



Global Health
Development

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together for better health



EMPHNET
The Eastern Mediterranean
Public Health Network

Strengthen

Toward Stronger Health Systems in the EMR

Outcomes

Annual Report
2020-2021

AFP	Acute Flaccid Paralysis
CBS	Community-based Surveillance
CDC	Centers for Disease Control and Prevention
CHW	Community Health Worker
ELISA	Enzyme-linked Immunosorbent Assay
EMR	Eastern Mediterranean Region
EPI	Expanded Program on Immunization
EPIMIS	Expanded Program on Immunization Management Information System
FETP	Field Epidemiology Training Program
hRHR	Harmonized Reproductive Health Registry
IANPHI	International Association of National Public Health Institutes
IAPH	International Academy of Public Health
IDRC	International Development Research Center
IOM	International Organization of Migration
IPC	Interpersonal Communication
LMS	Learning Management System
MCH	Maternal and Child Health
MOH	Ministry of Health
MOHP	Ministry of Health and Population
MOPH	Ministry of Public Health
MOPHP	Ministry of Public Health and Population
NCDs	Non-communicable Diseases
PCR	Polymerase Chain Reaction
PHEP-BFE	Public Health Empowerment Program-Basic Field Epidemiology
PHEP-SPO	Public Health Empowerment Program-Surveillance for Polio Officers
PPHSP	Private-for-Profit Health Service Providers
RI	Routine Immunization
RRT	Rapid Response Teams
SOPs	Standard Operating Procedures
SRH	Sexual and Reproductive Health
TOT	Training of Trainers
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
VPDs	Vaccine Preventable Diseases
WHO	World Health Organization

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Transform

Message from Our Executive Director

Opportunities for change are always available despite persistent challenges. The progress we made over the past two years attests to this. Despite the challenges of COVID-19, countries across the region continue to develop their healthcare systems with the guidance of SDG3 to preserve the health and well-being of communities.

However, we also have to remain realistic. Apart from the difficulties caused by the global pandemic, our region is also home to countries that are suffering from other humanitarian crises. The situation shows even greater complexity when we remind ourselves that two regional countries are still endemic to polio and continue to face significant biorisks.

“We might face increasing challenges, but we can be strong enough to overcome them.”

I am proud to say that GHD|EMPHNET has been part of the global and regional efforts to strengthen health systems in the Eastern Mediterranean. In line with our commitment to SDG3, GHD|EMPHNET accelerated its support to the region in the last year, working to achieve universal health coverage, building the capacities of public health workers, preventing and controlling communicable and non-communicable diseases, and improving health security. Partners from the international community have joined hands with us as we seek to empower field epidemiologists, promote research and disease surveillance to inform decision-making and maintain immunization services.

We worked hard last year, and we continue to make progress in our efforts to overcome challenges to improve the health of communities in the region. Knowing that opportunities exist, we build on past successes with a commitment to our region’s future.

Dr. Mohannad Al Nsour
Executive Director

Support

Supporting Health Systems Strengthening

Support

GHD|EMPHNET was established over a decade ago with a vision pledging to protect the health and promote the well-being of communities living in the Eastern Mediterranean Region. On a practical level, such a vision is only realized if the region's health systems are "**strong enough**" to deliver all services to all people, at all times. Put in technical terms, this vision is achievable if GHD|EMPHNET supports the region in **health systems strengthening**- what it has been doing in the last ten years. On the path to attaining its vision, GHD|EMPHNET sustained its role as a contributor to the region's efforts to health systems strengthening. As a prominent supporter of strengthening several components of health systems, GHD|EMPHNET pioneered efforts in public health workforce development, led technical support to routine health service delivery, innovated in research, and promoted disease surveillance.

In the second year of COVID-19, GHD|EMPHNET recognized that strengthening health systems is what the region needs to overcome current challenges posed by the pandemic and other problems to prepare for future emergencies and better serve communities. GHD|EMPHNET continues to work towards making

this a reality through its mission and core objectives.

In less than a year, GHD|EMPHNET supported the launch of new FETP modalities in several countries, while innovating in online learning for public health when it launched its Learning Management System and the International Academy of Public Health. GHD|EMPHNET showed progress in one of its core working areas: polio eradication and routine immunization. GHD|EMPHNET has been working on increasing the demand for immunization in priority countries such as Afghanistan, Pakistan, and Iraq, while also empowering the workforce with the skills and knowledge need to deliver quality services to all communities. GHD|EMPHNET broadened its investments in public health laboratories beyond national borders to a regional level to encourage cooperation in biological threat reduction, a priority for our region. To ensure the availability of complete, accurate, and timely data that can be transformed into information, GHD|EMPHNET supported better surveillance of communicable and non-communicable diseases. The organization also supported operational research to inform program implementation, on a related note.

Workforce Development



- Introducing the basic and intermediate FETPs in new countries
- Mobilizing FETP residents and graduates in humanitarian settings
- Launching the International Academy of Public Health
- Offering free courses on an online learning platform

Immunization Service Delivery



- Empowering frontline immunization workers
- Maximizing assets of immunization programs
- Strengthening traditional and community-based surveillance
- Increasing demand for immunization services

Public Health Laboratories



Contributing to global health security by ensuring biomedical and chemical waste management and threat reduction of weaponizable pathogens

Disease Surveillance



- Promoting different types of surveillance to diagnose health problems
- Using information registries in NCDs and maternal and child health

Operational Research



- Producing findings to support HIV/AIDS and tb programs and srh services for vulnerable communities
- Disseminating research regionally and internationally

Partnerships and Collaborations



- Reinforcing existing relations with partners and collaborators
- Welcoming new partners and collaborators

Empower

Empowering the Public Health Workforce

Empower

COVID-19 provided the evidence that more needs to be done to expand and strengthen field epidemiology capacities and improve public health preparedness. It also showcased the need to strengthen national capacities to prevent, detect, and respond to outbreaks at their source before they spread and pose a threat of international concern. In our region, the contribution of Field Epidemiology Training Programs (FETPs) during the pandemic has attested to their paramount importance.

As the region's network of FETPs, GHD|EMPHNET continued to empower its member programs, providing technical support, building workforce capacity, supporting emergency management response, and assisting with logistics. GHD|EMPHNET also responded to the need to increase the number of trained field epidemiologists facilitating their mobilization and continued professional development.

To help the region meet the need for more epidemiologists ready to investigate public health threats in the field to assist in providing a timely response, GHD|EMPHNET helped in the launch of new FETPs, with a focus on the basic, known as the Public Health Empowerment Program-Basic Field Epidemiology (PHEP-BFE) and intermediate modalities.

Basic, three-month FETP Online PHEP-BFE and COVID-19 PHEP-BFE Structure



Intermediate, one-year FETP Structure



GHD|EMPHNET launched the Public Health Empowerment Program-Basic Field Epidemiology (PHEP-BFE) in two new countries: Morocco and Tunisia.

GHD|EMPHNET has been working with countries of the EMR to prepare for and respond to the COVID-19 pandemic since its onset. It responded to these countries' needs for specialized training for their public health professionals by developing a tailored PHEP-BFE. This tailored version of the program is specially customized for COVID-19 to address specified training areas like surveillance at points of entry, contact tracing, risk communication, infection control, and outbreak investigation.

GHD|EMPHNET also supported the development of the online PHEP-BFE, which is the first of its kind in the region. The online PHEP-BFE is a three-month training program that aims at strengthening detection and response to diseases and events of public health importance or international concern. So far, the program was implemented in Egypt, Iraq, and Yemen.

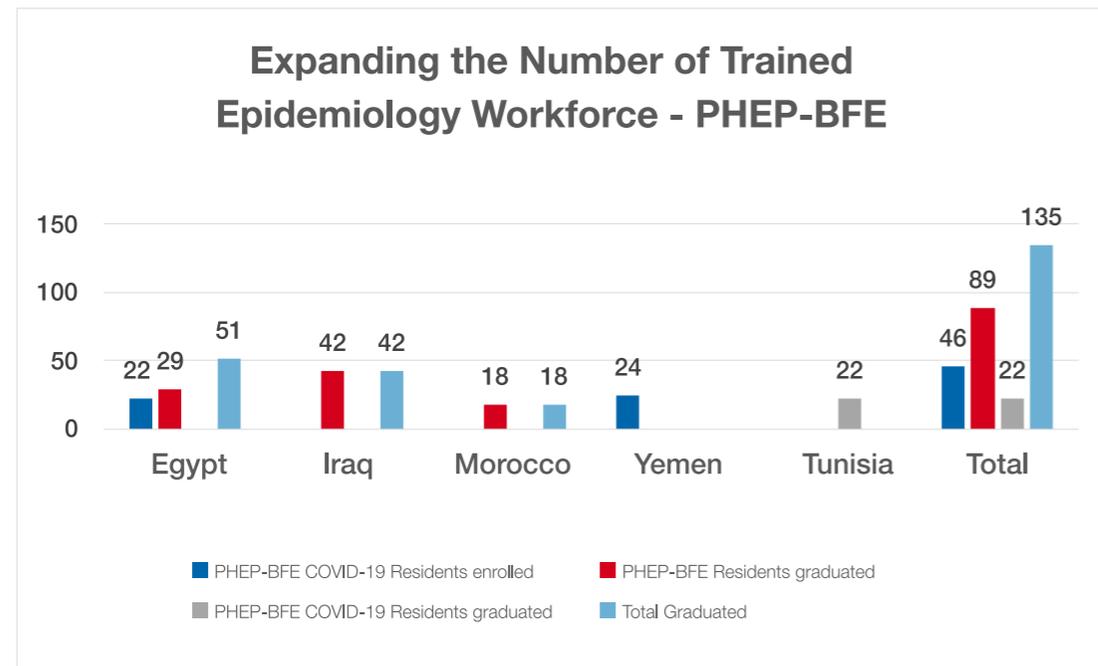


Figure 1 Expanding the number of trained epidemiology workforce - PHEP-BFE

GHD|EMPHNET supported the establishment of the intermediate FETP in three countries where other modalities already exist: Egypt, Morocco, and Sudan, in addition to new cohorts in Tunisia and Afghanistan. The support extended to Iraq with the delivery of a three-month course on public health management for the residents of the Iraqi Intermediate FETP.

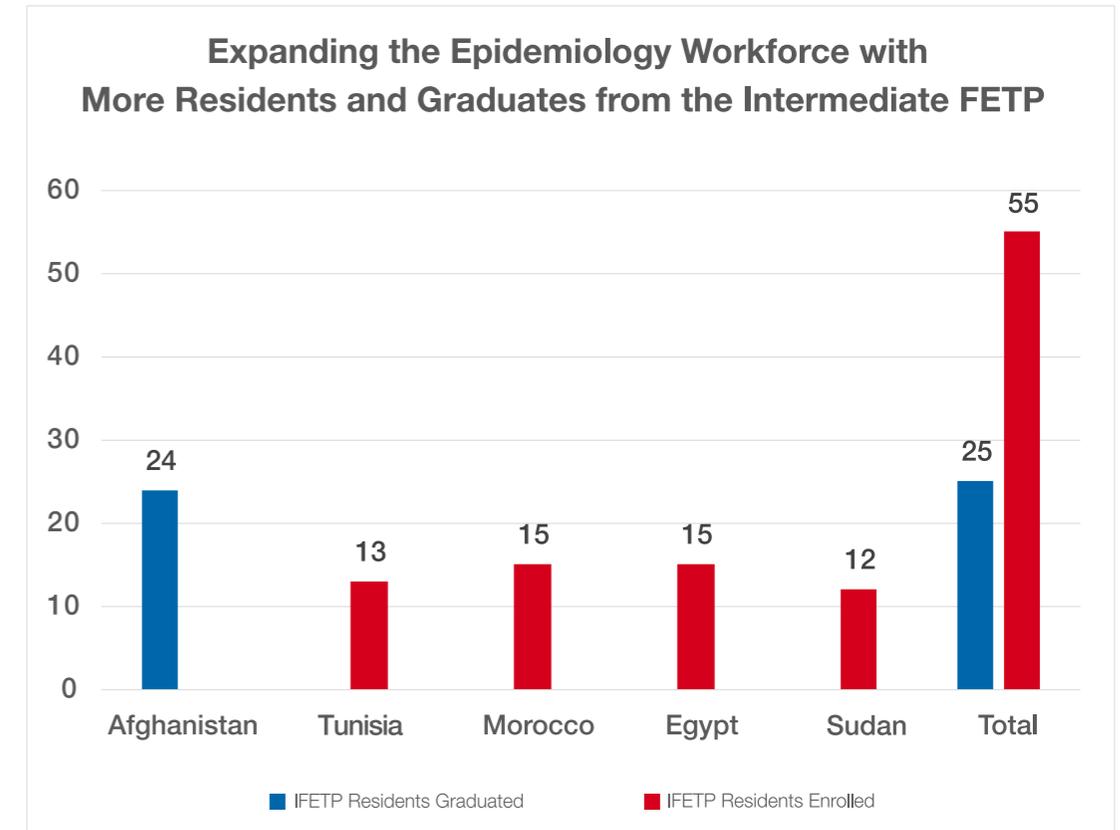


Figure 2 Expanding the epidemiology workforce with more residents and graduates from the Intermediate FETP

In 2021, the EMPHNET Learning Management System (LMS) platform was launched with an initial focus on the COVID-19 response. The platform provides a free, self-paced learning experience in Arabic and English and awards a certificate of completion upon completing the courses. On the LMS, GHD|EMPHNET launched three online courses targeting health professionals and other relevant staff involved in managing and responding to public health emergencies. The offered courses were specifically focused on infection prevention and control, risk communication, and rapid response teams for COVID-19. Other free online courses were added later on and continue to be added as they are developed and become available online. In the very first months of its launch, over 2,700 trainees from across the region registered in the LMS courses.

As part of its support of online training, GHD|EMPHNET also converted the entire material of the intermediate FETP curriculum into an online format and made it available in English, Arabic, and French. GHD|EMPHNET has also developed the PHEP-BFE blended (online and face to face) program in three languages: Arabic, English, and French, while also customizing the existing online PHEP-BFE materials to be more tailored to COVID-19.

In the second year of its launch, the EMPHNET WEBi Series continued to gain popularity as a platform for knowledge exchange and networking where public health experts from the EMR and the globe led discussions, before attendees from around the world, on environmental health, vaccine demand, field epidemiology, public health laboratories, and disease surveillance. Since its launch in 2020, the EMPHNET WEBi Series held 19 webinars for attendees from the region, Africa, Europe, and North America.

Another knowledge exchange platform of GHD|EMPHNET, the ENGAGE Internship Program, is growing in its support for student learning and professional development experiences outside the academic setting.



500+
Applications



50
Interns completed their internships in the last two years



16
International Interns



15
Mentors

In 2021, EMPHNET launched the International Academy of Public Health (IAPH) to serve as its academic and training arm. IAPH is a multi-disciplinary professional development academy for the public health workforce in the region. It is unique in promoting a practice-led public health education that is based on a residency model. This comes in contrast with the conventional model of academic and theoretical education, which, while useful, does not support graduates with the required competencies commensurate with the current realities and challenges in the public health sector. IAPH offers **13** fields of study, **32** programs, and **133** courses that utilize learning methods and teach skills that can be immediately applied in the field.

Training Approaches



Online



In-class



Blended

Training Structure



● Successful Completion Certificate (short course)

● Technical Diploma (three months)

● Professional Diploma (nine months)

Fields of Study

- Non-communicable Diseases
- Health Research and Studies
- Public Health
- Occupational Health
- Antimicrobial Resistance
- Leadership and Management
- Environmental Health
- Communicable Diseases
- Biosafety in Public Health Laboratories
- Health Economics
- Global Health
- Women and Child Health
- Public Health Emergency Management

Given the necessity of ensuring global health security, GHD|EMPHNET enabled trained FETPs and RRTs in the response to complex public health emergencies associated with the COVID-19 Pandemic in the EMR.

But first, and to set the foundation for the development of sustainable and effective response, GHD|EMPHNET supported the training of RRT managers from several EMR countries, focusing on the ones affected by or are at high risk of health emergencies and humanitarian crises including Afghanistan, Egypt, Iraq, Jordan, Pakistan, and Sudan. It was important to enable managers in developing, training, and deploying RRTs in addition to coordinating a cross-border response to emergencies through effective and efficient RRT frameworks. During this training, each country initiated the work of drafting SOPs that covered the seven main RRT Management components.

And to have readily available trained public health responders, GHD|EMPHNET also supported the training of more than 350 rapid responders on the sub-national level to enhance response efforts during the COVID-19 pandemic. This included providing pre-deployment rapid response refresher training focusing on the COVID-19 outbreak. The training was provided both in virtual and face-to-face modalities to cater to the needs of trainees. Subsequently, GHD|EMPHNET supported the mobilization of more than 100 RRT members, as well as FETPs trained in rapid response, from Afghanistan, Egypt, Iraq, Jordan, Sudan, and Yemen. RRTs and FETPs were deployed to participate in various activities in response to emergencies in their countries such as outbreak investigation, contact tracing, and risk communication.



Assure

Assuring Delivery of Immunization Services

Assuring

In the region, Afghanistan and Pakistan remain polio-endemic, Somalia is an outbreak country, and Iraq and Syria are at a very high risk of importing polio. Progress toward eliminating other vaccine-preventable diseases (VPDs) remains a challenge to the region.

Responding to this public health priority, GHD|EMPHNET has been actively working on strengthening sustainable public health capacity in the region for polio eradication and routine immunization. GHD|EMPHNET's work is in line with global strategies that include the new Immunization Agenda (2021 – 2030) and the Global Vaccine Action Plan (GVAP 2011-2020).

This year, GHD|EMPHNET focused on supporting countries' ineffective management of immunization programs by increasing **access to and utilization of immunization services**, accelerating **disease surveillance and outbreak response**, improving **workforce performance** and immunization **information systems**, and the provision of **evidence-based research** to address operational gaps.

Improving Performance of Routine Immunization Programs

Supportive Supervision in Afghanistan

GHD|EMPHNET continued supporting the Ministry of Public Health in strengthening routine immunization supportive supervision and monitoring in priority provinces. A team of trained supervisors from the provincial Expanded Program on Immunization (EPI) visited around 1440 health facilities in Faryab, Prawan, Kapisa, Nimroze and Panjsheer, Kunar, Laghman, Nangarhar, Khost, Paktya, Maidan Wardak, Balkh, Sar-e Pul, Logar, Badakhshan, and Parwan. The visiting teams had already been trained in supportive supervision in addition to EPMIS and data management.



1440 supportive supervision visits were conducted by the provincial EPI team



Provincial-level trainers from the EPI trained over 1800 focal points and vaccinators in 65 districts

Immunization in Practice in Iraq

To strengthen the performance of routine immunization in high-risk provinces, GHD|EMPHNET worked with the Iraqi MOH in training the EPI workforce to improve their knowledge, skills, and practices in immunization and VPDs. A cascade training approach was applied targeting high-risk provinces with hard-to-reach communities in Baghdad Al-kerkh, Babel, Diwaneya, Diyala, Karbala, Kirkuk, Misan, Muthana, Thi Qar, and Wasit.

Training Immunization and Polio Surveillance Officers

The Public Health Empowerment Program-Surveillance for Polio Officers (PHEP-SPO) was created as a special version of PHEP, customized for polio and immunization surveillance officers. The PHEP-SPO was developed to empower the EPI workforce with skills in public health surveillance, management, and leadership. The program was implemented in Sudan and Yemen between 2017 and 2019 whereby five cohorts graduated in Sudan and three in Yemen.

**An independent evaluation was carried out for each program.*



The program achieved promising outcomes evident in the improvement as perceived by the trainees in relevant knowledge, skills, and performance post PHEP-SPO training and the satisfaction of the different stakeholders and trainees with PHEP approaches, design, and methods

Benefiting Immunization Programs with Polio Program Assets

Egypt

With a focus on acute flaccid paralysis (AFP), fever, and rash surveillance, GHD|EMPHNET expanded its support to the Ministry of Health and Population (MOHP) in using national polio program assets to strengthen immunization activities pertinent to measles and other VPDs. It covered the governorates of Cairo, Giza, Kalubia, and Sharqia, representing around 25% of the population. Focused on capacity building of EPI staff, this support targeted priority communities based on EPI data such as hard-to-reach areas, street children, marginalized groups, and slum areas.



The program converted theory into practice within the local context, was also flexible enough to allow participation of trainees from several localities, and was well developed and structured to cover important elements



Facilitators, who attended TOTs, trained district-level EPI and surveillance officers and community focal persons in these governorates on detection, notification, and health education on AFP, fever, and rash cases. Over 800 surveillance officers and community focal persons from Cairo, Giza, Kalubia, and Sharqia trained



The MOHP is conducting micro surveys for AFP, fever, and rash cases. AFP, Fever, and Rash Case Microsurveys conducted in Cairo, Giza, Kalubia, and Sharqia

Iraq

Iraq is another country in the region that is using the experience of the Polio Eradication Program to accelerate measles and rubella elimination and strengthen the routine immunization in high-risk provinces, namely Anbar, Ninewa as well as Baghdad's Al-Karkh and Rasafa. Over 100 surveillance officers at EPI focal points as well as over 400 community volunteers at PHC focal points, both at provincial and district levels, were trained by a team from the central and provincial EPI.

To identify immunity gaps in these provinces, GHD|EMPHNET continued its support to the MOH to conduct limited scale coverage surveys around reported fever and rash cases, i.e., suspected measles cases. Thirty surveys were conducted, each collected immunization data for 20-30 children under five years of age. The main findings showed that around 30% of surveyed children were either unvaccinated or did not complete their vaccination schedule.



The training focused on the importance of immunization, immunization schedule, detection, reporting of AFP & suspected measles cases, and the ways to improve community engagement to increase immunization coverage and strengthen surveillance

Regional Initiatives

To initiate the development of action plans that facilitate implementation of the integration between immunization programs and other public health programs in the region, GHD|EMPHNET, together with GPEI partners, gathered EPI managers, polio/VPDs surveillance officers, and Primary Healthcare directors from Afghanistan, Egypt, Iraq, Jordan, Somalia, Sudan, and Yemen in a workshop. Each country presented its experience with integration, focusing on successes, challenges, and lessons learned. In addition, each country drafted an action plan for specific activities to facilitate integration, focusing on activities that are achievable with existing resources.

To support the development of concrete plans for positioning immunization in UHC in selected EMR countries, GHD|EMPHNET, in coordination with the WHO and UNICEF, a regional meeting for EPI managers and PHC directors from Afghanistan, Egypt, Iraq, Jordan, Sudan, and Yemen was also conducted. In the meeting, each country drafted specific priority activities to support accelerating immunization positioning within their national UHC policies and strategies. This meeting follows up on reviews conducted on immunization positioning in UHC-related policies and strategies in Afghanistan, Iraq, and Sudan.



Strengthening Surveillance

Community-based Surveillance in Sudan and Yemen

Sudan Federal Ministry of Health (FMOH) is transitioning the polio program's assets to implement community-based surveillance (CBS) in 18 states. Community focal points, already trained in CBS, are collecting data and are supported by the FMOH through monthly supportive supervision visits to ensure surveillance quality.

Building on the success of the Polio Village Volunteers (PVVs) project that promoted CBS of AFP in districts all over Yemen, GHD|EMPHNET supported the training of PVVs in 57 new districts covering 11 governorates. While training over 350 volunteers, over 50 surveillance officers were also trained, creating a participatory relationship between the health system and community in reporting and intervention measures. After the training, the trained volunteers started reporting cases of epidemic diseases to the MOPHP.



VPDs Surveillance in Egypt

Supported by GHD|EMPHNET, the Ministry of Health and Population is strengthening the capacity of the Expanded Program on Immunization (EPI) workforce with a focus on areas that serve the program goals of eliminating measles and maintaining the country's polio-free status.

A team of trainers was created from EPI managers, officers, EPI trainers, surveillance officers, and other relevant public health professionals who trained district officers and frontline immunization staff. The training covered topics like complications of measles and other VPDs, vaccine facts and myths, vaccine safety, valid and false contraindications, behavioral strategies for immunization uptake, community involvement in immunization, interpersonal communication skills, and immunization strategies for healthcare providers. Other topics covered included vaccine storage and handling as well as vaccine administration.

Over 700 health professionals from district and health unit levels from Assuit, Fayoum, and Menia were trained



Increasing Demand for Immunization Services

Interpersonal Communication Training in Afghanistan

Vaccinators and Community Health Workers (CHWs) contribute to community awareness; however, they need formal training on effective communication to be stronger advocates for vaccination. With this in mind, GHD|EMPHNET conducted training on Interpersonal Communication (IPC) to CHWs, as well as vaccinators, in five low-performance provinces with high dropout rates: Nangarhar, Kunar, Laghman, Nooristan, and Paktya.



Around 500 vaccinators and CHWs were trained on IPC. A team supported by GHD|EMPHNET from among the national EPI teams continuously follows up on their activities during routine monitoring visits to provinces

Demand Creation for Vaccinations during Emergencies in Iraq

Iraq is mitigating the harmful consequences of the COVID-19 emergency on immunization by improving demand for immunization services by developing key messages to raise public awareness about vaccination. With support from GHD|EMPHNET, a posters campaign was launched in June 2021.



30 billboards were installed in 18 provinces in Iraq as well as the Kurdistan region. Posters were distributed to 1890 public health centers and small posters to 4000 private centers and health facilities

Operationalization of RI Microplanning in Pakistan and Sudan

In Pakistan, health authorities worked with GHD|EMPHNET to target low-performing facilities in Khayber Pakhtunkhwa (KP), a priority province, with more focus on integrating EPI and LHW programs in Pakistan. The project trained 30 facilitators who in turn trained over 600 vaccination workers across 17 districts in developing micro-plans through an in-depth understanding of immunization barriers and helping vaccinators to operationalize these micro-plans. In line with recommendations of a situation analysis, the intervention in KP will be scaled up to target over 960 vaccinators in other areas in KP and 360 in Balochistan after building their core team of facilitators.

With support from GHD|EMPHNET, Sudan is working towards empowering EPI frontline workers with the skills needed to prepare and implement microplans to enhance RI service delivery, ensuring that such services are delivered continuously and efficiently, especially to hard-to-reach areas. Following a TOT for 415 immunization officers from 188 localities in all the eighteen states, trainers supported frontline workers in their districts to develop quality, updated, and detailed micro-plans.

Reaching Defaulters and Unimmunized Children in Iraq

GHD|EMPHNET supported Iraq to intensify immunization delivery activities to reach and vaccinate the unimmunized and dropout children by updating and operationalizing the micro-plans for routine immunization in two high-risk provinces: Diyala and Diwaniya. GHD|EMPHNET also supported the implementation of the planned outreach immunization sessions in both districts. These sessions were focused on hard-to-reach areas and areas with a high number of dropouts and unimmunized children. This effort has contributed to increasing immunization coverage of all vaccines.



After outreach sessions in Diyala and Diwaniya, over 30,000 doses of different vaccines were administered to unimmunized children and women of reproductive age

Relying on Research to Enhance Immunization Services

Operational Research

GHD|EMPHNET's **EMR Operational Research Studies Mini-grants** opportunity targeted FETP residents and graduates and other public health professionals in priority EMR countries. The main aim was to build a knowledge base intended at improving national health systems in general and EPIs and COVID-19 response in particular. Three operational study proposals received for this grant have been accepted and are being implemented with assistance from GHD|EMPHNET.

Currently implemented studies from this mini-grant opportunity explore

- *PPE-related SARS-COV 2 infections among healthcare workers in isolation wards of major hospitals in Khyber Pakhtunkhwa, Pakistan*
- *A multisectoral approach to the pandemic in Sudan*
- *Impact of COVID-19 in Somalia from the perspective of health professionals and displaced populations*

EMR Vaccine Demand Assessment

GHD|EMPHNET supported the CDC in their assessment of social and behavioral determinants for under vaccination in Afghanistan, Jordan, Lebanon, Oman, and Pakistan. As part of this support, GHD|EMPHNET also carried out a regional social listening activity to assess the social and behavioral determinants of under vaccination, with a particular focus on the role of rumors and misinformation on vaccine-seeking behavior.



Based on the results of the social listening activity, GHD|EMPHNET emphasized the importance of circulating encouraging vaccine-related key messages on social media and urging people to rely on trusted sources for information and to debunk misinformation and rumors

Assessment of Public-Private Engagement

GHD|EMPHNET supported the Ministry of Public Health in conducting a rapid assessment of the Partnership with the Private-for-Profit Health Service Providers (PPHSP) under which Gavi, the Vaccine Alliance is supporting the Ministry in RI delivery in hard-to-reach provinces. The assessment was carried out in 40 public and private health facilities in Paktya, Afghanistan province where conflict makes access easier to private than public providers.

Several recommendations were presented based on this assessment, including the need to build capacities of both private and public providers, strengthen project evaluation and monitoring, enhance coordination mechanisms between provincial and national levels, and strengthen the community's role in creating and increasing demand.



Based on these recommendations, the Ministry and other stakeholders decided to expand the engagement of private health providers to other provinces, particularly the insecure ones, according to a standard implementation guide to ensure success

Elevate

Elevating the Performance of Public Health Laboratories

GHD|EMPHNET contributes to global health security by working for the EMR. It supports countries to strengthen the capacity of public health and animal health laboratory professionals in disease diagnostics and surveillance while ensuring adherence to the best practices of biorisk management.

Elevate

Biomedical and Chemical Waste Management

Management teams in relevant health facilities across the country are overseeing the implementation of these SOPs.

GHD|EMPHNET, Georgetown University, and the Libyan National Center for Disease Control developed Standard Operating Procedures (SOPs) for medical waste management (MWM) to support the implementation of basic concepts of MWM in the country. These SOPs are available in Arabic and English and contain technical guidance to all personnel in biological laboratories that actively handle or manage biological agents and toxins and describe procedures for medical waste collection, segregation, off-site transportation, safe treatment, and disposal.

To implement these SOPs, a team of trainers from public and animal health laboratories was created and trained field staff working at regional and provincial levels.

Relying on the One Health Approach and for purposes of biological threats reduction, GHD|EMPHNET worked with the Afghani MOPH and Ministry of Agriculture, Irrigation, and Livestock (MAIL) in building capacities for laboratory professionals in handling, transportation, packaging, labeling, and disposal of biological samples; and safe storage and disposal of chemical reagents.

This collaboration produced SOPs with general, yet fundamental, instructions on handling and disposing of chemical waste generated at public health and animal health laboratories. Available in the local languages of Dari and Pashto in addition to English, these SOPs also provide more specific instruction on handling, packaging, labeling, and transporting infectious substances from the field to central and other national laboratories.

Based on the findings of the biomedical waste management assessment, both parties will develop training materials and procure needed resources.

GHD|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. GHD|EMPHNET helped in assessing biomedical waste management capacities and practices at eight laboratories in these provinces.

Multi-Country Threat Reduction of Weaponizable Pathogens

Libya, Morocco, and Tunisia

A multi-national and multi-sectoral collaboration is expected to develop scalable, sustainable systems for samples and pathogens inventory and security in high-risk public health and veterinary laboratories in Libya, Morocco, and Tunisia. The system will be implemented with support from GHD|EMPHNET and Georgetown University's Center for Global Health Science and Security to improve the accountability and security of samples containing potentially weaponizable pathogens.

A network of biosecurity experts from Libya, Morocco, and Tunisia will be established to oversee the systems' development and implementation.

Jordan and Morocco

GHD|EMPHNET is collaborating with MOHs in Jordan and Morocco and the Jordanian Armed Forces to build the capacity of laboratory technicians and concerned to identify, safely handle, and control ricin, abrin, and botulinum at their facilities. Abrin, Ricin, and Botulinum are toxins on the top list of bioweapon candidate agents.

At this point, GHD|EMPHNET conducted a needs assessment in Jordan and Morocco, which will inform the provision of the needed equipment and supplies and the development and design of needed training programs.

Libya and Tunisia

GHD|EMPHNET is collaborating with partners in Libya and Tunisia to improve multisectoral coordination for the surveillance and detection of as well as the response to priority transboundary diseases, especially dangerous pathogens. Partners in this collaboration include the CGHSS, the Libyan NCDC, the National Centre for Animal Health, the Tunisian General Directorate of Public Health, and the Ministry of Health and Veterinary Services.

Under this collaboration, GHD|EMPHNET will develop a systems map defining nodes of communication and coordination between Libyan and Tunisian stakeholders for at least five priority transboundary diseases. GHD|EMPHNET will also develop a methodology to improve communication and effective engagement for cross-border surveillance and outbreak investigation and conduct a workshop to evaluate the developed methodology with participants from Libya's and Tunisia's key facilities.

Enhance

Enhancing

Disease Surveillance

Capacities

Surveillance

GHD|EMPHNET has been promoting the use of surveillance to detect and prevent health problems. In this effort, GHD|EMPHNET is relying on its network of experts and professionals, its relations with the countries, and the support of its partners to identify the appropriate type of surveillance to be used for the appropriate situations. While its focus was mainly on communicable diseases, GHD|EMPHNET is expanding its efforts to also cover non-communicable diseases more extensively.

Real-Time Surveillance of Infectious Diseases during the 2020 Mass Gathering in Iraq

For the Arba'een mass gathering event, the MOH expanded a real-time surveillance system to enhance preparedness and rapid response capabilities by which evidence-based decision-making is enabled to protect the health of communities taking part in the gathering.

Implemented with support from GHD|EMPHNET, this was an enhanced and effective real-time syndromic surveillance system powered by mobile technology and linked to a server where real-time data from all governorates was aggregated. The system was piloted in 2016 and has been implemented during the Arba'een ever since.



In 2020, 400 data collectors gathered data from around 200 health facilities in key places along the Arba'een route from 11 governorates, around the clock, for the entire duration of the event



The introduction of laboratory-based surveillance resulted in determining the circulating brucella species. An epidemiological analysis is expected to estimate and characterize the true incidence in humans and animals and subsequently identify risk factors that drive transmission

Laboratory-based Surveillance of Brucellosis in Jordan

Five years ago, GHD|EMPHNET joined the Ministry of Health and the Ministry of Agriculture in their efforts to strengthen brucellosis surveillance, diagnosis, and control in Mafraq, a governorate that has a dense animal population endemic to the disease. Laboratory-based surveillance was implemented in the governorate using appropriate confirmatory testing. Not only was this collaboration a success in determining the true incidence of the disease, but it was also successful in strengthening communication between animal and human health sectors and introducing two diagnostic tests: Enzyme-linked Immunosorbent Assay (ELISA) into public health laboratories in Mafraq and Polymerase Chain Reaction (PCR) into the Central Public Health Laboratory. In addition to Mafraq, stakeholders expanded to target other two endemic areas: East Amman and Karak where laboratory-based surveillance of human and animal brucellosis was established.

Hospital-based Surveillance of Meningitis in Iraq

In the first wide-scale surveillance of meningococcal meningitis in the country, GHD|EMPHNET collaborated with the MOH in a prospective hospital-based surveillance study aiming at estimating the etiology and incidence of vaccine-preventable bacterial meningitis and identifying the most commonly circulating serogroups of *N. meningitidis* among the Iraqi population.

Identified and selected sites were from multiple geographical regions in the country, including mid, northern, and southern provinces. The selected sites included 18 major hospitals: 12 in Al-Rusafa and Al-Karkh districts in Baghdad, and two hospitals in each of Karbala, Kirkuk, and Maysan governorates.



The study showed that bacterial meningitis is endemic and is impacting a significant number of individuals in the country

Based on its findings, the study recommended continuous surveillance of *N. meningitidis* through improved detection methods. Given the incidence of meningococcal meningitis, the study also recommended improved vaccination programs.

Event-Based Surveillance (EBS) Systems in Afghanistan, Sudan, and Libya

In these countries, GHD|EMPHNET has been supporting the MOHs and the WHO country offices in overseeing activities to strengthen their EBS systems through identifying EBS implementation sites; developing signals, additional tools, guidance documents, training materials, M&E framework; validating EBS related tools and materials; and integrating EBS into routine surveillance systems.

COVID-19 Surveillance in Humanitarian Settings in Iraq

GHD|EMPHNET is supporting the CDC and Iraq's Communicable Diseases Center in conducting an assessment of COVID-19 surveillance systems in humanitarian settings to describe COVID-19 surveillance; assess the effectiveness and usefulness of surveillance systems in internally displaced persons' camps in detecting, confirming, and responding to COVID-19; identify potential gaps in COVID-19 surveillance, and recommend solutions for improvement.

An evaluation of the hRHR, conducted by the MOH with our support, showed that it improved documentation of data, decreased time and effort when it came to data reporting and retrieval, and improved access to patient data. In light of this evaluation, great potential exists not only to expand the current hRHR in Mafraq but also in other governorates

Harmonized Reproductive Health Registry in Jordan

The harmonized Reproductive Health Registry (hRHR), a global initiative introduced by the WHO to improve maternal and child health (MCH) data across the world, is implemented in the Mafraq governorate of Jordan as an intervention to improve the availability and accessibility of MCH data to assure a responsive health care system when it comes to mothers and their children.

With funding from the International Development Research Center-Canada (IDRC), the MOH is implementing the hRHR with support from our organization. As an electronic registry, the hRHR serves as an effective tool for bridging the information gap between the different levels of care. This will assure an effective referral system that will positively improve health outcomes and the quality of Sexual and Reproductive Health (SRH) services provided to women and children.

Preparations for the implementation of the hRHR started in 2017. So far, the system has been implemented and studied in seven health centers in Mafraq's health directorate to automate non-computerized centers and ensure the capability of this electronic registry, while equipping the staff with needed on-the-job training and mentoring field visits.





Learning from the activity in Jordan, GHD|EMPHNET and the CDC are working to tailor the N-CAP tool to assist countries in the EMR to conduct assessments of NCD-related public health functions. This is expected to lead to a plan of action that informs country-led efforts to address NCD priorities

Health Information Systems Focused on NCDs in Jordan and the Region

A collaboration between the CDC, the MOH, the Royal Health Awareness Society (RHAS), and our organization explored improving NCD surveillance systems and registries in the country, considered a priority area based on SWOT reports released by the NCD Advocacy and Communication Strategy and the National Strategy for Health Sector in Jordan 2016-2020. This was done using the Staged Development Tool (SDT) for Assessing, Planning, and Measuring Progress in the Development of National Public Health Institutes.

The SDT was customized to the context of Jordan to help participants clarify their current state, desired state, and major gaps that need to be addressed to move to their ideal state. The customized version, developed by the CDC, IANPHI, and our organization, was named NCD- Capacity Assessment and Planning (N-CAP). Based on the N-CAP, officials from the MOH and organizations working in NCD response in Jordan participated in discussions that led to the development of an assessment and prioritization report and a policy brief. Content of the briefs focused on the need to develop and update an NCD Strategy that identifies data collection needs and priorities and develop an effective Health Information Systems (HIS) that focuses on NCD data collection priorities.

Inform

Using Research to Inform Programs Implementation

GHD|EMPHNET continued to promote the use of research to translate information into recommendations. A focus area of ours remains operational research. It produces findings that can be of use to improve planning and programming for public health with an eye on vulnerable communities.

While working with a wide range of institutions, academic and non-academic, GHD|EMPHNET also helped develop and disseminate research in renowned journals.

HIV/AIDS and TB Programs in Jordan

The MOH, the International Organization for Migration (IOM), and our organization implemented operational research studies to promote informed decision-making for better programming and policies about TB, HIV, and sexually transmitted diseases (STDs). These studies were implemented in Amman, Irbid, Mafraq, and Zarqa to understand the knowledge, attitude, perception, satisfaction, and practices of TB and HIV in the country and to assess the surveillance systems for these diseases.



Studies recommended evidence-based results for interventions whereby Jordan's efforts can be directed to improve the National TB Program and KAP among care providers, patients with TB, and local communities. Studies also provided evidence-based results for interventions to enhance HIV/AIDS-related KAP and to develop surveillance, healthcare providers' capacities, and screening, diagnosis, and management of HIV/AIDS.

SRH Services for Refugee Girls and Women

A multi-country project implemented in Jordan, Lebanon, and Turkey (the first of its kind in the Middle East) is developing psychosocial-infused Sexual and Reproductive Health (SRH) intervention to improve the use of SRH services during humanitarian crises. The project is funded by the WHO and is called SEEK Trial, which is short for The Effect of Increased Self-Efficacy and Knowledge (Using an Innovative Psychosocial Package) on Improved Sexual and Reproductive Health Service Use among Adolescent Girls and Young Women Refugees. It is being implemented in Jordan with support from our organization which has developed a culturally acceptable package and translated it into Arabic to address the needs of Syrian women and adolescent girl refugees living in the country.



This SRH package is expected to be disseminated to enrich the Minimum Initial Service Package (MISP) for SRH in humanitarian crisis settings among adolescent girls and young women

Research Published by GHD|EMPHNET in 2020/2021

- An Overview of the Sexual and Reproductive Health Status and Service Delivery Among Syrian Refugees in Jordan, Nine Years Since the Crisis: A Systematic Literature Review
- Assessment of Temporary Medical Clinics During the Arba'een Mass Gathering at Al-Karkh, Baghdad, Iraq, in 2014: Cross-Sectional Study
- Case Studies in Field Epidemiology: An EMR Experience
- Evaluation of the National Tuberculosis Surveillance System in Sana'a, Yemen, 2018: Observational Study
- Midwives and Women's Perspectives on Family Planning in Jordan: Human Rights, Gender Equity, Decision-making, and Power Dynamics
- The Capacity of Primary Health Care Centers in Jordan to Manage Hypertension: Areas for Improvement

The Seventh EMPHNET Regional Conference: A Message for Resilience

“Towards Public Health Resilience in the Eastern Mediterranean Region: Breaking Barriers” was the theme of the Seventh EMPHNET Regional Conference, the largest gathering for FETPs and the larger public health community from the EMR since the onset of the pandemic.

There, FETPs from across the region presented studies, reflecting their first-hand experiences responding to COVID-19, evaluations, and observations to improve surveillance systems, and aspects relevant to the health of those living in vulnerable communities- mothers, children, or people living with chronic yet preventable conditions.

In line with the theme of resilience, prominent figures from the global health community led roundtable discussions on emergency preparedness and response, and keynote speeches highlighted important lessons learned from the pandemic offering insights on how to move forward beyond COVID-19.

 **6**
Preconference Workshops

 **25**
Participating Countries

 **101**
Oral Presentations

 **6**
Keynote Speakers

 **10**
Roundtables

 **12**
Poster Presentations

 **240**
Onsite Workshop Participants

 **450+**
Virtual Workshop Participants



The Regional COVID-19 Operational Research Symposium

To be the first of its kind in the region, GHD|EMPHNET held the Regional COVID-19 Operational Research Symposium where FETP residents and graduates, and other public health professionals, presented their research on COVID-19, with keynote speakers participating from the international public health community. Participants were from Egypt, Iran, Iraq, Jordan, Kuwait, Morocco, Oman, Pakistan, Palestine, Saudi Arabia, Sudan, Tunisia, Yemen, and neighboring countries.

In adherence to its theme “COVID-19 in the Eastern Mediterranean Region: Epidemiology, Impact, and Lessons Learned,” these participants presented abstracts on the epidemiology of COVID-19, interventions at national and subnational levels, the work of Rapid Response Teams (RRTs), COVID-19 Case Studies, the impact of COVID-19 on communicable and non-communicable diseases, and health promotion during the COVID-19 pandemic, among others.

Grow

Growing a Network of Partnerships and Collaborations

Grow

GHD|EMPHNET strategically partners with a range of entities including governments, non-governmental organizations (NGOs), civil society organizations (CSOs), associations, foundations, academic institutions, research centers, global networks, federal agencies, UN agencies, the private sector, and donors among others.

With diverse, strong interdependent partnerships, mutual goals become achievable. GHD|EMPHNET supports the strengthening of public health systems regionally and globally, and its partners to deliver sustainable results, drawing on GHD|EMPHNET's extensive experience and regional presence.

In the past year, GHD|EMPHNET grew its network of partners and collaborators. New collaboration and partnership agreements were initiated including the signing of three new memorandums of understanding: the first with the Princess Sumaya University of Technology to promote scientific research using data science and recent technologies; the second with the United Nations High Commissioner for Refugees (UNHCR) to expand the mutual collaboration for supporting refugee camps in Jordan, particularly in COVID-19 response, and the third with the African Union to support the community's role in COVID-19 response.

GHD|EMPHNET also became an official member of the Global Health Council, a membership that will enhance its engagement with other global health advocates on pressing global health priorities as the council includes several sectors including academic institutions, think tanks, associations, coalitions, contractors, consulting firms, corporations, corporate foundations, and non-governmental implementers.

Alongside fellow members from regional and international entities, GHD|EMPHNET is now part of the Strategic Leadership Group (SLG), an initiative launched by the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) in collaboration with the CDC and the WHO to provide high-level commitment and drive progress toward global applied epidemiology capacity by offering action-oriented guidance and recommendations.

In continuation of several past projects, GHD|EMPHNET is also building on collaborations with partners the CDC, BEP, DTRA, IDRC, the WHO, Abt. Associates, TEPHINET, GOARN, Resolve to Save Lives, and Electronic Health Solutions, among others.



The Road Ahead

GHD|EMPHNET will build on its successful contributions to strengthening health systems to make progress in ongoing projects and propose new initiatives in the service of public health in the region.

In the coming year, GHD|EMPHNET, with its extensive experience as a network for FETPs, will continue to empower its member programs, using innovative learning approaches to support existing and new programs to increase the number of field epidemiologists who can help in better detection of and

response to emergencies. While expanding into more countries in the region, GHD|EMPHNET will pursue its goal of improving routine immunization, eradicating the poliovirus, and controlling/eliminating or eradicating other VPDs.

GHD|EMPHNET will further coordinate with partners working for the region to achieve additional progress in projects aimed at strengthening laboratory systems. In a closely related area of work, GHD|EMPHNET will continue to promote better surveillance not

only of communicable and non-communicable diseases. Covering priority topics, including maternal and child health, GHD|EMPHNET will move forward with research development and dissemination.

In developing new initiatives, GHD|EMPHNET remains guided by the vision to enable people in the Eastern Mediterranean Region to lead healthy lives and well-being, while focusing on addressing priority areas and working alongside countries and in line with strategies recognized at the national, regional, and international levels.

Strengthen

Toward Stronger Health Systems in the EMR

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.

▶ Shmeisani, Abdallah Ben Abbas Street, Building No 42,
P.O.Box: 963709, Postal Code: 11196 Amman, Jordan

▶ Tel: +962-6-5519962
Fax: +962-6-5519963

▶ www.globalhealthdev.org
info@globalhealthdev.org