 2018, 8-6, attended by 30 participants from the health promotion and EPI departments at the central level of the MoH. Later that month, these trainers facilitated workshops at the district level: Al Hur district in Karbal'a province and Al Mahaweel district in Babylon province. From these two provinces, a total of 100 participants attended, representing the MoH, NGOs, and the local communities.

The AI workshops ensured the engagement of all stakeholders in the initiative, who formed a clear understanding of both the full immunization program and developed an overarching goal in line with national vision and strategy: achieving %100 coverage at the district level in the selected areas.

Within a collaborative effort among the community and the MoH, all the children in the afore-mentioned locations were line-listed and monitored for vaccination. Then, a verification survey was conducted to ensure that all children are vaccinated. This survey was verified by the MoH.

A declaration ceremony was held to declare these two provinces as fully immunized and to celebrate the success of the AI initiative which was implemented through joint efforts from the government, NGOs and the local communities.

## **5.4 AFP Surveillance**

EMPHNET is working with the Iraq MoH to support the strengthening of AFP surveillance in high risk districts in Iraq. This is a joint effort towards enhancing early detection and response to polio virus, measles and other VPDs; sustaining polio eradication; and reducing risks of measles and other VPD outbreaks.

In 2018, EMPHNET successfully conducted a ToT workshop to form a team of master trainers on AFP/VPDs surveillance: 30 surveillance officers from 19 MoH's departments of health participated in this training, alongside four participants from the WHO participated.

Additionally, the MoH, supported by EMPHNET, conducted a series of training workshops for AFP/VPDs surveillance focal points at provincial and district levels and major hospitals facilitated by the master trainers mentioned above. Two-day training workshops for 176 surveillance officers and hospital focal persons were completed for four provinces: Ninawa, Salah Al Din, Karbala, and Muthana.



For the retaken province of Anbar, EMPHNET and the MoH successfully conducted an important training in Baghdad between August 12 and 2018, 13 for AFP/VPDs surveillance officers and hospital focal points serving Anbar, a high risk and security compromised province.

To further strengthen AFP/VPDs surveillance through an integrated approach, EMPHNET is supporting the MoH in implementing community-based surveillance. In this community-based surveillance, the targeted provinces were: Najaf, Muthanna and Anbar.

## **5.6 RI Supervision and Monitoring**

To address identified needs and address relevant challenges, EMPHNET is working with the MoH to enhance RI supervision and monitoring, both at the national and sub-national levels.

EMPHNET successfully conducted a training of trainers (ToT) workshop for EPI managers/supervisors at national level during the period May 2018, 8-6 in Baghdad. The workshop was attended by 23 participants from 16 provinces, with higher participation from the retaken provinces of Anbar, Ninewa, and Salah Al-Din. The main objective of the ToT was forming a core of well-trained supervisors/trainers who can later train the district EPI focal point on supportive supervision, conducting in-service monitoring and developing provincial and district supervision and monitoring (S&M) plan.

From January until March 2019, and in continuation to its support to Iraq that started in 2018-2017, EMPHNET assisted the MoH in strengthening the capacity of EPI supervisors for a more adequate and more supportive oriented supervision. The roll out of the cascade trainings for EPI supervisors was conducted successfully for four out of the seven selected provinces: Babylon, Al Diwaniya, Muthanna, Thi-Qar and the Kurdistan Region provinces; Sulaymaniyah, Duhok, and Irbil.

These supervision and monitoring training workshops were facilitated by provincial EPI managers and supervisors, including those trained as trainers during the ToT training organized in May 2018 on supportive supervision.

The objectives of the supervision and monitoring training were to enhance the performance of the trainees to effectively perform supportive supervisory visits for health facilities through planning, conducting and reporting EPI supervisory visits, identifying and carrying out required follow up to address gaps reported during the visits.

## **5.7 Strengthening Immunization Supply Chain for Achieving National Immunization Goals**

In Iraq, a necessity has been identified to strengthen the immunization supply chain to support the country in achieving its goal for ensuring that vaccines are in the right place, condition, and quantities, and that they are given at the right time and cost.

To serve this need, UNICEF collaborated with the Iraq and Kurdistan Ministries of Health and Environment and EMPHNET in conducting a cold chain equipment inventory for 3,673 health facilities, throughout Iraq, at four levels of the supply chain. Within a project conducted between 2017 and 2019, the inventory was performed using a real-time monitoring tool for data collection. Teams from UNICEF, the MoH, and EMPHNET, worked on data analysis that identified areas relevant to functionality status, equipment age, and required maintenance, health facility assessment, human resources data base, as well as equity distribution of cold chain equipment according to population size; among other areas.

### **Vaccination Coverage Survey in Baghdad Resafa**

In 2014, Iraq has experienced detection of two cases of Polio in 2014, a measles outbreak in 2016-2015, and was worst affected by a Mumps outbreak in 2016. In Baghdad Resafa, reliable data on immunization coverage was not available. To address the availability of immunization coverage issue, EMPHNET closely worked with the MoH to conduct an immunization coverage evaluation survey in Baghdad, Resafa. Using a survey protocol and tool based on WHO guidelines, the coverage survey was conducted between July 2016 ,31– 25. The analysis of the results of the survey provided data on the immunization coverage among children aged 23-12 months in Al-Resafa, segregated by age, gender, district and all antigens received in the first year. In addition, results included the causes of never or delayed vaccination. The survey serves as a baseline to monitor vaccination coverage in the future and provide reliable and accurate data needed to strengthen the routine vaccination strategies and plans.

## **5.8 Supporting EPI Coordination Mechanisms**

In coordination with the MoH, EMPHNET, and UNICEF the provincial EPI managers meeting was held during the period November 2018 ,13-11 in Irbil. During the meeting the EPI managers reviewed the situation of EPI in terms of achievements, vaccination coverage, as well as gaps and challenges at national and provincial levels.

The meeting was an opportunity to review and discuss with provincial EPI managers achievements in the areas supported by EMPHNET during the year 2018-2017 with focus on micro-plans development at PHCs level and supportive supervision.

Additionally, EMPHNET joined MoH meetings in 2017 and 2018 to coordinate EPI activities including the AFP Surveillance Review which was led by the WHO-EMRO.



## Public Health Surveillance

### **6** Real-Time Surveillance of the Arba'een Mass Gathering

The Arba'een Pilgrimage is considered one of the largest annual mass gatherings in the world. This mass gathering, which takes place within a relatively limited space and time period, is usually associated with serious health concerns, including disease outbreaks, food poisoning, wounds and injuries, as well as others related to non-communicable diseases.

As a result of joint efforts and close collaboration between EMPHNET, Iraq FETP, and the MoH, conducted real-time surveillance during the Arba'een mass gathering in 2016 and in 2018. This effort created a better understanding of the public health threats during the event, thus enhancing preparedness/rapid response capabilities as well as enabling evidence-based decision making to strengthen the public health system.

Findings from the surveillance of the Arba'een event contributed to enriching the literature on the Arba'een mass gathering, on which information is scarce in comparison to other religious and non-religious mass gatherings around the world.

## 2016

EMPHNET collaborated with Iraq FETP and the MoH in conducting real-time surveillance for a number of common health conditions (infectious/acute conditions, injuries, and chronic diseases) during Arbaeen mass gathering in Iraq between November 2016 ,21- 12.

Over a period of eleven days, data was collected from ten health facilities along the major route of the pilgrimage from Najaf to Karbala. Main conditions that were reported included acute/infectious conditions and symptoms, chronic conditions, as well as traumas and injuries.

Based on the data analyzed from this surveillance, it has been concluded that the Arbaeen mass gathering in 2016 exerted a high burden on the Iraq health system. As such, it has been recommended that proper preparedness and management of different health conditions associated with this event.

## 2018

During the 2018 Arba'een pilgrimage, EMPHNET monitored 152 health facilities in 12 provinces from October 8 to November 2018 ,3, during which 340,000 patients were seen by medical staff.

A field team of 328 individuals, including data collectors and their supervisors, participated in this surveillance. Members from EMPHNET, the Iraq FETP, and Iraq Ministry of Health provided technical support to this team.

Reported cases related to acute and infectious diseases, chronic conditions, as well as traumas and injuries.





## **7 Capacity Building**

EMPHNET sees in needs-based, continuing learning for the public health workforce as essential to ensuring sustainable public health capacity. As such, EMPHNET has been working closely with Ministries of Health in the region, academic institutions, international organizations, and other partners towards enhancing the capacities of public health professionals throughout the region in areas that serve the needs of respective countries.

Public health professionals, whether FETP residents/ graduates or others working in different fields, have participated in regional training workshops which were supported by EMPHNET. Planned with the support of national and international partners, these workshops addressed issues in rapid response, applied epidemiology, biorisk management, RI, public health surveillance and outbreak investigation.

### **7.1 Online Course on Biorisk Management Best Practices**

This online course was designed to enhance the skills of health professionals from the EMR to prevent and respond to public health emergencies and introduce the required competencies to prevent biological threats. Specifically, this online course aimed to support biosafety and biosecurity best practices and knowledge exchange about biorisk management systems.

EMPHNET conducted an online Biorisk management course between October 1 and November 2017 ,1, for twenty participants from the region, including Iraq. The target audience was professionals working with and around biological materials in functions such as Biorisk Management Advisor/ Advocate, Scientific/Laboratory Management, and as general members of the laboratory workforce.

### **7.2 Advanced Applied Epidemiology**

To create a long-lasting epidemiologic capacity within the region, EMPHNET conducted a training workshop between March 2016 ,31-27 to mid-level health professionals/public health inspectors from ministries of health in the region and who are engaged in surveillance and disease outbreak response. Participants represented five different countries within the EMR, including five health inspectors from Iraq.

The workshop's sessions focused on enhancing participants' knowledge and skills in detection and response to threats at the national and regional levels.

### **7.3 Building a Pool of Potential Consultants for Strengthening RI at the Regional Level**

EMPHNET conducted this training workshop between April 2016 ,21-16. The training was attended by 37 participants, including five from Iraq.

The workshop's sessions were designed to refresh and prepare participants for strengthening immunization systems in their countries and for field deployments related to RI.

### **7.4 Sub-Regional Rapid Response Teams Training**

EMPHNET hosted this training workshop in Amman Jordan, between June 2014 ,26-22. The workshop was attended by 27 participants from the region, including Iraq. Topics covered during this workshop were the steps of outbreak investigation; essential indicators of emergencies; rapid assessment of complex emergencies; infection control and prevention; control of communicable diseases; and surveillance in humanitarian emergencies.

### **7.5 IHR Toolkit for Epidemiologists**

EMPHNET, in collaboration with BEP, held this workshop between August -8 August 2015 ,13, in Amman, Jordan. This event brought together FETP residents and specialists in the field of animal and Human health Epidemiology from countries in the region, including Iraq.

The IHR training workshop focused on improving participants' skills in techniques for the design and implementation of disease detection and investigation programs, which will serve to improve communication networks between target countries, while improving case detection and response to outbreaks.

### **7.6 Regional Discussion on Emerging and Re-emerging Diseases**

In May 2015, EMPHNET with support from BEP, held a two-day round table discussion on preventing emerging and re-emerging infectious diseases. Hosted in Amman, Jordan, the event brought together general directors of public health and primary health care, directors of communicable diseases control departments, directors of animal health departments, and other specialists from the ministries of health from the region, including Iraq.

The round table discussion was held to improve bio-risk management and to identify the best practices related to disease control surrounding emerging pathogens, such as Middle East Respiratory Syndrome Coronavirus (MERS

CoV) and the Ebola Virus disease (EVD).

Participating delegates conducted a multipronged assessment of their respective countries, placing a specific focus on preparedness and response to the emerging and reemerging infectious diseases. They summed up findings and made recommendations for improving biosafety and biosecurity in dealing with emerging and re-emerging infectious diseases.

As well, EMPHNET implemented capacity building activities in areas of Acute Flaccid Paralysis (AFP) and VPDs surveillance: RI supportive supervision; and RI microplanning.

## **7.7 Rapid Response Teams Training**

In March 2015, EMPHNET held a five-day RRT training in Amman, Jordan. The training was held in collaboration with the CDC and BEP. Its sessions brought together specialists from the ministries of health in the region, including Iraq, with the aim of enabling them to work effectively as public health epidemiologists in emergency situations.

The overall goal of the RRT training was to build the capacity of public health specialists working in the EMR, whereby participants were being trained in areas of public health surveillance, outbreak detection, outbreak investigation, rapid response, disease control and evidence-based decision making.

## **7.8 Polio Outbreak Investigation and Response**

EMPHNET held this workshop on February 2015, 12-7, in Amman, Jordan. The event was organized in collaboration with the CDC, the WHO, and UNICEF.

It brought together 38 participants coming from the region, including Iraq.

This 2015 workshop presented the first step in a series of activities designed to build a Roster of Polio Experts from the pool of human resources available at the regional level within the EMR. Experts listed on the roster are to investigate and respond to Polio outbreaks, while implementing the “end-game” plan and “WHO/UNICEF Strategic plan for polio outbreak response in the Middle East.”

Its sessions provided participants with the knowledge they need to respond to polio outbreaks, review technical sheets for polio eradication, to monitor polio immunization activities, and to engage in evidence-based decision making.

## 7.9 Rapid Assessment and Investigation of Outbreaks of Suspicious Origin

EMPHNET held this workshop in Amman, Jordan, between January 21-17 2015. The workshop was designed to arm field epidemiologists from the region's ministries of health with the skills they need to investigate outbreaks of suspicious origins. More specifically, the workshop's sessions were set to enable those in attendance to rapidly detect, assess, and respond to the intentional outbreaks induced by contaminated food and water sources. The target audience were health professionals from the region, including Iraq.

## 7.10 Regional Rapid Response Teams Training

EMPHNET conducted this workshop in July 2012 for one week. Thirty-four participants attended from the region, including Iraq. Facilitators were from EMPHNET, Naval Medical Research Unit3- (NAMRU3-), the WHO, and the CDC.

The purpose of this course was to construct the platform for National Rapid Response Teams and to find suitable candidates for the Regional Rapid Response Teams Training. Nineteen out of 34 were selected as members of the Regional Rapid Response Teams and trained in a three long course titled Advanced Rapid Response Teams Training which was conducted September 16 to October 2012 ,4.

The advanced RRT course was also facilitated by experts from EMPHNET, WHO Jordan, NAMRU3-, Ministry of Health Jordan, Ministry of Health Sudan, Global Outbreak Alert and Response Network (GOARN) Geneva, Center for Disaster and Humanitarian Assistance Medicine (CDHAM-US) and the CDC.

The successful implementation of the activities as part of the health system components reflects a shared goal and a mutual commitment towards improving health outcomes for the people of Iraq. It is also an achievement that is the fruit of a strong coordination, not only between the Ministry and EMPHNET, but also with other governmental entities within the country as well as other national and international organizations working in Iraq.

To better facilitate its growing work in Iraq, EMPHNET established a country office in the country in 2018. Through this physical presence, EMPHNET has been successful in expanding its technical as well as logistics support to public health services within the country.

Building on a successful legacy, EMPHNET looks to the future in Iraq with great ambition. Putting this the shared strategic directions into practice, the Iraqi MoH and EMPHNET are signing a cooperative agreement that will institutionalize their collaboration in areas of capacity building, prevention and control of diseases, strengthen the health system in emergency response, biosecurity and biosafety, and supporting the national strategy for vaccination, and the international health regulations.

Considering that delivery of primary care requires expanding the reach of essential services to all people everywhere, EMPHNET will continue supporting the Iraqi MOH in providing quality services that will enhance the health practices in the country. Improving preventive, curative and emergency care, and responding to the double burden of disease faced in Iraq, is a shared responsibility by all stakeholders.

In this regard, applying innovative modalities in healthcare delivery requires investing in the integrated approach for the delivery of health services. Working with local communities at the grassroots level is essential to develop a health promotion model that will positively change behaviors.

## Conclusion

The Iraqi Ministry of Health and Environment successfully led the planned activities that were jointly discussed and implemented in partnership with EMPHNET. The prioritized interventions were directed towards contributing to strengthening the national health system and addressing gaps in emergency preparedness and response, prevention and control of infectious diseases, immunization, and capacity building for the public health workforce.

We at EMPHNET believe that: “Great ambition without contribution is without significance.” For that we will continue in providing all the possible support for the best interest of Iraqi people in contribution and coordination with relevant development partners.





