Sixth EMPHNET regional conference: innovative approaches to improve public health practice in the Eastern Mediterranean Region

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Abstract

Public health professionals in the Eastern Mediterranean Region (EMR) have limited access to continuing education, including workshops and conferences in public health. Held under the theme ‘Innovative Approaches: Adapting to the Current EMR Context’, the Eastern Mediterranean Public Health Network (EMPHNET) organized and conducted the Sixth EMPHNET Regional Conference Mar 26-29, 2018. This manuscript summarizes the key activities including workshops, roundtable discussions, oral and poster presentations, keynote speeches, and side meetings. Prior to the opening, five pre-conference workshops were held: "FETP Accreditation"; "Innovative Public Health Surveillance"; "Human and Animal Brucellosis"; "Rapid Response Teams"; and "Polio Transition and Routine Immunization". The conference hosted six roundtable discussions: "Consolidation of the FETP Network"; "One Health to Achieve Global Health Security"; "Polio Eradication Efforts and Transition Planning for Measles Elimination"; "Mobile Data Collection and other Innovative Tools to Enhance Decision Making"; "Confronting Candida auris: An Emerging Multidrug-resistant Global Pathogen"; and "Functioning and Sustainable Country Public Health Emergency Response Operation Framework". One of the conference’s key objectives was to provide a space for FETP residents, graduates, and public health professionals to showcase achievements. A total of 421 abstracts were submitted and after professional review, 147 (34.9%) were accepted (111 for oral presentations and 36 for poster presentations) and published by Iproceeding. The conference met the primary objectives of showcasing the public health accomplishments and contributions of EMR, encouraging the exchange of ideas and coordination among stakeholders, and engaging cross sectoral workforce in producing recommendations for approaching regional and global health concerns. Moreover, the conference presented a unique opportunity for FETPs and other public health professionals from the Mediterranean region to present their significant scientific work and also facilitated networking among professionals. EMPHNET strives to continue to present similar exchange opportunities for public health professionals in the region.

Keywords: Regional conference; pre-conference workshops; roundtable discussions; the Eastern Mediterranean Public Health Network (EMPHNET)
Introduction

The Eastern Mediterranean Region (EMR) has complex and diverse health challenges especially due to the political instability, conflicts and forced displacement, frequent outbreaks of infectious diseases, increasing burden of non-communicable disease, and poverty (1-3). This demands public health professionals with a diverse set of skills including medical, behavioral, social, and environmental sciences. Continuing education for public health professionals is also essential to deliver high-quality public health services. However, public health professionals in EMR have limited access to continuing education (4).

Workshops and conferences provide a critical infusion of public health capital. The Eastern Mediterranean Public Health Network (EMPHNET) holds workshops and conferences, plus supports the Field Epidemiology Training Programs (FETPs) in EMR (i.e., Afghanistan, Egypt, Iraq, Jordan, Morocco, Pakistan, Sudan, Tunisia, Saudi Arabia, and Yemen) (5).

EMPHNET organized and conducted the Sixth EMPHNET Regional Conference Mar 26- 29, 2018. It created the space for public health professionals to present accomplishments, share experiences, and provide networking opportunities. The target audiences were public health professionals and policy makers in EMR and regional and international organizations. This manuscript summarizes the key activities including workshops, roundtable discussions, oral and poster presentations, keynote speeches, and side meetings.

Theme

Held under the theme Innovative Approaches: Adapting to the Current EMR Context, sessions discussed innovative approaches to improve public health practices. The opening ceremony (March 26, 2018) – under the Patronage of Her Royal Highness Princess Muna Al-Hussein – included speeches by Dr. Bashir Noormal (Chairperson, Board of Directors of EMPHNET), Dr. Dionisio Herrera (Director, Training Programs in Epidemiology and Public Health Interventions Network [TEPHINET]), Dr. Henry (Kip) Bagget (Branch Chief, Workforce and Institute Development Branch from the Centers for Disease Control and Prevention, Atlanta [CDC]), Dr. Mohannad Al-Nsour (Executive Director EMPHNET), and Prof. Mahmoud Al-Shayyab (Jordan Minister of Health). The ceremony also included a keynote address given by Prof. Salman Rawaf (Imperial College of London) who spoke about public health in EMR. Prominent officials from EMR Ministries of Health, official delegates from regional and international agencies, and other partners and collaborators attended.
Pre-Conference Workshops

Five pre-conference workshops were organized:

- FETP Accreditation.
- Innovative Public Health Surveillance.
- Human and Animal Brucellosis.
- Rapid Response Teams.
- Polio Transition and Routine Immunization.

**FETP Accreditation**

FETP accreditation by TEPHINET (6) aligns common standards that support public health training and enhances value. The workshop defined FETP accreditation as a process to set minimum quality standards. Its purpose was to share the accreditation requirements and application process plus the ways programs can improve, even if not seeking accreditation.

**Innovative Public Health Surveillance**

Emerging information and communication technologies will enable, enhance, and empower public health surveillance (PHS) and epidemic intelligence (7). Informal or ‘nontraditional’ PHS should enable quicker recognition of outbreaks. In response, TEPHINET – in joint venture with the Skoll Global Threats Fund, HealthMap, and ProMED-mail – developed EpiCore (8). The workshop highlighted innovative PHS tools to detect and respond to public health events in a more-timely manner and raised awareness of EpiCore.

**Human and Animal Brucellosis**

This workshop discussed the impacts of zoonotic diseases and explored collaborative opportunities to work on human and animal health related to brucellosis. It focused on detecting and preventing brucellosis in rural areas where borders are porous and neighboring countries should collaborate.

**Rapid Response Teams**

Ten EMR countries have suffered one or more disasters or emergencies just in the last couple of years; ranging from communicable disease outbreaks to complex emergencies. In 2017, more than 76 million people were directly or indirectly affected by political conflicts, environmental threats, or natural disasters (9). Public health suffers from prolonged responses and the system itself is under immense pressure. The workshop updated information about public health emergency preparedness and response with focus on the most important operation framework. It provided rapid response procedures and protocols with exposure to
information about disasters and complex emergencies. Participants learnt about major emergencies, principles of rapid response and emergency management, and the role of rapid response teams.

**Polio Transition and Routine Immunization**

Offered an opportunity for senior immunization staff to interact with senior officers from the Global Polio Eradication Initiative (GPEI) Partners (WHO EMRO, UNICEF MENA, CDC Atlanta, and Bill & Melinda Gates Foundation) and debate major country concerns.

**Roundtable Discussions**

The Conference hosted six roundtable discussions (Table 1).

- Consolidation of the FETP Network.
- One Health to Achieve Global Health Security.
- Polio Eradication Efforts and Transition Planning for Measles Elimination.
- Mobile Data Collection and other Innovative Tools to Enhance Decision Making.
- Confronting *Candida auris*: An Emerging Multidrug-resistant Global Pathogen.

**Consolidation of the FETP Network**

Focused on how to reinforce a productive and useful network through the region as a strategic orientation, this panel emphasized support for FETPs. Participants were given opportunity to discuss methods and strategies that could grow the FETP network and improve channels of sharing from the field (e.g., EpiShares).

**One Health to Achieve Global Health Security**

*One Health* is based on the concept that human, animal, and environmental health are interconnected (10). The most effective way to reduce human health threats is to interoperate all health disciplines. Protecting human health by combating outbreaks and preventing international spread remains a universal national priority. Addressing emerging and re-emerging diseases (most being zoonotic) as a global health security issue will promote the prevention and rapid detection of novel biological threats, as well as assist in contextualized solutions for the response to these disease threats.

This roundtable identified how *One Health* can advance the goals of both global health security and applied public health training programs and discussed effective planning for
detection, investigation, and response to zoonotic disease events. The panellists presented an overview of priority zoonotic global health security of concerns and the importance of the interface of human, animal, and environmental public health sciences, and they described regional zoonotic disease prevention, detection, and response using brucellosis as a model. Moreover, they suggested different ways to strengthen collaboration between human and veterinary health and laboratory systems to prevent, detect, and respond to emerging and re-emerging global health security threats and enhance information exchange, and they contextualized solutions to improve zoonotic disease management through best practices.

Many shared the challenges faced for prevention, diagnosis, and control of brucellosis in their countries such as no proper PHS program, insufficient information to build a strategy, financial constraints, low vaccination coverage for Brucella at animal level, low hygienic measures, lack of training programs for veterinarians, technicians, clinicians, farmers, and laboratory workers and poor communication between ministries of health and agriculture in disease notification. Similar challenges are being faced for all zoonotic diseases.

All agreed on that a national strategic action plan must be launched for the control of the major zoonotic diseases; an evidence-based policy framework should be designed to strengthen information systems within each country. Methods should be developed for estimating the total economic burden of zoonotic diseases in each country; and veterinary PHS and response systems should be strengthened.

**Polio Eradication Efforts and Transition Planning for Measles Elimination**

Stopping polio transmission has been possible through improvement in implementing supplementary immunization activities (SIAs), supported by important innovative tools like the precampaign readiness assessment, the strong per-campaign monitoring, and drastic post-campaign evaluation. A strong accountability framework plus programme management implemented through a network of polio operation rooms has assisted. Unlike polio SIAs, most priority countries have not implemented strong measles campaigns. Accordingly, countries continue to experience frequent measles outbreaks.

Participants agreed that polio SIAs benefit from a high government ownership and commitment translated into a strong accountability framework at all country administrative levels, an excellent coordination between implementing and supporting partners, and from a sustained high-quality Acute Flaccid Paralysis surveillance. Moreover, they agreed that
implementation of measles elimination programs suffer from low political commitment, the lack of accountability, limited number of staff at national levels and a lack of dedicated staff in provinces, as well as a poor, passive, and fragmented PHS. Polio SIAs campaigns are supported by wide social mobilization and demand, as well as a strong monitoring and evaluation mechanisms implemented by a third party. This is not the case when it comes to measles campaigns. There was an agreement among the majority that the challenges of measles campaigns can be addressed through better campaign preparation, coordination, monitoring and evaluation, as well as ownership and accountability; and that polio infrastructure should be used wherever and whenever possible (without jeopardizing the polio eradication efforts) to support required measles elimination vaccination campaigns, that are much less frequent than polio SIAs but cost a lot of money.

**Mobile Data Collection and other Innovative Tools to Enhance Decision Making**

Mobile data collection (MDC) and other innovative tools can effectively improve decision making process by providing on-demand reports and information in the shortest time and across all levels of the health system. MDC tools can improve current health systems by providing accurate results and information for public health practice while supporting the decision-making processes at various levels.

The roundtable raised awareness of the importance and use of MDC in enhancing decision making and focused on programmatic implications and other innovative tools through sharing experiences from selected efforts to improve data quality and timeliness. One of the concerns was related to data security and sensitivity of the use of technology in conflict areas.

**Confronting Candida auris: An Emerging Multidrug-Resistant Global Pathogen**

*Candida auris* is an emerging serious threat and causes severe illness in hospitalized patients (11). The purpose was to share and discuss concerns and issues as an emerging global pathogen, provide a concise overview, and pinpoint the challenges associated with *Candida auris* in terms of prevention, detection, and response. All agreed that accurate identification is important to estimate the prevalence of this underreported pathogen in different geographic areas. Some isolates are resistant to antifungal drugs which is a concern for getting attention of healthcare community. All agreed that implementation of stringent infection prevention
and control for cases along with regular audits for compliance should be undertaken. Finally, participants concluded that there was a need to stay alert and vigilant in monitoring the epidemiology of *C. auris* globally through the strengthening PHS and laboratory capacities to detect and identify the organism.

**Functioning and Sustainable Country Public Health Emergency Response Operation Framework**

Current turbulence and conflicts affect the weak health systems in EMR which, combined with increased number of threats, enhance vulnerability (12). Public Health Emergency Response Plan (PHERP) is a key component of overall emergency preparedness and response. While developing the PH Emergency Response Operation Framework, countries should take measures that the final “product” is functional, sustainable, and flexible (dynamic and adaptable across time and circumstances). Unfortunately, this has not been always the case in EMR, where the PH Emergency Response Operation framework is fragmented and not built on available opportunities that can ensure sustainability with almost no links with the FETP, academia, and even national public health institutes.

This roundtable highlighted the importance for countries in EMR to consider a comprehensive approach while developing their public health emergency response operation capacities. Moreover, this roundtable helped to understand the importance for countries to consider strong links between their rapid response teams, public health emergency operation centres and healthcare workforce development opportunities, particularly FETP graduates, while building their emergency response operations system. Moreover, it highlighted the importance for countries to regularly check the functionality and performance of their public health emergency response operation framework, in particular after each outbreak or with periodic simulations and/or table top exercises, and undertake the required corrections and revisions. Panellists highlighted the fact that the pre-requisites for a good preparedness include adequate knowledge about all potential hazards, perfect risk analysis, resource mapping and prioritization process and developed capacities to prevent occurrence of PH events, reduce impact when they occur and recover from their impact.

**Oral and Poster Presentations**

One of the conference’s key objectives was to provide a space for FETP residents, graduates, and public health professionals to showcase achievements. A total of 421 abstracts were
submitted and after being reviewed, 147 (34.9%) were accepted (111 for oral presentations and 36 for poster presentations) (Table 1) and published by Iproceeding (13). Presentations were given by FETP residents and graduates, as well as other public health professionals from 13 countries (i.e., Pakistan, Iraq, Egypt, Yemen, Morocco, Jordan, Saudi Arabia, Lebanon, Bangladesh, Palestine, Tunisia, Oman, and Sudan). Abstracts covered vaccine-preventable diseases, PHS evaluation, food- and water-borne diseases, vector-borne diseases, maternal, child and reproductive health, respiratory diseases, zoonotic diseases, non-communicable diseases, and HIV/STI.

**Other Activities**

*Launch of EpiShares*

The conference launched *EpiShares*, a networking platform powered by GHD/EMPHNET (http://www.epishares.net). Developed with the aim to increase opportunities for the exchange of knowledge amongst public health professionals, the platform was developed by GHD/EMPHNET’s team to ensure a mechanism for sharing information and experience and to be a space that can attract public health experts, FETP residents, FETP graduates, or any community of practice. It comes with a host of features including a social media networking platform, the capacity for people with mutual interests to form groups, the capacity for members to start blogs, and a feature listing members within FETP directories or rosters of experts.

*Launch of Alumni Association*

The conference also launched an Alumni Association aimed at bringing FETP alumni together from the region to share their rich experiences. The process of launching was discussed in a meeting well participated by the interested FETP graduates. The agenda included a presentation by President of the EPIET Alumni Network (EAN) Dr. Amrish Baidjoe who gave an overview of the work done by EPIET, and the challenges faced when initiating its launch. The presentation was deemed beneficial, as it allowed prospective FETP alumni members from the EMR to benefit from past experiences gained by their European peers. In his presentation, Dr. Amrish stressed that the success of an alumni association was based on several key factors, the most important of which is having a passionate group of core committee members and a membership base willing to see this initiative succeed.

**Conclusions**
The conference met the primary objectives of showcasing the public health accomplishments and contributions of EMR, encouraging the exchange of ideas and coordination among stakeholders, and engaging cross sectoral workforce in producing recommendations for approaching regional and global health concerns. Moreover, the conference presented a unique opportunity for FETPs and other public health professionals from the Mediterranean region to present their prominent work and network with other international professionals. At the heart of action on global health security is a commitment to protecting the health of each community and bridging initiatives of all geographical and political regions. Hence, EMPHNET will continue to present similar exchange opportunities for public health professionals in the region.

**Recommendations**

Conference participants and expert panellists provided many insights for moving onward. The following recommendations resulted from the roundtable discussions and presentations, directed to the various stakeholders involved in improving public health capacities and impact in EMR:

- There is a need to develop an interactive communication with FETP and public health professionals through Epishares to consolidate the EMR FETP network.
- A national strategic action plan must be launched for the control of the major zoonotic diseases in the region. Evidence-based policy framework should be designed to strengthen information systems within each country in EMR and methods should be developed for estimating the total economic burden of zoonotic diseases in each country.
- Veterinary public health surveillance and response systems should be strengthened in the EMR countries.
- There is a need for a regional RRT mechanism that can serve the region and overcome the challenges and delayed responses witnessed in some countries like Yemen. Sustained RRT training programs at the national and sub-national levels are also needed.
- All priority countries that succeeded to stop polio transmission should start planning for and using, wherever and whenever relevant, polio assets, tools and mechanisms to tackle public health priorities, with focus on routine immunization, measles elimination and VPDs surveillance and control, while securing essential polio functions to sustain polio free status.
- To support smooth transitioning of polio eradication assets to other global and regional immunization priority targets, like measles elimination, partners need to advocate for higher visibility for measles elimination among priority countries decision makers and stakeholders, as a part of a wider vaccine preventable diseases framework and not as a vertical programme.
- Decision makers in priority countries should extend the same support they provide to polio SIAs to measles vaccination campaigns, to make involved stakeholders at various administrative levels accountable and secure adequate campaign preparation, monitoring and evaluation. Wherever possible, polio operation rooms should be fully-utilized by the measles campaign implementing relevant staff.
- As there are various applications and platforms to collect data using mobile phones and other devices, it is recommended to identify and prioritize them through carefully listed selection criteria, researching MDC platform options, and considering data needs.
- Stringent infection prevention and control measures should be implemented for all positive *Candida auris* cases along with regular audits for compliance should be undertaken. Moreover, the epidemiology of *C. auris* should be monitored through the strengthening of surveillance and laboratory capacities to detect and identify the organism.
- Adequate PH Emergency Response Operations Plans are nowadays a necessity for all countries of the region. While developing/revising their PH Emergency response plans, countries have to consider functionality, sustainability and flexibility among the key characteristics of the end-product and operate accordingly, in particular through securing very strong synergies and interactions between the country PH Emergency Operation Centre, the Rapid Response Teams and the available country health care work force development opportunities (like FETP, academia and public Health institutes).
- Field Epidemiology Training Programs wherever available, should be considered (among other opportunities like academia) as an important asset while building country PH emergency response capacities as well as a mechanism to ensure the country PH emergency response system sustainability. The sustainability of FETPs cannot be guaranteed without institutionalization and integration of curricular at academia with active contribution of countries to guarantee a continuous funding and central programme coordination and networking.
- Countries have to cost their public health emergency response plans and fund them in priority from their government basic budget lines to secure functionality and sustainability.
- FETP program directors/coordinators and management staff should work to get their FETPs accredited.
- At the same time, increasing complexity of global challenges in public health emergencies in EMR requires regional research collaborations across many disciplines and emerging sectors to adjust our approach and strategies to ensure long-term success.
References


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<thead>
<tr>
<th>Title of Roundtable Session</th>
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| **Polio Eradication Efforts & Transition Planning for Measles Elimination** | • Moderator: Dr Wael Hayejneh, Dean of Faculty of Medicine at Jordan University of Science and Technology  
• Presenter: Dr Dastagir Nazary, National EPI manager, Ministry of Health, Afghanistan  
• Panellists:  
  o Mr Christopher Maher, Manager, Polio Eradication and Emergency Response, World Health Organization, Eastern Mediterranean Region.  
  o Dr Jay Wenger, Manager, Polio Eradication Program, Bill & Melinda Gates Foundation  
  o Dr Noha Farag, Deputy Team Lead for Science and focal point for research with CDC’s Eastern Mediterranean Team in the Polio Eradication Branch.  
  o Dr Sittana Ahmed, Polio C4D, UNICEF Regional office for MENA. |
| **Towards the Consolidation of FETP Network in the EMR** | • Moderator: Dr Mohamed Chahed, Director for the Center of Excellence of Applied Epidemiology, GHD/EMPHNET  
• Presenter: Dr Mohannad Al-Nsour, Executive Director, GHD/EMPHNET  
• Panellists:  
  o Dr Mohamed Chahed, Director for the Center of Excellence of Applied Epidemiology, GHD/EMPHNET  
  o Dr Kip Baggett, Chief of the U.S. CDC’s Workforce and Institute Development Branch  
  o Dr Dionisio Herrera, Director of the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)  
  o Dr Christophe Longuet, Executive Director of “Connecting Organizations for Regional Disease Surveillance” (CORDS)  
  o Dr El Fatih El Semani, Professor at Ahfad University for Women  
  o Dr Amrish Baidjoe, President of the EPIET Alumni Network (EAN), currently an Operational Research Associate and Coordinator for outbreak analyses at Imperial College within the R Epidemics Consortium (RECON)  
  o Dana Shalabi, Communication Specialist, GHD/EMPHNET |
| **Mobile Data Collection and Other Innovative Tools to Enhance Decision Making** | • Moderators:  
  o Dr. Soloman Chandrasegarar, Immunisation Specialist, UNICEF MENA Regional Office  
  o Scott JN McNabb, Research Professor, Emory University, Rollins School of Public Health  
  o Dr. Mirwais Amiri, Operational Research Specialist, |
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<td>Confronting Candida Auris: An Emerging Multidrug-resistant Global Pathogen</td>
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<td>Roundtable on Building Functioning and Sustainable Country Public Health Emergency Response Operation Framework</td>
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<td>One Health to Achieve Global Health Security</td>
<td>Scott JN McNabb, Professor Mahmudur Rahman, Dr. Scott McNabb,</td>
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<td><strong>Epidemiology, Disease Control &amp; Research (IEDCR) &amp; National Influenza Center (NIC), Bangladesh.</strong></td>
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<td>o Professor Ahmad Al-Majali, Professor of Infectious Diseases and Epidemiology at the Faculty of Veterinary Medicine, Jordan University for Science and Technology.</td>
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<td>o Dr. Zahida Fatima, Deputy Director/ Senior Scientific Officer, Pakistan Agricultural Research Council (PARC).</td>
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<td>o Dr. Ekhlas Qasem Hailat, Senior Disease Control Specialist/EMPHNET/GHD</td>
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Table 2. The distribution of abstracts/posters that were accepted and presented at the Sixth EMPHNET Regional Conference according to the abstract track and country of origin

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