

Annual Report
2021-2022

Regionally Focused, Globally Connected



EMPHNET

The Eastern Mediterranean
Public Health Network

▶ **GHD : EMPHNET:** working
together for better health

Acronyms

AFP	Acute Flaccid Paralysis
AMR	Antimicrobial Resistance
BFE	Basic Field Epidemiology
BSL3	Biosafety Level 3
CBOs	Community-based Organizations
CDC	Centers for Disease Control and Prevention
CPHL	Central Public Health Laboratory
CVL	Central Veterinary Laboratory
EBS	Event-based Surveillance
EMR	Eastern Mediterranean Region
EPI	Expanded Program on Immunization
FETP	Field Epidemiology Training Program
FETP-V	Field Epidemiology Training Program for Veterinarians
GOARN	Global Outbreak Alert and Response Network
IAPH	International Academy of Public Health
IHR	International Health Regulations
IEDCR	Institute of Epidemiology Disease Control and Research
ILI	Influenza-like Illness
IPC	Infection Prevention and Control
KAP	Knowledge, Attitudes, and Practice
MG	Mass Gathering
NCD	Non-communicable Disease
NITAG	National Immunization Technical Advisory Group
PHC	Primary Healthcare Center
PHEP	Public Health Empowerment Program
POE	Point of Entry
RI	Routine Immunization
RRT	Rapid Response Team
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
VPD	Vaccine Preventable Disease
WaSH	Water, Sanitation and Hygiene Promotion
WBDSS	Web-based Diseases Surveillance System
WHO	World Health Organization
WPV	Wild Polio Virus

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Word from the Executive Director



For over a decade, EMPHNET has been working to achieve full presence, geographically and across public health areas, in the Eastern Mediterranean Region and beyond. And our focus within one region has a far-reaching connection to the globe.

Over the years, we expanded collaboration with most countries of the EMR to serve the growing needs of the region. Our focus has been to support workforce development, strengthen public health programs, promote research for policy, and create opportunities for knowledge exchange and networking. We have been lauded for supporting the establishment of FETPs in six new countries and leading the support for polio eradication and immunization programs in endemic, outbreak, and high-risk countries, from Afghanistan to Pakistan, Iraq, Somalia, Sudan, and Yemen. We have been among the very few organizations which promoted the application of One Health to solve health problems in priority EMR countries and beyond. With eyes on at-risk countries, we are also expanding collaborations to ensure the implementation of biosafety and biosecurity best practices in public health and animal health laboratories. We continue to pioneer knowledge generation and sharing for public health: implementing high-quality research across most public health areas, while maximizing public health networking using traditional and innovative means.

Gauged by **global health**, our contributions to the betterment of public health in the EMR resonate beyond the borders of one region. EMPHNET is a key contributor to global health equity by working for the Eastern Mediterranean, a region which has as a sizable share of global health problems brought about by unrest, political instability, tough socioeconomic conditions, difficult terrains, and climate change threats. EMPHNET is a prominent organization advocating for collaborations and partnerships within and beyond the region to end polio, strengthen workforce capacity, respond to public health emergencies, assist refugees, improve public health programs, and cater to the health needs of vulnerable communities.

To make further achievements from one region for global health, EMPHNET launched a three-year strategy in 2021 under the title of “**Creating Opportunities for Change.**” The strategy is based on our understanding of the region’s potential that is best utilized through multi-national and multi-sectoral togetherness.

Because we worked in line with this strategy, 2021/2022 was an addition to our **regionally focused yet globally connected** achievements.

Dr. Mohannad Al Nsour
Executive Director

One Year in Review



Working with more than **15** countries out of **22** in the EMR



Expanding beyond the EMR with new projects launched in **Bangladesh**



Connecting with over **10** new partners from the EMR and the globe



Growing as an **FETP** network to include **13** programs



Promoting Public Health during **mass gatherings**



Promoting the **One Health Approach** to combat zoonotic and environmental threats



Enhancing **surveillance systems** across several countries in the EMR



Increasing **vaccination coverage** using innovative communication



Assisting **immunization programs** in accessing **hard-to-reach communities**



Pioneering **biorisk management** in major public health laboratories in over five countries



Launching regional-scale initiatives to combat **NCDs**

Partnerships



Our decade-long presence in the EMR became possible because the countries and our international partners believed in our ability to create opportunities for change.

In over ten years, EMPHNET built strong relations with countries in the EMR and beyond by working closely and mainly with ministries of health in implementing successful projects focused on achieving our strategic goals in our working areas: **workforce development, research and policy, public health programs, and communication and networking.** Throughout long-standing work in the region, we have gained prominence as a

public health organization working from and for the Eastern Mediterranean in polio eradication, routine immunization strengthening, emergency preparedness and response, biorisk management, non-communicable diseases prevention and control, One Health, and public health during mass gatherings. While our success was largely attributed to our close relations with countries, it was also brought about through collaborations of various forms with our regional and international partners who feel a sense of responsibility toward the region. To advance these partnerships and collaborations, last year, we relied heavily on a strategy of joining in work with various entities within and beyond the EMR.

MoUs and Agreements

In 2021/2022, EMPHNET grew its network of collaborators and partners. Alongside fellow members from regional and international entities, EMPHNET now has various types of partnerships and collaborations with the Global Institute for Disease Elimination (GLIDE), WHO Regional Office of the Eastern Mediterranean, Pharmaceutical industries (MSD/MERCK, Sanofi, Pfizer), UK Health Security Agency, International Organization for Migration, Gulf CDC, Africa CDC, Imperial College London, Vital Strategies, and Family Health International (FHI 360). In continuation and progress of several past projects, EMPHNET expanded the collaboration with the USCDC to include the CDC influenza division. In addition, EMPHNET received Gavi's, the Vaccine Alliance, prequalification for Afghanistan, Sudan, and Yemen; and this identifies our organization's inclusion on Gavi's approved suppliers list.

MoUs and Agreements with Various Entities

MoU signed with **TEPHINET** to strengthen field epidemiology capacities and accelerate progress towards the recommendations of the FETP Roadmap

Program cooperation agreement signed with **Iraq's Ministry of Health** to further strengthen collaboration in the country

MoUs signed between EMPHNET's academic arm, International Academy of Public Health (IAPH)*, and different entities from the region



With the Health Services Academy in Pakistan



With the National Company for Training and Employment in Jordan

**Established in 2021 as EMPHNET's academic arm, the International Academy of Public Health, IAPH, is a multi-disciplinary professional development academy for the public health workforce. As a specialized entity, IAPH provides diverse training programs in numerous areas of public health to contribute to the development of health services within and outside the Eastern Mediterranean Region.*



With Sudan's Federal Ministry of Health



With Yemen's Hadramout University



With Himmetna Initiative of Jordan

Memberships

Using its expertise from and for the Eastern Mediterranean Region, EMPHNET looks forward to contributing to global health through becoming a member in notable relevant networks, alliances, and associations. Last year, EMPHNET officially became a sustaining member of the **WFPHA - World Federation of Public Health Associations**, a network member of the **Global NCD Alliance**, a member in the **Global Alliance on War, Conflict, and Health (GAWCH)**, and partners with the **International Association of National Public Health Institutes (IANPHI)**. A significant event within our membership of the **Global Outbreak Alert and Response Network (GOARN)** was the election of EMPHNET's Executive Director Dr. Mohannad Al Nsour as the Vice Chair of GOARN's Steering Committee.

Awards

UN Interagency Task Force Award
WHO Special Program on Primary Health Care Award

EMPHNET has been recognized for achievements in strengthening provision of NCD services at the primary healthcare level across countries in the Eastern Mediterranean Region, including by promoting greater multisectoral coordination of the NCD response for refugee populations and host communities in Jordan.

Partners

In addition to our valuable partnerships with ministries of health, we work with different national, regional, and international public health stakeholders.

- Abt. Associates
- Africa CDC
- American Society for Microbiology
- American University of Beirut
- Association of Schools of Public Health in the European Region
- Bill and Melinda Gates Foundation
- Biosecurity Engagement Program
- Blumont, Inc.
- Caritas Jordan
- Center for Global Health Science and Security / Georgetown University
- Chittagong Veterinary and Animal Sciences University
- CRDF Global
- Defense Threat Reduction Agency
- Electronic Health Solutions
- Emory University
- ERASMUS
- Family Health International (FHI360)
- Food and Agriculture Organization
- Gavi, the Vaccine Alliance
- Global Health Council
- Global Institute for Disease Elimination
- Global NCD Alliance
- Global Outbreak Alert and Response Network
- Gulf CDC
- Imperial College London
- International Associations of Public Health Institutions
- International Centre for Diarrheal Disease Research, Bangladesh
- International Committee of the Red Cross
- International COVID-19 Data Alliance
- International Development Research Center
- International Federation of Red Cross and Red Crescent Societies
- International Medical Corps
- International Organization for Migration
- Islamic Development Bank
- Japan International Cooperation Agency
- LINKS: A global community for cardiovascular diseases
- Metabiota
- MSD/MERCK
- NCD Alliance
- Network for Education and Support in Immunization
- Pfizer
- Princess Haya Biotechnology Center
- Qatar Red Crescent
- Resolve to Save Lives
- Royal Health Awareness Society- Jordan
- Sandia National Laboratories
- Sanofi Pasteur
- Task Force for Global Health
- The END Fund
- The United Nations Relief and Works Agency for Palestine Refugees in the Near East
- Tides Center /Ending Pandemics
- Training Programs in Epidemiology and Public Health Interventions Network
- UK Health Security Agency
- United Nations High Commissioner for Refugees
- United Nations International Children's Fund
- United States Agency for International Development
- US Centers for Disease Control and Prevention
- Vital Strategies
- WHO Regional Office of the Eastern Mediterranean
- World Federation of Public Health Associations

Partners through IAPH:

- Ahfad University
- Alameen University
- Arab Board of Health Specialization
- Hadhramout University
- Health Services Academy in Pakistan
- Himmetna Initiative of Jordan
- Jordan Medical Council
- Jordanian Nursing Council
- Leeds University
- National Company for Training and Development in Jordan
- Public Health Authority-KSA
- Princess Sumaya University for Technology
- Sudan Medical Specialization Board
- University of Aden
- University of Huddersfield

Country Presence

Out of the Eastern Mediterranean Region's 22 countries, EMPHNET is now working with more than 15, having recently launched projects in Lebanon, Oman, and Palestine. EMPHNET is also maintaining a successful presence in Bangladesh where it is implementing a variety of projects. As of 2022, EMPHNET has registered offices in eight countries: Afghanistan, Bangladesh, Iraq, Jordan, Libya, Sudan, Pakistan, and Yemen.



Field Epidemiology



As the network for Field Epidemiology Training Programs (FETPs) of the Eastern Mediterranean Region, we work strategically to lead and advance applied epidemiology in the region.

The role of FETPs has been recognized globally as a force in containing health threats within countries and preventing their spread beyond borders. In whichever form, known as modality, they come, these programs have proven to be instrumental to a health systems' response to urgent public health problems. While their role in emergency response is also globally recognized, more so after COVID-19, their contribution to preparedness must be noted in

evaluating surveillance systems, assessing needs and risks, and drafting preparedness plans. They merit our support for their invaluable work in emergency preparedness and response.

As the region's network of FETPs, we build on our ten-year success of working with ministries of health in establishing new FETPs of different modalities, sustaining existing programs, and generating learning and networking opportunities to build the capacities of FETP residents and graduates. Guided by strategy, we continue to empower FETPs by enhancing workforce capacity in applied epidemiology in the EMR and beyond.

More FETPs Established in the EMR and Beyond

Several countries in the EMR still do not have an FETP. Our aim is to promote and actualize the establishment of FETPs in these countries in modalities that best fit their needs. This year, our network of FETPs grew bigger. Lebanon and Oman now officially have FETPs, while Bangladesh, Kurdistan/Iraq, Morocco, and Sudan established new FETP modalities. This expansion is the fruit of efforts of EMPHNET, the USCDC, and ministries of health in the countries in question.



Country	Modality	Residents	Progress	National Partners
Bangladesh	Intermediate	16	Residents completed two workshops and their fieldwork components on surveillance system evaluation, outbreak investigation, and surveillance data analysis.	Institute of Epidemiology Disease Control and Research (IEDCR)
Bangladesh	Hospital Epidemiology Training Program	10	The program is important for developing skills of hospital epidemiologists and infection control practitioners.	IEDCR
Lebanon	PHEP-BFE (COVID-19)	15	The first cohort graduated on July 19, 2022.	Ministry of Public Health
Oman	PHEP-BFE	15	The first cohort is expected to graduate in November 2022.	Ministry of Health
Kurdistan Region of Iraq	PHEP-BFE	24	While the program was launched only recently, it celebrated the graduation of three cohorts so far.	Ministry of Health
Morocco	Intermediate	15 (cohort 1) 15 (cohort 2)	The first cohort graduated in September 2022, and the second cohort is currently in progress.	National School of Public Health
Sudan	Intermediate	12	The program is improving epidemiological capacities at the subnational and national levels of the public health system.	Federal Ministry of Health

Existing FETPs Witness Growth

Jointly with ministries of health and international partners, EMPHNET continues to ensure the sustainability of existing FETPs. The focus has been on supporting the programs' didactic training, field projects, and continuous professional development for residents and graduates.

Egypt Advanced FETP

Became accredited by TEPHINET

Egypt PHEP-BFE for COVID-19

Launching the second cohort of 22 residents

Egypt PHEP-BFE

The fifth cohort was launched with 26 residents from eight governorates besides the central level.

Egypt Intermediate FETP

Supporting the implementation of the first cohort of 17 residents.

Iraq

PHEP-BFE

Supporting the implementation of three cohorts

Afghanistan Intermediate FETP

Celebrating the graduation of the second cohort and completing the first Workshop for the 26 residents of the third and fourth cohorts

Yemen Advanced FETP

Received the CDC's Director's Award for Excellence in Epidemiology and Public Health Response

Yemen PHEP-BFE

Implementing the first two cohorts, with 48 residents. Currently, supporting the implementation of the third and fourth cohort with 44 residents

Bangladesh Intermediate FETP

Supporting several training workshops in Research methodology, Mapping in outbreak and case investigation using QGIS, cell phone-based data collection using Epi Info, STATA, Surveillance Data Analysis, national rapid response team on outbreak investigation, strengthening a surveillance system, and public health leadership and management

Bangladesh FETP-V

Implementing the first cohort by conducting didactic contact sessions on Disease Surveillance, outbreak investigation, research methodology, and disease control and prevention and their field assignments.

Supporting professional development in surveillance data management and analysis, scientific writing and communication, scenario-based animal disease investigation, and information collection and management

FETPs Respond to Health Needs

Based on requests from the programs, EMPHNET provides needed technical and logistic assistance to facilitate FETP deployment and mobilization in the field in response to urgent public health needs. An FETP assistance in such situations benefits the ministries of health, while also creating a learning experience for an FETP resident or graduate.



Bangladesh

- Omicron Variant cases
- Lead (Pb) poisoning in cattle causing sudden death due to contamination from battery recycling field in North Bengal
- Lumpy Skin disease outbreak in Noakhali District
- Sudden death of cattle in Chapai Nawabgonj District
- Avian Influenza outbreak in Narsingdi district
- Foot and Mouth disease outbreak in Khulna
- Goat Pox disease outbreak in Rangamati Hill tracts
- Evaluation of adverse events following immunization, surveillance, acute flaccid paralysis surveillance, and hospital-based infection control and prevention surveillance
- Evaluation of the Bangladesh Animal Health Intelligence System (BAHIS) in terms of data quality, timeliness and other surveillance evaluation parameters



Egypt

Organo-phosphorus poisoning in Giza governorate



Iraq

Crimean-Congo hemorrhagic fever (CCHF)



Yemen

Clusters of measles and rubella cases in high-risk districts in the governorates of Saadah, Sana'a, Amran, Hajjah, AlJawf, Al-Hudaydah, Ibb and Al-Bayda

More Initiatives Launched to Support FETPs

To realize our strategic objectives of advancing applied epidemiology in the EMR and beyond, we provide material and state-of-the-art learning opportunities to the FETP community. 2021/2022 was another year where we progressed in facilitating knowledge generation and sharing for the entire FETP community from managers to mentors, residents, and graduates.

Regional Workshops in Support of FETPs



In Support of FETP Sustainability

FETPs of Pakistan, Bangladesh, Iraq, Yemen, Jordan, Lebanon, Sudan, Tunisia, Morocco started developing national FETP sustainability plans following a Regional Workshop on the Sustainability of FETPs in the EMR conducted by EMPHNET and the USCDC for FETP directors and technical advisors.



In Support of Mentors

Mentors from Bangladesh, Iraq, Jordan, Lebanon, Oman, Mauritania, Pakistan, Tunisia, Saudi Arabia, Sudan, and Yemen participated in a regional training conducted by EMPHNET and the USCDC to build the capacity of master mentors to be able to train more mentors at country level.



In Support of Scientific Writing

A Regional Workshop on Scientific Manuscript Writing and Publication was held for FETP residents and graduates, as well as other public health professionals, from Afghanistan, Bangladesh, Egypt, Iraq, Jordan, Lebanon, Morocco, Oman, Pakistan, Palestine, Sudan, Tunisia, and Yemen. The workshop assisted them in skills needed to write and submit scientific manuscripts with priority on topics covering FETPs' role in COVID-19 response. The workshop was held by EMPHNET and the USCDC.

FETP Exchange Program

Addressing a request by FETP host countries, EMPHNET launched the FETP Exchange Program to provide FETP residents and graduates with the opportunity to witness firsthand how other countries deal with outbreaks and public health events that might be different than their own. Such learning experiences prepare them to deal with similar challenges that may threaten the health and wellbeing of communities within their home countries. It also equips them with knowledge and skills needed to work with epidemiology teams at scales larger than the national level.



FETP Ambassadors Program

The recently launched FETP Ambassadors Program is designed to increase visibility of the region's FETPs. A contact person is recruited from each FETP in the region with the task of communicating the achievements of their country's program using various communication vehicles. The program now has 17 ambassadors from the programs in Afghanistan, Bangladesh, Egypt, Iraq, Jordan, Lebanon, Morocco, Pakistan, Saudi Arabia, Sudan, Tunisia, and Yemen. They will be the FETP ambassadors for a period of one year.

The EMPHNET Electronic Library

Commonly known as EEL, the EMPHNET Electronic Library was launched to provide users with access to resources and tools that will help them advance their research and move their careers forward. EEL is an electronic regional library specifically serving field epidemiologists and public health professionals in the EMR. EEL also aims at spreading health education and information across the region, as well as contributing to bridging the information-to-action gap.

Published Research on Field Epidemiology

Evaluation of Advanced Field Epidemiology Training Programs in the Eastern Mediterranean Region: A Multi-Country Study

Polio and Vaccine Preventable Diseases



In a region where polio is still endemic and VPDs elimination remains a challenge, EMPHNET works to accelerate the pace of progress through advocating for and joining multi-national and multi-sectoral collaborations.

Worldwide, polio is only endemic in two countries- Afghanistan and Pakistan- which are part of the EMR. Egypt, Somalia, and Yemen- also part of the EMR, are classified as “outbreak countries,” while Sudan is a key at-risk country. The elimination of other vaccine preventable diseases, mainly measles and rubella, is another goal to be achieved in the region. Conflict, political instability, weakened health infrastructure, mistrust in vaccines, are all

challenges that hinder the progress of eradicating polio and eliminating VPDs of concern to the region. Synergetic efforts across sectors and countries need to be accelerated to end polio for good and to empower the region’s immunization programs against VPDs.

EMPHNET has set an ambitious, strategic objective: to ensure delivery and sustainability of high-quality vaccination services and immunization program in the EMR. To achieve this objective, EMPHNET is working continuously with the countries and partners in building the capacity of Expanded Program on Immunization (EPI) staff and enhancing equity and quality of immunization services.

Improved Communication Creates Demand for Immunization

Effective communication contributes to making immunization programs successful simply because it can help increase immunization coverage. EMPHNET has succeeded in strengthening communication for immunization programs in priority countries, including Afghanistan and Iraq, managing to create demand for immunization using both traditional and innovative communication tools. Last year, we capitalized on the power of community engagement in generating trust in vaccines and eventually contributing to increasing immunization coverage.

Engaging the Community to Combat Vaccine Hesitancy in Afghanistan	Supporting EPI's Communication in Iraq	Improving Immunization Messages in Iraq
<p>EMPHNET engaged community elders and religious leaders in Afghanistan to communicate the importance of vaccines and build trust in immunization services.</p> <p>Around 450 religious leaders and 600 community leader led orientation sessions in their respective communities.</p> 	<p>This year, EMPHNET supported the MOH in reviewing and modernizing the communication strategy to comply with the updated immunization policies, and emerging challenges. This reviewed strategy was also created with the help of experts in communication and EPI from UNICEF, WHO, World Bank, Pediatric Society, among others.</p> <p>An advocacy workshop was conducted and aimed to gain political commitment and support from the stakeholders to improve the demand for immunization, and to disseminate the new communication strategy.</p>	<p>EMPHNET and Iraq's MOH distributed messages of posters to improve immunization demand.</p> <p>30 Billboard advertisement posters were distributed to all provinces, and 1,890 large posters were distributed to PHCs and small posters to 4,000 private health center and facilities.</p>
	<p>EMPHNET is supporting the establishment of a well-functioning infodemic management system in Iraq to examine the determinants of vaccines /polio vaccine uptake and hesitancy, the prevalent vaccine-related concerns in Iraq, and social and behavioral determinants that hinder achieving goals of polio eradication, control and elimination of other VPDs.</p> 	<p>50 PHCs were provided with Sim Cards and three months calling service to increase vaccination coverage and awareness increase awareness through talking directly to defaulters' families.</p> 

Supportive Supervision Empowers Immunization Workers

As a popular professional development tool for health workers, supportive supervision is a favorable alternative to traditional instruction because it entails two-way communication between mentors and front-line vaccinators. Through supportive supervision, mentors provide constructive feedback and motivation in a friendly, relaxed environment. EMPHNET continues to support national investments in supportive supervision of frontline immunization workers.

For the fourth year in a row, EMPHNET continued to collaborate with Afghanistan's Ministry of Public Health in providing technical and logistic for EPI provincial supervisors to visit health facilities and conduct on-the-job training for frontline workers. Thinking outside

the box to assure monitoring of immunization outreach and mobile sessions, EMPHNET engaged community elders as third-party monitors to ensure the successful implementation of the outreach and mobile sessions. Additionally, EMPHNET for the first time established the supportive supervision mechanism for the private sector in Afghanistan and provided technical and logistical support to the provincial EPI supervisors to conduct supervision of the private sector. This year, we also used our experience in supportive supervision in two new, priority countries: Somalia and Yemen. There, EMPHNET worked with the authorities to review and update supervisory checklists. Then, it supported training of provincial and regional supervisors on supportive supervision who later trained the EPI focal points at the district levels on the same topic.



Afghanistan

Around **960** health facilities were visited by provincial EPI supervisors in **16** provinces that are either endemic for polio, security compromised, underserved, or hard-to-reach



Somalia

23 regional EPI managers and focal points participated in a TOT and later trained **80** workers from Banadir, Puntland, and Galmudug



Yemen

65 professionals participated in a TOT and then trained at subnational levels from Aden, Al Mukalla and Sanaa

Microplanning Helps Access Hard-to-Reach Communities

With COVID-19, making RI services available to hard-to-reach communities became more challenging in several countries of the EMR. Detailed planning, known as RI microplanning, to reach these communities, continuously and efficiently, became more urgent. Pakistan and Yemen are among several countries in the region investing the power of RI microplanning to improve coverage among these communities.

With technical support from EMPHNET, these countries are empowering immunization workers with the skills needed to prepare and implement microplans. This support is provided through conducting TOTs at the national level to create teams of trainers who later train district level vaccine providers who will subsequently develop microplans.



Pakistan

Baluchistan and Khayber Pakhton Khwa

Over **1,300** participants in the district-level training

Over **600** facilities developed their microplans



Yemen

High-priority governorates

200 participants in the district-level training

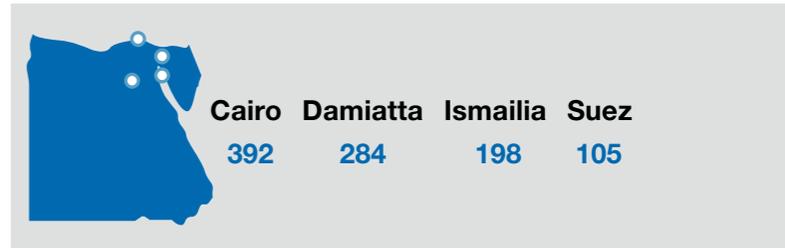
Health facilities are currently developing microplans

EPI Workforce Development Accelerated

Because immunization service delivery relies on a competent workforce within immunization programs, we work extensively with ministries of health to enhance the capacities of this workforce through capacity-building activities geared towards equipping public health professionals with knowledge and skills based on country needs.

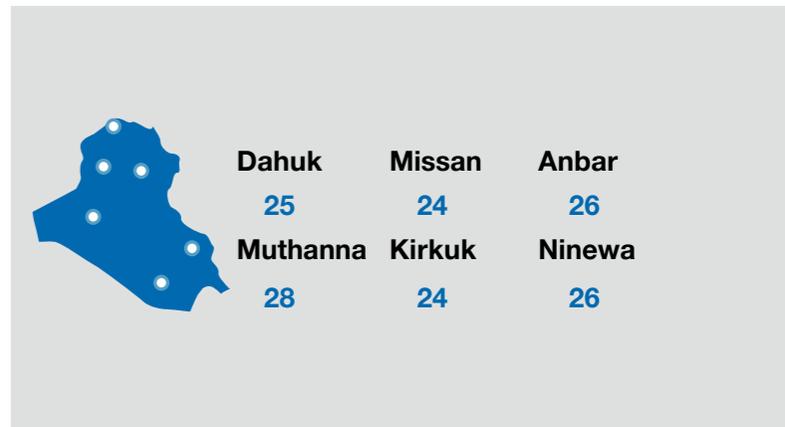
Egypt

In continuation of a five-year collaboration toward measles elimination, the MOHP and EMPHNET worked to build the capacity of EPI and health centers staff, in four high priority governorates in managing EPI activities.



Iraq

To reverse AFP low performance indicators-key to improving detection and response for WPV importation and VDPV- EMPHNET worked with the MOH to empower AFP surveillance officers at the subnational level in six high-priority provinces. A national TOT targeted 19 participants from most provinces who later trained 153 officers at the districts. Following training, these officers implement comprehensive epidemiological investigation of 50 reported zero doses AFP case and under vaccinated and hot cases in the hard-to-reach areas



Yemen

The MOPHP is scaling up the Public Health Empowerment Program (PHEP) for EPI supervisors in Yemen. The 1st cohort in Aden celebrated its graduation, and the didactic and field activities are ongoing for the second cohort in Sanaa.

Sudan

To enhance vaccination demand, EMPHNET provided technical support to the EPI team at the Federal Ministry of Health (FMOH) in updating the home visit manual for identifying zero-dose children. EMPHNET also supported designing the home visit manual and printing 4,000 copies that were distributed to EPI state teams during the orientation sessions conducted to the EPI officers of the 18 states. EMPHNET also supported the EPI team at the Federal Ministry of Health (FMOH) in Sudan in developing data quality improvement plans for each of the country's 18 states following extensive meetings with EPI RI officers, data investigation officers, cold chain and locality officers and field visits to 600 health facilities in the lowest performing localities to review the quality of the data collected, identify the main challenges of data accuracy and to recommend action points for improving data quality at health facility level.

Polio Outbreak Countries

To prevent, detect and respond to VPD outbreaks according to country-specific needs, EMPHNET worked closely with MOHs and country partners to support WPV and circulating vaccine-derived poliovirus (cVDPV) outbreak response and preparedness. This included conducting a TOT at the central level followed by cascade trainings at the subnational level to provide participants with the skills needed to undertake effective response to stop the transmission from polio virus or cVDPV outbreaks in Afghanistan, Somalia, and Yemen.

Afghanistan



Over **100** participants from **21** provinces in central, western, and eastern regions.

Somalia



25 EPI and surveillance state officers participated in the TOT and **140** district officers participated in the cascade trainings in Banadir, Puntland, and Galmudug

Yemen



TOT training **15** EPI and Surveillance officers and **58** participants from the governorates and Directorates of health in the internationally recognized government (Aden)

NITAGs Continue to Be Empowered

In the EMR, EMPHNET is strengthening the role of NITAGs as a national technical resource providing advice on vaccine and immunization. EMPHNET helped several countries in developing improvement plans for their NITAGs, and it is currently supporting the implementation of these plans. As part of this implementation, a priority area for improvement is empowering NITAGs in making recommendations based on evidence for which EMPHNET conducted a training with support from the WHO and UNICEF. Also based on this plan, EMPHNET in collaboration with the partners, conducted Vaccinology training for the first time, for the NITAG in EMR.



Countries

Egypt, Iraq, Lebanon, Morocco, Pakistan, and Tunisia



Number of Participants

18



Sessions

Immunization, immunology, vaccination, vaccines, and recommendation-making process

Afghanistan, Iraq, Jordan, Oman, Pakistan, Palestine, and Sudan

15

Vaccinology



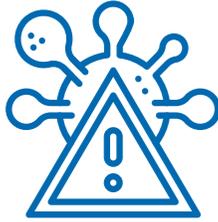
Disease Surveillance



EMPHNET overcomes challenges that hinder the effective implementation of disease surveillance by creating cooperation and synergy among different sectors.

In the EMR, technical weaknesses, political instability, and economic challenges hinder the effective implementation of disease surveillance—challenges which the countries are undertaking efforts to overcome. EMPHNET is a recognized organization within these efforts. Improving disease surveillance, across different programs and through different endeavors, is a key component of EMPHNET’s strategy. We possess

a record of strengthening surveillance systems for immunization programs, infectious disease control and prevention, zoonotic diseases, NCDs, and AMR. We cite specific efforts: providing technical support, building capacities, establishing new surveillance systems, and implementing different and innovative types of surveillance and registry systems. This year, we built experience and achievement, expanding into support for new countries in strengthening various types of surveillance.



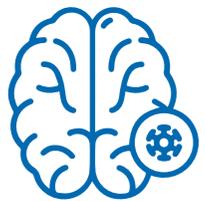
Event-Based Surveillance Utilized to Contain Outbreaks

With the coordinated efforts with partners, EMPHNET is providing support to Sudan, Libya, Morocco, Lebanon, and Iraq to strengthen infrastructure of the event-based surveillance system with focus on COVID-19 and ILI/SARI surveillance and reporting structures through continuous logistical and technical support.



Mortality Surveillance System Strengthened in Pakistan

EMPHNET and the Centers for Disease Control and Prevention (CDC) Pakistan are exploring the efficacy of mortality surveillance and civil registration systems in the country in estimating deaths during COVID-19 at district, provincial, and national levels. They conducted a retrospective study to estimate overall excess deaths and their causes during the pandemic in particular regions of Pakistan. Based on this study, a report was developed detailing opportunities for improvement that can be utilized to eventually bring about efficient interventions.



Surveillance of Meningitis and Septicemia Launched in Egypt and Iraq

In the MENA region, EMPHNET will be working with the Meningitis and Septicemia Mapping Network (MenMap) to expand understanding of vaccine preventable Invasive Bacterial Disease (IBD); in particular, those caused by *Neisseria meningitidis*, *Streptococcus pneumoniae*, and *Haemophilus influenzae* type b (Hib); and bridge the gaps between research, clinical practice, and public health policy priorities. Through coordinated leadership of researchers from public and private sectors, MenMap will undertake broad collaboration to build knowledge infrastructure, research and communication capacity in the network participating countries.



Web-based Surveillance at Sub-district Level Supported in Bangladesh

The Institute of Epidemiology, Disease Control and Research (IEDCR) is Bangladesh's mandated government agency for surveillance and outbreak investigation. The IEDCR has an excellent platform for Web-Based Diseases Surveillance System (WBDSS) at the sub-district (Upazilla) level throughout the country. In collaboration with the CDC, EMPHNET is providing logistical and human resources support for IEDCR to enhance their WBDSS. Technical support is in data management, technology support, along with staff training.



Functionality of Integrated Community-Based Surveillance of VPDs Consolidated in Sudan

EMPHNET supported the Federal Ministry of Health (FMOH) in Sudan in conducting supportive supervision and job coaching visits to enhance reporting on VPDs from community informants among special populations. National and state supervisors visited 28 localities in 13 states and provided on-job refresher training for state and locality surveillance officers, in addition to community informants was provided. These visits also helped in conducting data quality verification for the surveillance for the year at the levels of the state, locality, and the community.

Published Research on Disease Surveillance

- Seasonal influenza vaccine uptake among healthcare workers in tertiary care hospitals, Bangladesh: Study protocol for influenza vaccine supply and awareness intervention
- Active Safety Surveillance of Four Types of COVID-19 Vaccines: A National Study from Jordan
- Risk Factors of Dengue Fever in Urban Areas of Rawalpindi District in Pakistan During 2017: A Case Control Study
- Public Health Surveillance Systems in the Eastern Mediterranean Region: Bibliometric Analysis of Scientific Literature

Biorisk Management



Implementing practices under biorisk management, whereby risks of unintentional exposure to biological agents or their inadvertent release are reduced, is a pronounced need in the Eastern Mediterranean Region.

The existence of conflict, coupled with economic constraints, in our region makes protection inside laboratories urgent to ensure health security regionally, and consequently at a global scale.

Based on its strategy, EMPHNET works with all sectors concerned with the safety and security of public health laboratories from ministries of health and agriculture to research entities, universities, and the private sector. With a focus on building the capacities of the laboratory workforce, in the human and animal health sectors, EMPHNET promoted the implementation of biosafety and biosecurity best practices in several countries in the EMR.

Capacity Building Activities Expanded Across More Countries

Focusing on priority countries and areas within individual countries, EMPHNET continues to capitalize on opportunities for improvement in the implementation of biosafety and biosecurity practices in public health laboratories. We continue to focus on equipping laboratorians with needed technical and material resources to best protect their work environment against unintentional or malicious use of toxins and infectious agents.

Biomedical Waste Management

Recently Liberated Areas of Iraq

EMPHNET joined the Iraqi MOH in building capacities of laboratory staff in treating, securing, and safely disposing of biomedical waste in Anbar, Mosul, and Ninewa to eventually mitigate existing risks of misuse of biomedical waste. Based on an assessment of biomedical waste management capacities and practices at eight laboratories in these provinces, 21 lab workers from public health and animal health laboratories were trained in segregation, collection, storage, transportation, treatment technologies and safe disposal of bio-medical waste.

Establishment of Effective Inventory Management Systems of Dangerous Pathogens

Priority Life Science Facilities in Jordan

EMPHNET worked with CRDF global to implement an inventory management tool of high consequence pathogens. The tool provides a foundation for inventory management systems for dangerous biological pathogens and dual use materials and equipment in Jordan. For now, the collaboration developed a software, and procured the needed hardware, for inventory management for dangerous pathogens for four laboratories from the public and animal health sectors: CPHL, BSL3/MOH, CVL/MOA, and the Biosafety and Bio-Security Center/Royal scientific society.

Formalizing Biohazardous Waste Management

Key Health Facilities in Libya

EMPHNET and Georgetown University collaborated with the Libyan National Committee on Biosafety and Biosecurity and the National Centre for Disease Control in developing biowaste management Standard Operating Procedures (SOPs) and guidelines. The proper implementation of these SOPs was ensured. Workers were trained on the proper methods of handling and disposing of sharps waste, and an expanded training plan is underway for healthcare workers on medical waste management.



Enhancing Ability to Identify, Safely Handle, and Control Biological Toxins

Jordan and Morocco

In this multi-country project, EMPHNET was able to conduct a large-scale TOT for laboratory workers in main laboratories. The training covered acquisition prevention, development and deployment, and biosecurity of potent biotoxins in Jordan and Morocco. A major outcome of this workshop was the customization of the toxin handling SOPs that were presented during the workshop's group activity session and translated into Arabic and French. Needed material resources and testing kits were also provided.

Multi-Country Coordination Created Among Public Health Laboratories

To maximize and improve the impact of interventions, EMPHNET has advanced coordination across all its working areas, among sectors within and beyond countries. Since 2018, EMPHNET has been building and improving coordination mechanisms among laboratories across sectors and countries. The purpose is to create better protection through improved detection and surveillance of threats.

Building Multisectoral and Cross-border Networks for the Surveillance, Detection and Response of Potentially Weaponizable Pathogens

Libya and Tunisia

EMPHNET, in collaboration with Georgetown University, is developing systems-map defining nodes of communication and coordination between Libyan and Tunisian stakeholders for at least five priority transboundary zoonotic diseases. The specific aim is to develop a methodology using tools and frameworks to improve communication and effective engagement for cross-border surveillance and outbreak investigation.

The One Health Approach



EMPHNET realizes the immense benefit of utilizing the forces of the human, animal, and environmental health sectors to address major health problems affecting the EMR and beyond.

Interconnectedness among human, animal, and environmental health sectors can strengthen prevention of and response to health problems faced by the EMR and beyond. The region is at risk of emerging and re-emerging infectious diseases most of which are of zoonotic origin, while also being a hotspot for climate change, an environmental factor. One Health is a strategic approach utilized by EMPHNET to support the prevention, detection, and control of infectious diseases in the EMR and beyond.

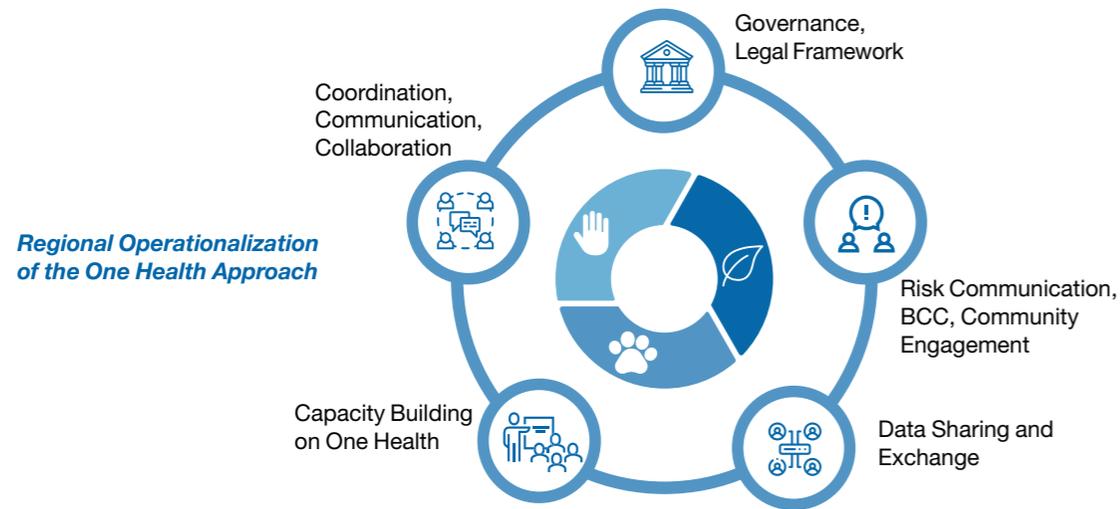
EMPHNET has been a strong proponent of the One Health approach and has a record of promoting the engagement of stakeholders from human and animal health sectors, in and beyond the Region.

EMPHNET has successfully implemented the One Health Approach in several countries. Initially, our focus has been on endemic zoonotic diseases, mainly anthrax and brucellosis. Believing in the efficacy of this approach, we adapted it in new countries to respond to new challenges that are best addressed by collaboration among all sectors of health. We are also sharing our experience with partners in the EMR and the globe in an attempt to advocate for the successful implementation of this approach.

Advocating for One Health

Developing a One Health Guide for the Region

EMPHNET developed its Technical Guide titled “Operationalization of the One Health Approach in the Eastern Mediterranean Region” to serve as a transformative mechanism in the region and beyond to improve the health of humans, animals, and the environment. The guide focuses on governance and policy, multisectoral involvement, liaison, communication, collaboration, coordination, research, and capacity building.



Networking for One Health Regionally and Globally

As part of promoting the One Health agenda, EMPHNET has been an active member of the Environmental Health Working Group (EHWG) of the World Federation of Public Health Associations (WFPHA) and attends its regular meetings during the past year. We also presented our One Health Technical Guide to the mentioned forum. Moreover, during the past year, EMPHNET established a Curriculum Working Group (CWG) to work on the “Regional Curriculum for One Health Professional Training Program in Eastern Mediterranean”. We are also a curriculum review member to the “Tripartite One Health Field Epidemiology Technical Advisory Group (TAG)”.

One Health for Better Health

Brucellosis in Jordan

EMPHNET studied the seroprevalence of brucellosis and molecular characterization of *Brucella* species circulating among pre-slaughtered animals and workers in **Slaughterhouses in Amman, Karak, and Mafraq** governorates. Recommendations for future interventions have been recorded based on an in-depth evaluation of the burden, the circulating species, and work practices.

Another study, with the same purpose, was adapted to people living **Al Zaatari Camp**. It estimated the seroprevalence of brucellosis among Syrian in Mafraq and investigating associations of past brucellosis infections with background variables including type of job of refugees, their attributes, and practices. The study is expected to provide new information regarding movement of infected animals within Jordan and the diversity of *Brucella* subtypes across the area, thus informing vaccination strategies.

Polio in Afghanistan

To consolidate Polio eradication efforts in the country, EMPHNET is building the technical capacities of polio programs in Water, Sanitation and Hygiene Promotion (WaSH) and Environmental Surveillance, while also focusing on creating synergy between these programs and WASH activities.

Anthrax in Bangladesh

Applying the One Health approach, EMPHNET and the Department of Livestock Services are working to launch anthrax surveillance in endemic areas of the country. Currently, both parties are working on using a software that can be integrated into Bangladesh Animal Health Intelligence System.

Synergy in Training Between Animal and Human Health in Bangladesh

Through a one-day workshop titled “**Workshop on Finding Creative Synergies between FETPs for a One Health Community of Practice**,” EMPHNET, the CDC, IEDCR, and DLS, emphasized strengthening the coordination and collaboration between the three programs in Bangladesh (Advanced FETP, Intermediate FETP, and FETPV). The workshop focused on creating synergies in training, joint outbreak investigations, professional development, and field activities.

Non-Communicable Diseases



NCDs are “a global problem” in which the EMR has a major share, with the regional NCD burden projected to increase in the coming years.

Countries of the EMR, while diverse in their socioeconomic profile, cite lifestyle diseases as a common, growing public health problem whether caused and worsened by unhealthy lifestyle choices or economic conditions preventing access to treatment. We see in efforts to combat NCDs in the EMR a priority, only made possible by working closely with ministries of health and jointly with universities, research centers,

and organizations to help better the situation.

Directed by its strategy, EMPHNET aims to strengthen the prevention and control of NCDs in the EMR. EMPHNET has experience working in the control and prevention of NCDs especially with vulnerable communities including Syrian refugees living in Jordan. In the past year, EMPHNET used this experience to expand into other countries in the region focusing on health promotion for communities and supporting ministries of health in the better management of NCDs at a national scale.

Regional Initiatives Launched to Combat NCDs

In the past two years, EMPHNET has maximized collaborations at a regional scale to combat NCDs. We rely on our strong regional presence, experience in improving NCDs prevention and management among vulnerable communities, and connections across relevant sectors from NGOs to research centers, universities, and the private sector.



Development of the EMPHNET Technical Guide on NCDs: Responding to the Challenges of NCDs in the EMR

A technical guide was developed to present a framework for action, and the different approaches, and strategies that EMPHNET uses to support countries in their response to NCDs burden. The EMPHNET NCDs framework for action ensures an effective integrated action on risk factors and their underlying determinants and strong health systems for improved prevention and control of NCDs in the EMR.



Launch of the Eastern Mediterranean NCDs Research and Prevention Center (NCDsRC)

EMPHNET has established the NCDsRC to achieve higher levels of NCDs prevention and control in the EMR through multi-sectorial, multi-disciplinary collaboration in the areas of research, training, and informed decision-making. The NCDsRC designs and conducts NCDs research and aims to create a sustainable human resource through building capacities in the region on rigorous epidemiologic and implementation research to in turn develop and implement evidence-informed interventions, programs, and policies relevant to the EMR.



Data-Driven Risk Messaging Against Smoking and COVID-19

We **United** with the CDC, and Vital Strategies, in a regional campaign **Against Tobacco and COVID** to raise awareness of the harms of smoking, especially during the COVID-19 pandemic. Together, we worked with ministries of health, NGOs and academic institutes in Egypt, Iraq, Jordan, and Palestine. We developed and disseminated country-tailored and culturally appropriate mass media risk messages to educate about the harms of tobacco and promote smoking cessation, especially to reduce morbidity and mortality from the virus.



Developing a Roadmap for Strengthening NCD Priority Areas

EMPHNET worked with the CDC and IANPHI in customizing **Staged Development Tool to develop** the NCD-Capacity Assessment and Planning (N-CAP) Process. The N-CAP supports ministries of health and other stakeholders to assess, prioritize, and plan how to improve national capacity to address NCDs and population health. Previously piloted in Jordan for NCDs Data-t-Action, this year, it has been used in Iraq, with a special focus on NCDs Coalition Strengthening., to in turn will inform decision making.

NCDs Better Managed Among Vulnerable Communities in Jordan

In Jordan and as early as its establishment over ten years ago, EMPHNET began working in NCDs prevention and control among vulnerable communities. We started with a humble project targeting one governorate, Ajloun, then moved to national-scale projects targeting bigger communities in need from citizens to refugees.



Adaptation, Implementation, and Evaluation of HEARTS Technical Package in Health Care Settings in North of Jordan to Improve the Management of Hypertension

In an evidence-based workforce development intervention, we collaborated with the MOH to standardize hypertension treatment protocol at primary health care level in Irbid and Mafraq governorates by **adapting, implementing, and evaluating the HEARTS technical package.**

The project proved a success. A study found that implementation of the HEARTS technical package has successfully achieved better control of the BP of the enrolled patients and the proportion of patients with uncontrolled BP decreased from **71.5% to 29.1%.**



Community-based Intervention Packages to Enhance the Salt Intake Reduction in North Jordan

In two highly populated governorates that also house Syrian refugees, Irbid and Mafraq, we worked the MOH and other stakeholders to build an enabling environment for salt intake reduction within host and refugee communities.

Based on a KAP study focused on the targeted governorates, large-scale awareness sessions were conducted for 15 schools along with the provision of health promotion material.



Implementation Research Services for the Integrated NCDs Humanitarian Response

We joined the Royal Health Awareness Society in working towards expanding the implementation of the **Jordan Integrated NCD Humanitarian Response project**, a health promotion and capacity building initiative brought about through partnership among the School Health Program, Health Community Clinics, Community Health Committees, and Community Based organizations (CBOs).

Assessments evaluated the KAP of students, the efficiency of training health care providers in community clinics, health volunteers, community health workers of CBOs, and e-learning courses.



The Family Health Team Approach for Modernizing Primary Health Care Services

In collaboration with the MOH, we are leading an initiative to develop a roadmap for modernizing PHC services. An enhanced, comprehensive **Family Health Teams (FHT)** approach will be introduced. The FHT is an innovative approach that creates a partnership between physicians at the PHC, family medicine physicians, nurses, community health workers, and other health service providers to coordinate the highest possible quality of care for patients.

Based on the FHT approach, a roadmap has been developed by a committee comprising members from the MOH, Jordan University of Science and Technology, Jordanian Nursing Council, and the private sector.

Emergency Management



EMPHNET has been utilizing the region's potential to deal with protracted public health emergencies and mitigate risks of future emergencies brought about by conflict and other hazards.

The EMR is home to severe humanitarian crises, houses most of the world's refugees and IDPs, and is a climate change hotspot. The region's existing public health emergencies have been compounded with COVID-19 and the increasing risk of additional emergencies. EMPHNET believes in the region's ability to increase its capacities to face any emergency- a belief that informs our strategy in this regard. We work with the countries to improve preparedness for and response to urgent public health problems brought about by humanitarian crises, disease outbreaks, natural disasters, among others. We led Rapid Response Teams (RRTs) system development and capacity building at regional and local scales, promoted emergency planning, and

created opportunities for multi-national and multi-sectoral coordination and information sharing.

Levering the global and regional momentum and capitalizing on lessons learned from COVID-19 pandemic, in the past year, we focused on areas highlighted as priority during countries' response to the pandemic. Of those priority areas was the topic of border health, where we worked with partners to strengthen the capacities of ports of entry to fight against disease spread across borders. In addition, based on a sub-regional rapid response capacity assessment outcome, EMPHNET applied its over a decade of experience in RRT training and deployment to lead an effort to develop SOPs for RRTs in several countries. The SOPs aim to provide a step-by-step guidance for the management and operations of the national rapid response teams to prepare for and respond to public health emergencies

Border Health Put in Focus

With increasing global movement of people, points of entry (POE) become the gateway of diseases into a country. As one of the provisions International Health Regulations (IHR), strengthening preparedness and response measures at POEs is gaining more relevance especially after COVID-19. In 2021/2022, EMPHNET continued to engage with regional and international partners to improve public health emergency preparedness and response in the EMR, especially at the borders.



Reimagining Border Health Strategies in the Eastern Mediterranean Region: A Regional Symposium

This was a large-scale networking event attended by 57 professionals from different technical areas from 16 countries in the EMR and beyond. It was organized by EMPHNET, the CDC, and CRDF Global to engage representatives and stakeholders of border health systems in their countries in discussions on the strengths, challenges, and opportunities on how to improve those systems in light of the recent challenges.



Building Capacities of Port Health Staff to Respond to Public Health Events Train-The-Trainer (TTT) Workshop in Morocco

27 staff members from priority POEs in Morocco participated in this training which was designed to enhance their capabilities in both their routine activities and preparedness and response for any public health emergency especially Public Health Emergencies of International Concern as per the IHR.



Support Continues for RRTs in the Region

EMPHNET is joining national, regional, and global initiatives to empower rapid responders in the detection and containment of health emergencies at the frontlines. This year, we built on our decade-long investment in RRT training in most countries of the EMR, with a focus on creating a proper foundation for rostering rapid response teams and preparing them for emergencies.

Assessing Rapid Response Teams Capacity for the EMR

A sub-regional assessment established a baseline understanding of rapid response programs and capacities in 6 EMR countries including Afghanistan, Egypt, Iraq, Jordan, Pakistan, and Sudan to determine current capacities and highlight possible areas of improvement and support for each country.

Developing and Formalizing RRTs SOPs in Egypt, Iraq, and Jordan

EMPHNET is working with decision-makers for public health emergency response at the regional and national levels to develop rapid response standard operating procedures that provide a step-by-step guidance for the RRT management during both preparedness and response phases while adopting a country-specific, all-hazards approach. This also includes building the capacity of rapid response program managers within the official ministries in the countries. In addition, EMPHNET is supporting the countries in developing a data management system that hosts various RRT databases including a functional and up-to-date roster.

Focusing on an All-Hazard RRTs in Iraq

This activity was implemented to capitalize on the previous rapid response activities implemented in Iraq to support reinforcing the capacity and skills of multidisciplinary RRTs and their individual members to early detect and effectively respond to a potential outbreak and other public health events. This is important especially as countries have shifted their focus on controlling COVID-19 outbreak, while maintaining an all-hazard approach is crucial to support the public health emergency planning and response efforts for all hazards. This training targeted 18 multidisciplinary RRT professionals who are responsible for carrying out rapid response activities during public health emergencies.

Multisectoral Coordination Advocated for Health Security

EMPHNET and the United Kingdom Health Security Agency are collaborating to support the region's countries in improving their multisector coordination (MSC) and subsequently their compliance with the International Health Regulations (2005). Their focus is to transfer MSC principles into practice to address relevant IHR implementation gaps identified in Joint External Evaluations and National Action Plans for Health Security

Enhancing Mass Gathering Preparedness and Response

Support Continues for Iraq During Mass Gatherings

EMPHNET has supported public health efforts in Iraq for over a decade, including supporting Iraq MOH during Al Arbaenia Mass gathering (MG) in 2014, 2016, 2018, and 2020.

Enhancing Capacity to Respond to Planned and Spontaneous Mass Gathering Events

Last year, the Ministry established a MG section within the department of FETP, with an MG unit at each Department of Health in Iraq. Utilizing this new structure, EMPHNET is supporting the MOH through an established multidisciplinary MG Committee to develop a national MG Plan and priority SOPs to allow for coordinated and effective response to public health threats associated with such events.

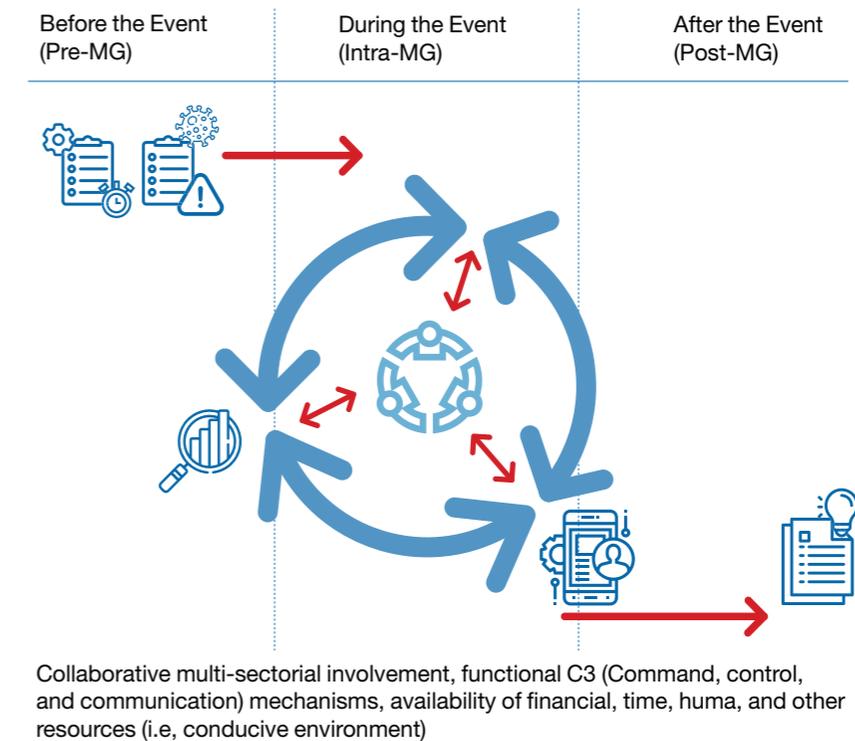
Developing MG Policy Briefs

This activity capitalized on previous MG support efforts previously carried out by EMPHNET in Iraq through development of three research-based policy briefs. The Policy Briefs aim to advocate for better preparedness, detection, and response to any potential chemical, biological, or radiological incidents/threats that may be posed by WMDs. Also, the policy briefs will serve as a vehicle to allow policymakers to make informed decisions such as enhancing coordination mechanisms to detect/respond to potential chemical, biological, or radiological incidents during mass gathering events in Iraq.

Informing Mass Gathering Interventions Regionally

EMPHNET developed its Technical Guide titled "Collaborative Public Health Interventions during Mass Gathering (MG) Events in the Eastern Mediterranean Region". The document provides a simplified yet inclusive and comprehensive (pre-, intra-, and post-MG) phases framework that includes sub-components under each of the mentioned interventional/operational phases and utilizes a risk-based approach. Details of the three-phase operational framework are summarized in the diagram below.

The Three-Phase Operational Framework for Mass Gathering Events



The Continued Fight Against COVID-19



COVID-19 has been a weighty addition to the health challenges of the Eastern Mediterranean Region which is still able to fight the pandemic by multi-sectoral and multi-national efforts, among which EMPHNET has been prominent.

For two years since an unforeseen pandemic hit the globe, EMPHNET has been prominent in supporting the EMR in the fight against COVID-19. EMPHNET led support in most countries of the region, empowering frontline health workers, whether in training or field deployments, investing heavily against the infodemic, and accelerating research using innovative endeavors. As a member of the COVAX initiative EMPHNET joined global and regional efforts in ensuring the

proper deployment of COVID-19 vaccines. During all of this, we worked alongside ministries of health in ensuring that essential health services to the region, that is immunization, are maintained.

Last year, EMPHNET continued to work with ministries of health and global partners to end COVID-19 with a focus on building the capacities of Field Epidemiology Training Programs in skills needed for COVID-19 and facilitating residences' and graduates' deployments in the field. EMPHNET paid special attention to promoting research, specific to priority areas, to inform decision making with lessons learned to improve response to COVID-19 and future emergencies.

COVID-19 Tailored Training

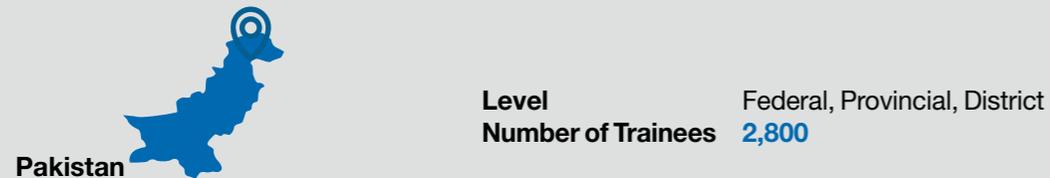
EMPHNET continued to coordinate with ministries of health across the EMR to support health workers in their response to COVID-19. In preparing health workers for field work, EMPHNET organized special training on surveillance at PoEs, case tracing, risk communication, IPC and outbreak investigation.

At the onset of the pandemic, we went a step further in designing training specialized for COVID-19. This year, EMPHNET continued to implement its **Public Health Empowerment Program for COVID-19** – which is based on the online PHEP-BFE. This three-month program is mostly field training and enables ministries of health to maximize the number of professionals trained in the fundamentals of emergency response.

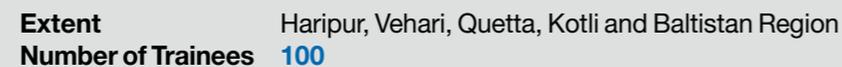
Implementation of PHEP-BFE in the EMR



COVID-19 Training for Vaccinators in Pakistan



Creating Trainers in IPC



Research Accelerated for COVID-19

To promote the use of research for decision making, we relied on our relevant experience of working with partners across sectors and countries to produce research focused on identifying needs and gaps in relation to COVID-19 in the EMR. Our support for regional-scale research that is focused on COVID-19 continues, and we are also conducting country-specific research in priority areas.

Evaluation of COVID-19 Surveillance in Humanitarian settings in Iraq

Working with Iraq's MOH, EMPHNET conducted an evaluation of COVID-19 surveillance in IDPs camps in Kurdistan Region Government. The evaluation results were shared publicly with the central MOH, the MOH in Kurdistan's region, different members of the health cluster which represented the WHO country office, and different representations of local and international humanitarian NGOs.

COVID-19 KAP Survey in Pakistan

EMPHNET is working with CDC Pakistan to survey the general public's COVID-19 Knowledge, Attitudes, and Practices (KAP). The survey aims at providing improved and timely knowledge and information sources to decision makers about KAP of citizens on COVID-19 so that mitigation measures can be improved throughout the country. Findings of this survey are expected to be shared with local and international stakeholders.

COVID-19 Experience in Jordan: Realities, Challenges and Opportunities Symposium

In a high level symposium patronized by the HE the Prime Minister of Jordan Dr. Bisher Al Khasawneh, Jordan's COVID-19 experience was discussed with a focus on immense health, economic and social challenges among communities. Recommendations were presented to strengthen preparedness and response to future pandemics while also highlighting media's role in times of health crisis.

Published Research on COVID-19

- Published Research on COVID-19 in the Eastern Mediterranean Region: Bibliometric Analysis
- Scaling the Children Immunization App (CIMA) to Support Child Refugees and Parents in the Time of the COVID-19 Pandemic: A Social Capital Approach to Scale a Smartphone Application in Zaatari Camp, Jordan

On the Path for Better Health in the EMR

Looking back at 2021/2022, the first year since the launch of our strategy, it is clear that we are on the right path to contributing to better health for people in the EMR. Our work continued to expand both in technical and geographical senses in support of FETPs, polio eradication, routine immunization strengthening, NCD prevention and control, biorisk management, the One Health Approach, and emergency preparedness and response.

For 2022/2023, we will continue to be guided by our strategy to maximize our contribution to global health through our work in the Eastern Mediterranean.

As the region's FETP network, EMPHNET will lead support for the establishment of new FETPs in countries where they do not exist, such as in the Gulf region. We will maximize learning and knowledge exchange opportunities for FETP residents and graduates, and other public health professionals. To promote research for policy, we will maintain regional and international collaborations to inform

decision makers in issues pertinent to NCDs, maternal and child health, infectious diseases, and other priority health topics. To further strengthen public health programs, we have ambitious goals. We will accelerate our technical and logistic support for the training and mobilization of Rapid Response Teams, while initiating the implementation of event-based surveillance across several EMR countries. A special focus will be on strengthening the region's ability to control and prevent non-communicable diseases, an area where we have been expanding. We will continue to call for the application of the One Health Approach across the region to target priority environmental health problems in addition to zoonotic diseases. Our pioneering role as a public health organization will further enable us to make contributions toward polio eradication and routine immunization strengthening.

EMPHNET will continue to create opportunities for change, toward better health for the people in the Eastern Mediterranean Region. With a strong presence at the regional level, we will maintain a stronger impact on the global health scene.

GHD|EMPHNET: Working Together for Better Health

Global Health Development (GHD) is a regional initiative created to support countries in the Eastern Mediterranean Region (EMR) and to strengthen their health systems to respond to public health challenges and threats. GHD was initiated to advance the work of the Eastern Mediterranean Public Health Network (EMPHNET) by building coordinating mechanisms with Ministries of Health, International Organizations and other institutions to improve population health outcomes. As an implementing arm to EMPHNET, GHD aligns its strategies with national policies and directions. Serving as a collaborative platform, GHD|EMPHNET is dedicated to serve the region by supporting national efforts to promote public health policies, strategic planning, sustainable financing, resource mobilization, public health programs, and other related services.

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