





Reviewing essential public health functions in the Eastern Mediterranean Region post COVID-19 pandemic: a foundation for system resilience

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ABSTRACT

The COVID-19 pandemic exposed vulnerabilities in many health systems worldwide with profound implications for health and society. The public health challenges experienced during the pandemic have highlighted the importance of resilient health systems, that can adapt and transform to meet the population's evolving health needs. Essential public health functions (EPHFs) offer a holistic, integrated and sustainable approach to public health by contributing to achieving several health priorities and goals. In recent years, there has been a focused effort to conceptualise and define the EPHFs. In this paper, we describe the collaborative approach undertaken by the WHO Eastern Mediterranean Region (EMR) and UK Health Security Agency and present the findings and results of the revised EPHFs, in view of lessons learnt from the COVID-19 pandemic and the current priorities for countries across the EMR. This included conducting a desktop review, a gap and bottleneck analysis and stakeholder consultation to arrive at the revised EPHF model including four enablers and nine core functions, including a new function: public health services. The EPHFs will offer countries a complementary and synergistic approach to strengthen health systems and public health capacities and contribute to the region's ability to effectively respond to future health challenges and emergencies. By focusing on the EPHFs, countries can work towards ensuring health security as an integral goal for the health system besides universal health coverage, thus strengthening and building more resilient and equitable health systems.

INTRODUCTION

The COVID-19 pandemic exposed vulnerabilities in many health systems worldwide with profound implications for health, and far-reaching consequences on the economies, governments and societies of many nations.¹ Health systems were underprepared, understaffed and underfunded, and thus, unable to respond to the emergency situation while

SUMMARY BOX

- ⇒ The public health challenges experienced during the pandemic have highlighted the importance of resilient health systems with a renewed interest in public health capacities.
- ⇒ Essential public health functions (EPHFs) provide an integrated and sustainable framework to support health system resilience, health security and universal health coverage.
- ⇒ The Eastern Mediterranean Region's (EMR) EPHF model with its key enablers has been revised and renewed and is presented here to inform public health reform and support capacity building and health systems strengthening.
- ⇒ Once adapted and adopted by EMR countries, the new EPHF framework will support countries to be able to respond more effectively to future public health challenges.

maintaining essential health services as the pandemic turned into a protracted emergency. The public health challenges experienced during the pandemic have highlighted the importance of resilient health systems, that are able to 'predict, detect, respond, recover from and absorb shocks',² and adapt and transform to meet the population's evolving health needs. Since the pandemic, building resilient health systems has become a global priority, with a renewed interest in public health capacities and a primary health-care approach as the foundation to advance both health security and universal health coverage (UHC).^{3,4}

Essential public health functions (EPHFs) are 'a set of fundamental and interconnected activities and capacities both within and beyond the health sector'⁵ that offer a holistic, integrated and sustainable approach

to public health by contributing to achieving several health priorities and goals. The commitment to EPHFs was cemented at the 69th World Health Assembly in May 2016 with resolution 69.1, which encourages nations to establish robust public health systems as part of their efforts to achieve UHC, other health-related targets of the sustainable development goals (SDGs) and global health security.⁶ It is increasingly recognised that these goals are inter-related and complementary, and efforts to achieve them must be aligned.⁷ Indeed, the evidence suggests that countries with strong alignment between health security and UHC have been better able to mitigate the impacts of COVID-19 and have been better equipped to recover.⁸

In recent years, there has been a focused effort to conceptualise and define the EPHFs,^{9–11} as well as understand their operationalisation and application in various regional and country contexts.^{12,13} As part of these efforts, the WHO Regional Office for the Eastern Mediterranean (WHO EMRO), WHO Headquarters (WHO HQ) and UK Health Security Agency (UKHSA), working with member states in the region, have undertaken a number of activities to update the previously identified region-specific EPHFs. This regional approach recognises the value of the global reference list of EPHFs,¹¹ while ensuring that they are adaptable and applicable to the unique socio-political contexts and population health needs of each region and country. In this paper, we describe the regional approach and present the findings and results of the review and revision of WHO EMRO EPHFs, in view of lessons learnt from the COVID-19 pandemic and the current priorities for countries across the Eastern Mediterranean Region (EMR).

REGIONAL CONTEXT

The 22 EMR member states and territories manage, direct and coordinate public health for approximately 9% of the world's population, or 745 million people.¹⁴ The region is highly diverse both in its makeup and the issues it faces such as climate change and environmental threats and includes countries that are high-income, middle-income or low-income, and fragile, conflict-affected and vulnerable (FCV) settings. As of May 2022, an estimated 102 million people in the region needed humanitarian assistance due to conflicts, natural disasters and humanitarian crises.¹⁵ However, this number will have significantly increased with notable crises to EMR member states and territories in the second half of 2022 and 2023 including flooding in Pakistan, Libya and Afghanistan, earthquakes in Turkey-Syria and Morocco, and conflict in Sudan and the occupied Palestinian territory. These crises highlight the challenge to strengthening public health capacities in emergency and FCV settings, particularly as the EPHFs include a number of capacities that are generally under the responsibility and purview of the state. EPHFs have the potential to provide a comprehensive and adaptable approach to building public health

systems and capacities that can respond to the complex and diversified health problems.

Nonetheless, in October 2022, at the 69th Session for the Regional Committee for the Eastern Mediterranean, EMR member states passed a resolution for 'building resilient health systems to advance universal health coverage and ensure health security'.¹⁶ This resolution sets out seven strategic priorities for the region, closely aligned to public health capacities, and includes a focus on optimising ministries of health and public health institutions and enhancing and expanding the health workforce. As such, there is a regional interest and mandate in strengthening health systems and their resilience, as part of recovery from the COVID-19 pandemic.

A COLLABORATIVE APPROACH TO UPDATING THE EPHFS

From 2012 to 2017, WHO EMRO identified major gaps in system capacity for public health in most countries across the region, and as a result, developed the 2017 EMR EPHF framework (figure 1)¹⁷ and an assessment tool with detailed criteria for the eight functions and 95 subfunctions. The EPHF framework was developed with four 'core' functions of surveillance, emergencies, health protection and health promotion and four 'enabling' functions of research, communication, workforce and governance.

Since mid-2020, WHO and UKHSA have established a programme of joint working and operational research to review and revise the EPHFs for EMR. First, we conducted a desktop review of the 2017 EMR EPHF framework and assessment tool to consider the changes that could be made for better alignment with global and regional health priorities and how the lessons learnt from the COVID-19 pandemic could be incorporated. We used country missions, updates, surveys and monitoring of the COVID-19 situation in EMR, from the first 6 months of the pandemic (March to August 2020), to conduct a gap and bottleneck analysis that cross-referenced each function against the documents. Second, we facilitated a roundtable discussion with 29 key stakeholders, including representatives from WHO EMRO, WHO HQ, four country offices and other WHO regional offices. Stakeholders were invited to give feedback on their experiences of the impact of COVID-19 on their public health systems, the areas in the EPHF framework that could be revised, and their suggestions for operationalising the framework in EMR countries. The findings and proposed changes went through a peer review process and consultation and are reported below. Third, we updated the EPHF framework, including functions and subfunctions based on the findings. A parallel programme of operational research on the workforce and governance functions was undertaken, to be reported elsewhere. The 2023 EMR EPHF framework can be seen in figure 2.

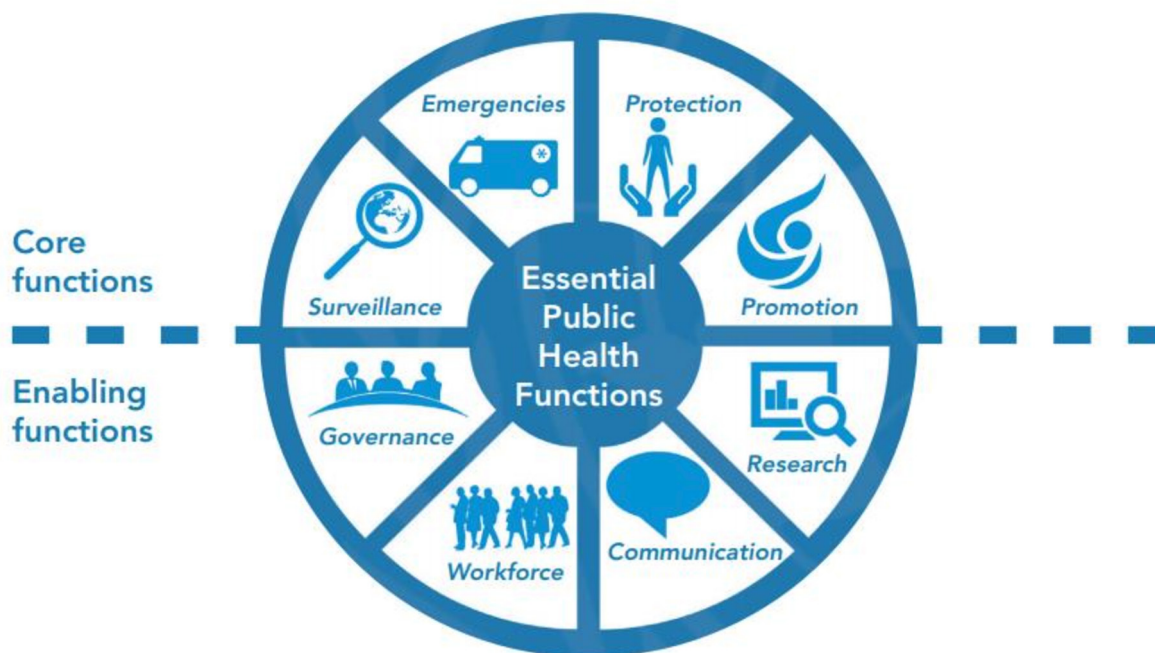


Figure 1 2017 EMR EPHF framework. EMR, Eastern Mediterranean Region; EPHF, essential public health function.

FINDINGS FROM THE REVIEW PROCESS

Our review of a range of documents highlighted many lessons, gaps and opportunities to strengthen the EPHF framework (as summarised in [box 1](#)). These related to

the need for greater public participation and community engagement in health decision making; better integration and management of information; supportive stewardship and coordination of governance functions and

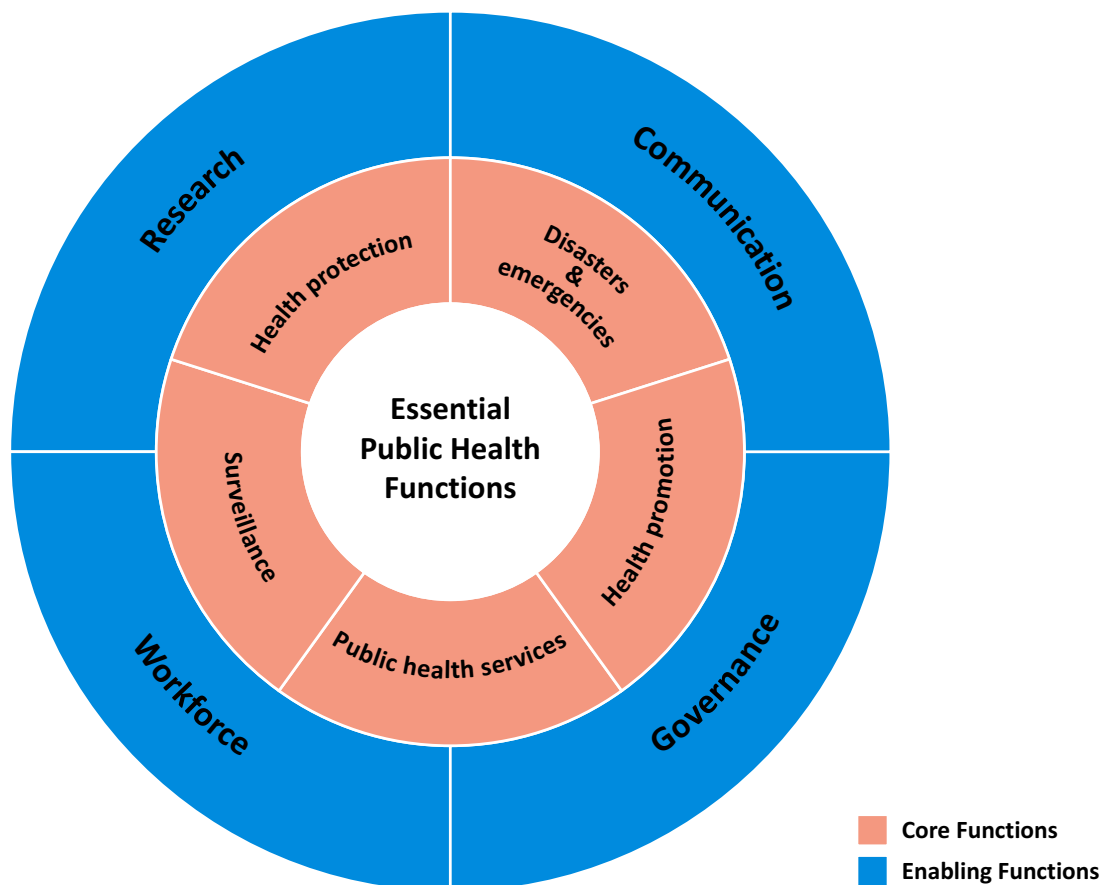


Figure 2 2023 EMR EPHF framework. EMR, Eastern Mediterranean Region; EPHF, essential public health function.

Box 1 Gaps and areas for strengthening in the 2017 EMR EPHF framework

- ⇒ **Multisectoral and multi-stakeholder coordination:** Better coordination between sectors for all components of the EPHFs, including laboratories, surveillance, data collection and sharing, and developing policies and action plans.
- ⇒ **Participatory governance:** Systematic involvement of the public in health decision-making through participatory governance.
- ⇒ **Primary care approach:** Strengthening the role of non-specialised family healthcare services, including primary and community healthcare, and the explicit use of volunteers and civil society.
- ⇒ **Health equity:** Explicitly seeking to reduce inequalities, including promoting gender equality and human rights.
- ⇒ **Wider determinants of health:** Incorporation of wider determinants, that is, political, socioeconomic and cultural determinants of health, across all aspects of data collection and analysis, policy development and action.
- ⇒ **Behavioural science:** Use of behavioural science across all relevant functions and communications that are inclusive of all sectors and communities.
- ⇒ **Governance:** Strengthening the role of public health regulatory functions and applied standard operating procedures including contingency and continuity plans across sectors for sustainable public health services at time of systems shocks.
- ⇒ **All-hazards approach:** Incorporating an all-hazards approach to reflect the One Health, disaster risk management and climate change agendas.
- ⇒ **Infection prevention and control:** Strengthening infection prevention and control (IPC) in all settings.
- ⇒ **Mental health:** Embedding mental health and psychosocial support as an important part of response and resilience, beyond it being a component of non-communicable disease control and prevention.
- ⇒ **Workforce:** Workforce competencies to support the delivery of EPHFs.

structures; considering the impact of weak health systems in worsening emergencies; the need for continuity of health services and the interplay between communicable and noncommunicable diseases.

As outlined above and in [box 2](#), the EPHF framework aligns well with many health priorities, meaning that for EMR countries the EPHFs offer a complementary and synergistic approach to strengthening health systems and public health capacities. For example, states are able to meet their responsibilities towards their citizens and their international obligations by improving their laboratory capacity and surveillance systems. These same capacities can be an opportunity to identify and monitor non-communicable diseases. As such, there was an opportunity to strengthen the EMR EPHF framework, and we noted gaps in cross-cutting areas such as equity, human rights, participation and multisectoral coordination, preventative services and the wider determinants of health. Based on these findings, a number of changes to the functions and subfunctions have been made, as well as recommendations for further work.

Box 2 Alignment of the 2017 EMR EPHF framework with global and regional health priorities and frameworks

- ⇒ Health systems resilience: EPHFs provide an integrated and comprehensive approach to strengthening health system foundations, including strong public health capacity and stewardship, on which resilience is built. This is on the background that public health is often underinvested and accorded with low priority in planning and budgeting. Investing in and strengthening the EPHFs is a critical entry point to ensuring better and more resilient health systems.
- ⇒ Health systems strengthening (HSS) and the EPHFs are complementary and not mutually exclusive. The EPHFs support health system strengthening to ensure public health capacities are comprehensively and adequately developed within health systems, and in allied sectors.
- ⇒ Global health security (GHS), international health regulations (IHR) and emergency preparedness, resilience and response (EPRR) are all areas that are complementary and synergistic with the EPHFs, where strengthening one naturally strengthens the others. At least five of the nine EPHFs (health protection, surveillance, emergencies, governance, workforce) have a direct role in building system capacity for GHS, IHR and EPRR.
- ⇒ Universal health coverage (UHC): The EPHFs promote a holistic approach to public health that ensures that public health systems and the services they deliver are responsive to emerging needs, are high quality and accessible to all.
- ⇒ Sustainable development goals (SDGs): Strengthening the EPHFs contributes to the health-related SDGs as well as other SDGs which focus on reducing inequalities and developing institutional infrastructure (eg, SDG 5, 9, 10 and 16).

AN UPDATED REGIONAL FRAMEWORK FOR THE EPHFS

Our revised 2023 EMR EPHF framework ([figure 2](#)) includes nine functions, with the most recent addition being a 'Public Health Services' function as a core function (see [box 3](#)). Public health services are actions with a primary focus on improving population-level health outcomes, while reducing risks and promoting health at the individual level.^{3 5} Examples include vaccination programmes, screening programmes, health information and technology assessment, infection prevention and control and workplace inspections. Public health services can be distributed across all EPHFs, such as through preventative, promotive and protective health services, and this is the approach taken for the global reference list.¹¹ However, in the EMR context, the addition of a specific function was considered to increase the visibility of public health services within the framework and mitigate the risk of these essential services being missed. Importantly, the benefit to individuals and populations from these services provides a coherent narrative for the purpose of advocacy to legislators and decision makers in strengthening public health capacity.

This addition aligns the 2023 EMR EPHF Framework more closely with the EPHF frameworks produced by other WHO regional offices (including the Regional Office for the Americas and the Western Pacific Regional Office and WHO EURO)¹⁰ which have a stronger focus on service provision, and give specific attention to

Box 3 Core and enabling functions of the 2023 EMR EPHF framework

CORE:

1. Health protection: Protecting the population from all hazards, including management of environmental, food, toxicological and occupational safety, in line with regional and global priorities and commitments
2. Disasters and emergencies: Supporting and strengthening a multi-sectoral approach to system's shocks including disaster risk reduction, prevention, preparedness and response to all hazards to human, animal and planetary health.
3. Surveillance: Assuring and supporting surveillance systems required to monitor health indicators across all domains of public health.
4. Health promotion: Promoting population health, empowering people to increase control over their health and determinants of health and preventing non-communicable threats to health through robust policies, strategies and legislation, including taking coordinated action to address social determinants and health inequity.
5. Public health services: Ensuring equitable, high-quality essential healthcare through preventative, promotive and protective health services.

ENABLING:

6. Research: Advancing public health research to inform and influence policy and practice.
7. Communications: Overseeing and ensuring robust communication, engagement and social mobilisation strategies and plans.
8. Workforce: Developing a sufficient and competent workforce for effective public health delivery, including the oversight of human resource strategy development and implementation for public health.
9. Governance: Assuring effective health systems governance arrangements for setting and implementing the public health agenda, with appropriate supportive legislation.

preventive, promotive and protection health services rather than disease-oriented healthcare. Much of the difference between regional EPHF frameworks relates to their regional contexts and the packaging of the functions rather than the overall content, with various terminology used to describe overlapping issues.

It is envisaged that the updated 2023 EMR EPHF Framework will be of value to EMR countries, specifically their national health authorities and key health stakeholders, as a set of functions and subfunctions that provide a foundation for countries to diagnose and implement public health system transformation. Importantly, the EPHFs have been repackaged to highlight their interconnectedness and the contribution of health and non-health sectors. As such, each function should be considered at the system level; the functions do not indicate how programmes and professionals should be organised to deliver on them.

OPPORTUNITIES AND CHALLENGES IN OPERATIONALISING THE 2023 EMR EPHF FRAMEWORK

Our consultation and roundtable discussion highlighted several opportunities and challenges in operationalising the EPHF framework. While the EPHFs are

the responsibility of the state, their operationalisation requires input from groups not traditionally part of the 'public health' infrastructure, so there is a need for institutional arrangements to reflect the role of Ministries of Health and National Public Health Institutes in multi-stakeholder and multisectoral engagement, particularly with private providers and civil society organisations. This links with the governance challenge of clearly identifying roles, responsibilities and regulatory oversight across the system to deliver EPHFs.

The utility of the EPHF framework will depend on its relevance and applicability to diverse country contexts across the region, in recognition of the varying structures, functioning and maturity of their health systems. A potential challenge to its successful implementation is the risk of 'assessment fatigue', as countries face numerous international obligations and monitoring requirements, making it essential to provide tools that facilitate flexible implementation. The mapping process undertaken in Ireland shows the value for countries of using the EPHFs to understand and map current delivery and identify potential areas for improvement.¹³

The next steps for the 2023 EMR EPHF framework will be to apply it across a range of country settings, to support the review and mapping of public health structures and capacities, strengthen public health leadership and coordination, define and strengthen public health services delivery including in contexts with limited resources and those experiencing emergencies and crises.

CONCLUSION

In conclusion, the updated EPHF framework represents a significant step toward building resilient health systems in the EMR, contributing to the region's ability to effectively respond to future health challenges and emergencies. By focusing on the EPHFs, countries can work towards achieving UHC, other health-related targets of the SDGs and health security, thus strengthening and building more resilient health systems. The EPHF framework functions as a holistic structure that addresses the entire breadth of public health functions in one place, providing integration of many different global and regional priorities, and enabling countries to coordinate their work at a national and subnational level.

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