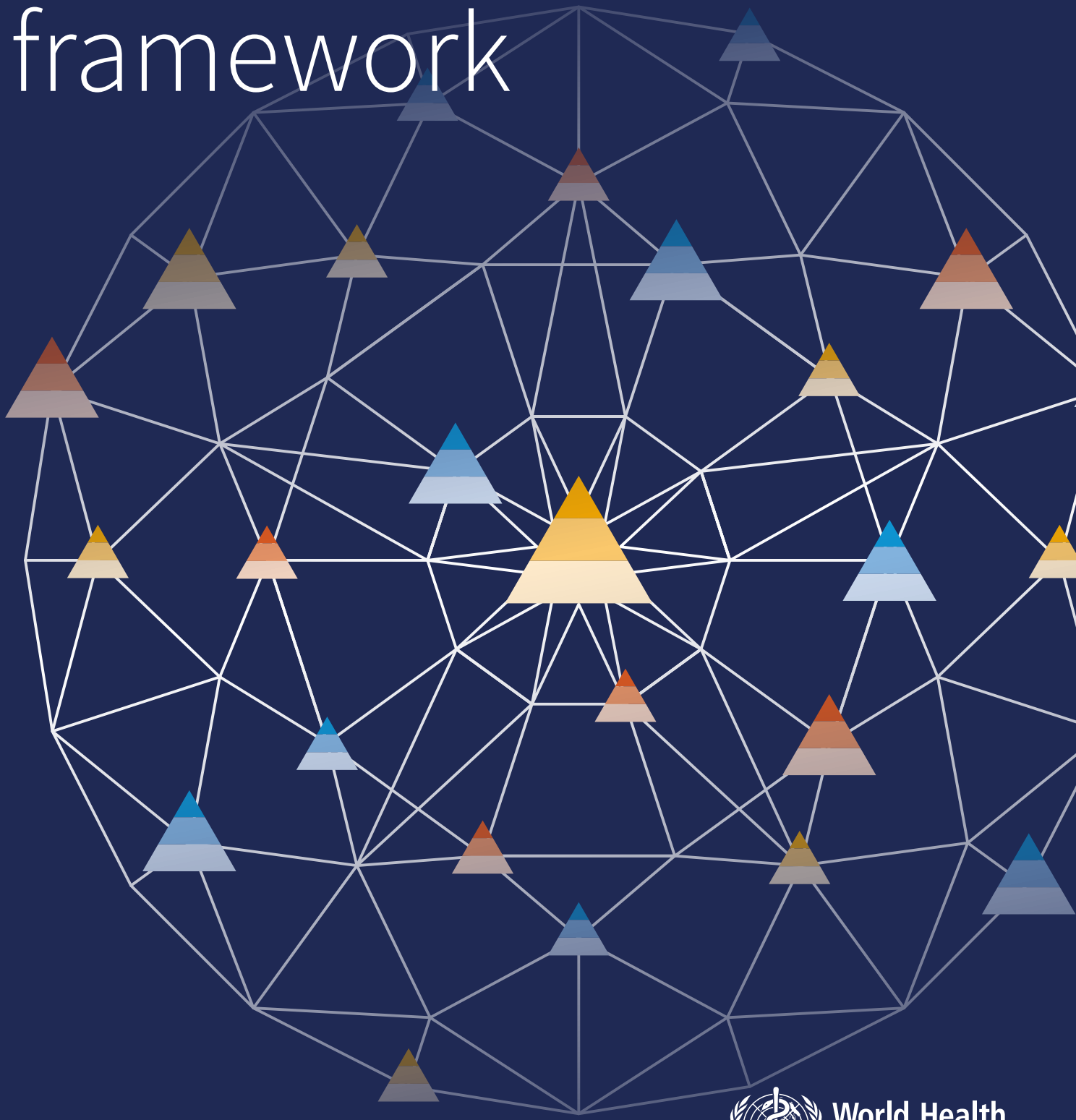
Global health emergency corps framework



World Health Organization

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Foreword

The COVID-19 pandemic has exposed our collective vulnerability to health emergencies. No country has been spared its toll on lives and livelihoods. We have witnessed unprecedented scientific achievements and acts of solidarity, but also have endured tragic inequities, delayed responses, and preventable loss of life. These lessons compel us to redesign our approach to future crises.

The Global Health Emergency Corps (GHEC) is a transformative approach to the most important element in any emergency response – its people. Launched at the World Health Assembly in 2023, GHEC is more than a workforce framework; it is a commitment to global solidarity, prioritizing sovereignty and equity while also fostering preparedness and response capacities. Anchored in the WHO Health Emergency Prevention, Preparedness, Response, and Resilience (HEPR) framework, it encourages countries to strengthen their health emergency workforces, surge capacities, and networked leaders for decisive action.

This first iteration of the GHEC framework provides practical guidance for adopting and adapting the GHEC national workforce pyramids and their collective ecosystem. This ecosystem offers a foundation for collaboration across countries, regions, and organizations, bringing together the best of existing networks in a more standardized, interoperable, and effective approach.

As you read and use this document, I encourage you to reflect on our commitment to sovereignty, equity, and solidarity. Together we can transform global preparedness and safeguard future generations.

Dr Michael Ryan
Executive Director, WHO Health Emergencies Programme
and Deputy Director-General

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Abbreviations

ACoDD	AFENET Corps of Disease Detectives
AFENET	African Field Epidemiology Network
AUSMAT	Australian Medical Assistance Team
AVoHC-SURGE	African Volunteer Health Corps – Strengthening and Utilizing Response Groups for Emergencies
COVID-19	Coronavirus Disease 2019
ECDC	European Centre for Disease Prevention and Control
EOC-NET	Public Health Emergency Operations Centre Network
EMT	Emergency Medical Team
EPHF	Essential Public Health Functions
EEA	European Economic Area
FETP	Field Epidemiology Training Programs
GHC	Global Health Cluster
GHEC	Global Health Emergency Corps
GOARN	Global Outbreak Alert and Response Network
HEPR	WHO Framework on Strengthening Health Emergency Preparedness, Response, and Resilience
IANPHI	International Association of National Public Health Institutes
IHR	International Health Regulations
NPHA	National Public Health Agency
NPHI	National Public Health Institute
PHEOC	Public Health Emergency Operations Centre
RRT	Rapid Response Team
SARS	Severe Acute Respiratory Syndrome
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
WHO	World Health Organization

Executive summary

The COVID-19 pandemic exposed significant vulnerabilities within the global public health system, as countries faced overwhelming challenges in responding to a rapidly evolving crisis. Existing systems and institutions were inadequately prepared for the scale of the pandemic, leading to fragmented responses, and exacerbating global inequities. As highlighted by reviewing authorities such as the Independent Panel on Pandemic Preparedness and Response *(1)* and the Global Pandemic Monitoring Board *(2)*, there is a critical need for leadership at the highest levels and for collaborative, equitable action in preparing for future global health emergencies. The draft Pandemic Agreement specifically calls for countries to invest in a skilled workforce to respond to health emergencies and to establish response teams in coordination with WHO and others *(3)*.

The Global Health Emergency Corps (GHEC) is the body of experts in ministries and agencies in every country who work on health emergencies and the global ecosystem through which they coordinate. GHEC was launched in 2023 in direct response to these calls for proactive change. GHEC aims to strengthen and connect health emergency response capacities across countries, regions and globally through a predictable, scalable, and structured approach to health emergency workforce set up and coordination.

GHEC is anchored within the broader WHO Health Emergency Prevention, Preparedness, Response and Resilience (HEPR) framework. It begins by prioritizing sovereignty, equity, and solidarity in addressing health emergencies. By adopting and adapting the GHEC framework, countries enhance their access to an ecosystem of emergency leaders, interoperable surge capacities, and human resources for strengthened health emergency systems and responses.

The three levels of the GHEC workforce form a foundational framework, which countries are encouraged to adopt and adapt to their unique contexts, including variations in system types, resource capacities, and workforce structures. The levels represent (i) a strengthened and structured national emergency health workforce capable of rapidly scaling up to meet the demands of a health crisis, (ii) deployable and interoperable surge capacities that can be rapidly mobilized in response to emerging health threats, and (iii) connected leadership at all levels to ensure swift and effective decision-making, with the collective expertise needed for a strong, unified response.

This is the first version of the GHEC framework and is intended to be updated as experience is gained with its implementation and adaptation. This document outlines the guiding principles that form GHEC's foundation for ensuring coherence and efficiency in national, regional, and global preparedness and response capabilities. It includes guiding questions to help countries assess and structure their national health emergency workforces to ensure more effective and interoperable responses. Additionally, it highlights the institutions and networks that form the GHEC ecosystem, detailing the resources they provide for enhanced emergency preparedness and responses. Furthermore, it provides examples of existing deployments and regional and global leaders' networks, illustrating components of the GHEC ecosystem in action.

Future iterations will build on this foundation, incorporating lessons and best practices from further GHEC simulations, activations, and work in countries, continuously deepening the core capabilities of this ecosystem for a more coherent and efficient response to future health threats.

1. Introduction

When faced with the common threat of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), countries and institutions across the world were rapidly overwhelmed by the monumental task of responding to a fast-moving threat, needing to invent ad hoc structures and alliances to scale response efforts. As the Independent Panel on Pandemic Preparedness and Response stated:

"Current institutions, public and private, failed to protect people from a devastating pandemic. Without change, they will not prevent a future one. That is why the Panel is recommending a fundamental transformation designed to ensure commitment at the highest level to a new system that is coordinated, connected, fast-moving, accountable, just, and equitable – in other words, a complete pandemic preparedness and response system on which citizens can rely to keep them safe and healthy."

Rather than proactively coordinating their respective response efforts, many countries took very different approaches, leading to the accelerated spread of COVID-19. Some, led by those that had most directly experienced Severe Acute Respiratory Syndrome (SARS) in 2003, mounted aggressive surveillance, contact tracing, and public health suppression measures that proved remarkably effective at containing the virus over weeks to months. Others took a much less proactive approach. The results ranged from near-complete containment to massive outbreaks with eventual spillover to all other countries.

More than 16 million lives were lost in the first 2 years of the pandemic *(4)*, and estimates of the economic impact ranged from $10 trillion to $15 trillion *(5)*, equating to approximately 10% of global Gross Domestic Product *(6)*. Interventions that result in even modest improvements in these enormous numbers would rank among the most consequential global public health interventions in history.

However, response systems within individual countries often proved inadequate to the challenges of COVID-19. Existing health emergency structures were overwhelmed by a pandemic that led authorities to take drastic decisions such as closing schools and borders and declaring lockdowns, therewith disrupting global supply chains, and damaging entire economies, causing socio-economic problems for a large part of the population worldwide. Most countries needed to establish new leadership structures ad-hoc, often led by higher level officials with limited previous experience managing health emergencies. Moreover, the systems required for surge responses – for clinical care, contact tracing, risk communications, community engagement, and eventually, scaled up vaccination campaigns – were quickly overwhelmed. This necessitated solutions to upscale response capacities amidst limited possibilities for deployment between countries.

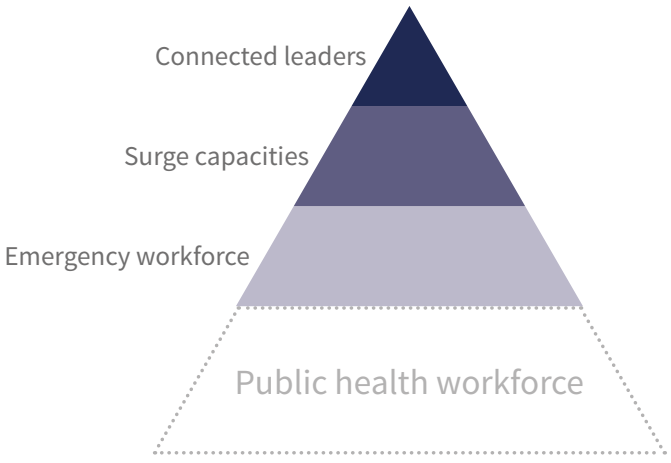
The inevitable result was an ineffective response characterized by a lack of global solidarity, and eventually, massive global inequity. The pandemic was a stark reminder that "our well-being depends on the well-being of others"*(7)*. Equity is therefore at the heart of efforts to strengthen the global health architecture.

The Global Health Emergency Corps (GHEC) is the body of experts in ministries and agencies in every country who work on health emergencies and the global ecosystem through which they coordinate. As such, it offers a more uniform yet adaptable approach to strengthening the health emergency workforce within and among countries that can provide coherence to the global system that proved ill-equipped during the pandemic, whilst building on the many good examples of collaborations to strengthen the health emergency workforce over the years. GHEC builds upon the principle of national sovereignty and the recognition that decisions on response, whether to a pandemic or other health emergency, will always rest with national authorities. It is a core component of the WHO Framework on Strengthening Health Emergency Preparedness, Response, and Resilience (HEPR) *(8)*.

Countries are encouraged to adopt and adapt the GHEC framework by identifying and investing in their standing and on-call emergency workforce capacity to manage ongoing health emergency preparedness and response work, complemented by surge teams and experts that can be deployed as needed either from within or outside the country, and health emergency leaders who are well embedded within the highest level of multisectoral health security coordination within the government. Together, these three levels can be visualized as a GHEC workforce pyramid that is part of the country's public health workforce (Fig. 1).

The three levels of the GHEC workforce pyramid are present in varying degrees in all countries, yet many times inconsistently recognized and structured. In line with the HEPR framework, GHEC embraces an approach to collaboration and coordination that identifies the need to connect workforce capacities and capabilities across the core health emergency sub-systems of collaborative surveillance, community protection, safe and scalable care, access to countermeasures, and emergency coordination (the '5Cs').

Fig. 1. The GHEC workforce pyramid at country level



GHEC is not to be understood as a separate entity or network but as the structured workforce (the 'body of experts') at country level working on health emergencies and as a global ecosystem in which countries and health emergency actors collaborate and coordinate more efficiently through interconnected health emergency networks at all levels of the GHEC pyramid.

Pandemics are rare but other health emergencies are not. Fortunately, preparing systematically for a pandemic also synergistically prepares countries and regions for other types of emergency responses. Across a broad range of health emergencies, investing in a well-organized emergency workforce, interoperable surge capacities, and connected leaders has proven to be invaluable. Exercising these capacities through regular responses to a range of health emergencies further strengthens them, laying a necessary foundation for responding to large epidemics and future pandemics.

This GHEC document has been developed with the purpose of setting guiding principles and actions to facilitate a systems approach to the individual and collective capacity of countries and institutions in preparing for and responding to disease outbreaks, pandemics and health consequences of emergencies or disasters. Entities may be international, regional, or national. The common shared activity is for these entities to play a role in the prevention, preparedness, and response to emergencies where there is an impact on human health and well-being. GHEC embraces a systems approach that integrates professionals and their resources, an approach to collaboration and coordination, and the need to identify and connect collaboration platforms. The challenge that this document aims to address is reduction of duplication, wasted resources and missed opportunities to build and strengthen capacities and emergency response capabilities while providing a coordinated approach for much needed expertise and response capacity in times of need.

This framework was developed with contributions from a wide range of stakeholders, including those from large high-income countries with complex health emergency infrastructure, and from small and resource-limited countries with only the basic elements of a health emergency workforce. It reflects contributions from leaders of high functioning global health emergency networks, regional health emergency leaders, as well as global health organizations. The document spotlights examples from various settings in textboxes to illustrate variations in institutional structures, national and regional organizations. These examples show components of the health emergency corps in every country, or case studies on the functioning of the GHEC ecosystem.

The GHEC approach is intended to support countries in assessing and structuring their current health emergency workforce and related coordination and collaboration structures, including their participation in regional and global health emergency collaboration structures and networks. This includes identifying elements that are missing or require strengthening to ensure a robust response to health emergencies in coordination with neighbouring countries, regionally, and globally when necessary. For regional and global networks and collaboration structures, the GHEC approach is intended to encourage better connection and coherence to avoid duplication in support of capacities at country level.

Box 1

Vignette – How the Global Health Emergency Corps could have changed the COVID response

Had the Global Health Emergency Corps been in place in January 2020 the course of the COVID-19 pandemic might have played out differently. Corps members in public health leadership positions in countries around the world, having exercised scenarios such as the SARS-1 outbreak, would have recognized this threat for what it was by the early days of January – the spread of an efficiently transmitted human coronavirus. In close communication and acting in unison on a modified SARS-1 playbook, countries across the globe could have put measures in place to contain the threat, as did many places with SARS-1 experience, such as Singapore, Viet Nam, Canada, Thailand, Australia, and China *(12).* SARS-CoV-2 was a more challenging pathogen, with pre-symptomatic transmission and biologically significant mutations, and the sociopolitical environment and inequitable distribution of resources impeded control. Still, consistently applied measures, such as travel restrictions, mask mandates, and rigorous testing, contact tracing, isolation, and quarantine could have limited spread *(12)*. The result could have been like the early COVID-19 results in those countries – driving the effective reproductive number (Re) below 1 and substantially delaying exponential growth of the pandemic. Fewer places would have experienced explosive outbreaks, and more would have had experiences like Australia, New Zealand, and others with substantial delays in exponential spread. This flattening of the epidemic curve could have led in many places to a result like the first SARS – containment of the pandemic threat. For places where the epidemic did manage to take hold, Corps members and their institutions, coordinated globally by WHO might have concentrated efforts, sharing information, deploying diagnostics, antiviral treatments, and mRNA vaccines. The pandemic could have been significantly curtailed in early 2020, saving millions of lives and trillions of dollars, or at least its exponential spread could have been substantially delayed.

2. Background

Summary of relevant post-COVID-19 recommendations

The COVID-19 pandemic exposed critical gaps in global health workforce preparedness, highlighting the need for resilient systems and better coordinated responses. Various expert committees have since reviewed and drawn lessons from these shortcomings, including the Global Preparedness Monitoring Board, the Independent Panel for Pandemic Preparedness and Response, the International Health Regulations Review Committee, and the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme.

National public health workforce

The public health workforce includes all people who contribute to the delivery of at least one of 12 essential public health functions (EPHFs), as part of integrated health system services and functions *(10).* This workforce comprises people working in diverse occupations, from health and non-health sectors, and can be conceptually framed as three overlapping groups: core public health personnel who work exclusively on the EPHFs; health and care workers who spend some of their time delivering the EPHFs as part of their clinical or social care roles; and personnel from occupations allied to health who play critical roles in addressing the determinants of health.

The Global Preparedness Monitoring Board emphasizes the need for national public health systems to invest in the public health workforce and core capacities for surveillance, early detection, and resource allocation to mitigate health threats *(9).* It is critical to define EPHFs, including emergency preparedness and response, and enhance the capacities required to deliver these functions *(10).* The Global Preparedness Monitoring Board emphasizes that such investments must be equitable, as inequities not only undermine national capacities but also erode the trust and international collaboration essential for preventing outbreak amplification *(2).*

Emergency workforce

The health emergency workforce draws from the public health workforce, with a reduced proportion of the public health workforce fully dedicated to or on-call to work on emergency preparedness and response. The emergency workforce must be well-trained and comprise a range of emergency-specific skills and expertise to ensure the EPHFs related to emergency preparedness and response are fulfilled. The capabilities need to cover the main health emergency preparedness and response capability areas of collaborative surveillance, community protection, safe and scalable care, access to countermeasures, and emergency coordination *(8).*

National governments must ensure they have agile health emergency systems that can equitably address emergencies through better information sharing, science-based action, research, and development *(9).* Support to these teams must leverage global coordination and resources, such as making more robust use of WHO collaborating centres worldwide, as well as expert networks, such as technical advisory bodies and public health institutes *(11).*

Surge capacities

According to the Independent Panel, the efficiency of national responses depended to a large degree on each country's ability and agility to manage surge health workforce demands *(12).* The Panel emphasizes that in our interconnected world, global health security is only as strong as its weakest link, making national public health systems the first line of defence against the next pandemic *(11).*

National health systems must thus ensure they have the ability to deploy surge capacities including experts and multi-disciplinary teams for risk assessment and investigations, community, clinical, and supportive services, without compromising existing core needs. It may also include the capacity to receive surge capacities from abroad, when required. On the other side, countries and organizations preparing their experts and teams for surge deployments to reinforce country capacities in emergency situations should do so based on existing quality standards and through the relevant coordination platforms.

Note: the term 'surge capacities' is used interchangeably with the term 'rapid response capacities' in this document.

Connected leaders

Connected leaders, who communicate through trusted informal and formal channels, enable the rapid sharing of information and knowledge, and the coordination of responses before, during and after emergencies occur.

The Global Preparedness Monitoring Board concluded that "the first year of the COVID-19 pandemic was defined by a collective failure to take preparedness seriously and act rapidly on the basis of science", and it characterized the second year as "marked by profound inequalities and a failure of leaders to understand our interconnectedness and act accordingly" *(9).* The Board noted that improved collaboration between countries serves as a critical shield against the amplification of outbreaks *(2).* The Independent Panel underscored the decisive role of leadership and competence as even more important than financial resources in the pandemic response *(12).* According to the panel, previously assessed levels of preparedness had not accounted for the impact of political leadership, trust in government institutions, and countries' abilities to mount fast and adaptable responses. The Panel noted the need for champion leaders at the highest political levels, who can help to close the gaps in the international system and activate responses during crises *(11).*

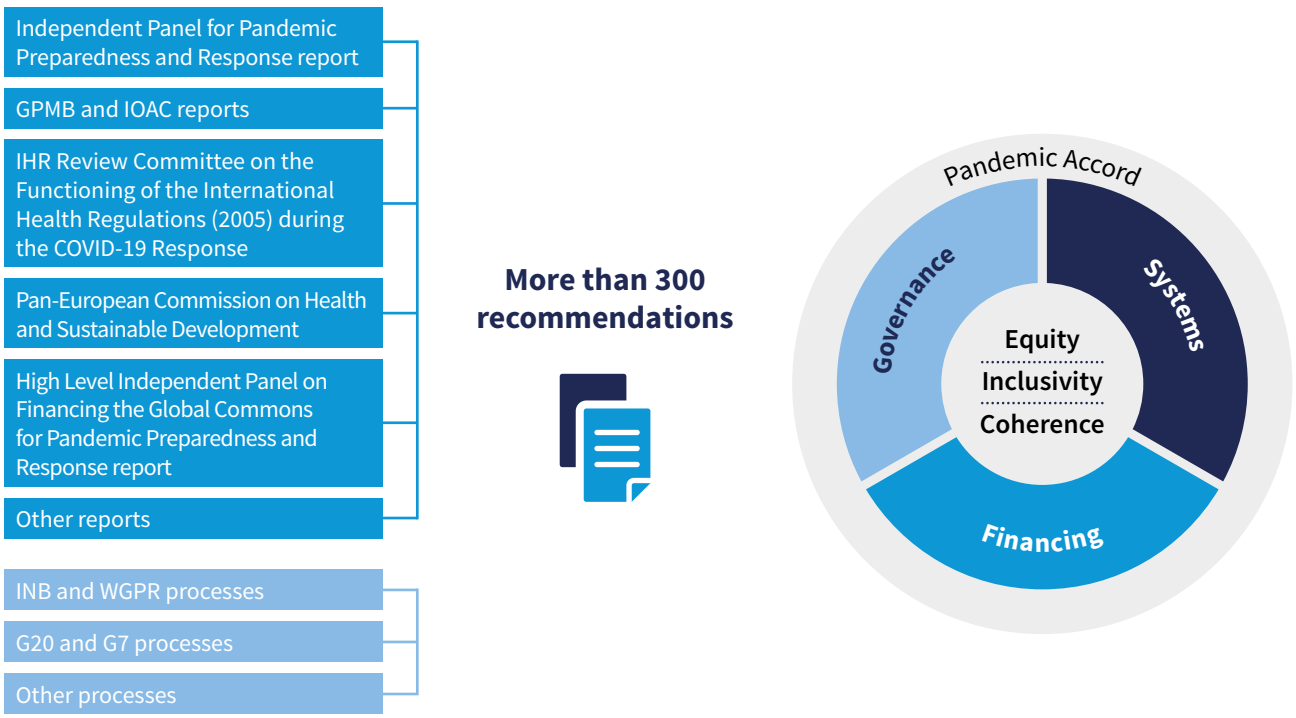
In fact, the need for stronger leadership and better coordination was a prominent theme in virtually all the post-COVID-19 recommendations *(12).* Panels highlighted the need for improved leadership and coordination at national, regional, and international levels *(13, 14),* including through stronger networking between experts and existing health emergency networks and platforms *(15).*

Actions in response to the post-COVID-19 recommendations

The summary above synthesizes over 300 recommendations identified in numerous expert reviews on the successes and shortcomings of the global response to the COVID-19 pandemic as they related to the coordination, workforce capacity, networking, and health emergency leadership (Fig. 2). WHO has been working with Member States and partners to translate these into concrete and concerted action to save lives and reduce morbidity, presenting them in the WHO Framework for Health Emergency Preparedness, Response, and Resilience (the HEPR framework) *(8).* The recommendations are categorized into the three main themes of global governance, financing and HEPR systems.

Published in 2023, the report from the WHO Director-General, Dr Tedros Ghebreyesus, titled "Strengthening health emergency prevention, preparedness, response and resilience" (HEPR) lays out the "five **C**s" as the five core health emergency capability areas: **C**ollaborative surveillance, **C**ommunity protection, safe and scalable **C**are, access to **C**ountermeasures, and emergency **C**oordination (Fig. 3).

Fig. 2. Reviews, reports, and processes that have contributed to the framework for a strengthened global architecture for health emergency prevention, preparedness, response, and resilience



GPMB: Global Preparedness Monitoring Board; Intergovernmental Negotiating Body to draft and negotiate a WHO convention, agreement or other international instrument on pandemic prevention, preparedness and response; IOAC: Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme; WGPR: Member States Working Group on Strengthening WHO Preparedness and Response to Health Emergencies.

Source: World Health Organization. Strengthening the global architecture for health emergency prevention, preparedness, response and resilience. Geneva; 2023

Fig. 3. The five 'Cs' of health emergency prevention, preparedness, response, and resilience

Collaborative surveillance

Strong national integrated disease, threat, and vulnerability **surveillance**

Effective diagnostics and **laboratory** capacity for pathogen and genomic surveillance

Collaborative approaches for event detection, risk assessment, and response monitoring

Community protection

Community **engagement**, **risk communication** and **infodemic management**

Population and environmental **public health interventions**

Multisectoral action for **social and economic protection**

Safe and scalable care

Scalable clinical care during emergencies

Protection of health workers and patients

Maintenance of **essential health services**

Access to countermeasures

Fast tracked **R&D**

Scalable **manufacturing platforms**

Coordinated **supply chains** & emergency distribution

Emergency coordination

Strengthened **workforce capacity** for health emergencies

Strengthening health emergency preparedness, readiness, and resilience

Health emergency **alert and response coordination**

The Global Health Emergency Corps, launched in 2023, is anchored within the emergency coordination component of the 'five Cs' to reflect the central and cross-cutting nature of the health emergency workforce for all five capability areas. It emphasizes the need for a coordinated workforce capacity for health emergencies, by enhancing coordinated leadership, deployable and interoperable surge capacities, and a well-practiced emergency workforce present in all the five subsystems. In practice, the deployment planning and organization of the emergency workforce is a core function of emergency coordination but necessarily involves engaging professionals from the other '4 Cs'. Depending on the emergency, the workforce engaged in community protection or countermeasures may take precedence, or those working on collaborative surveillance or care may become more prominent, while the others continue with their regular duties until an emergency requiring their skills emerges.

The GHEC builds on a series of longstanding calls for strengthening the world's health emergency and pandemic responders. Highlighted as a priority by Dr Tedros Adhanom Ghebreyesus in his earliest days as the WHO Director-General and characterized as a "Global Epidemic Response and Mobilization (GERM) team" by Bill Gates in his book "How to Stop the Next Pandemic" *(16)*, thoughtful and influential leaders have repeatedly called for a dedicated cadre of health emergency professionals.

Launched at the World Health Assembly in May 2023, the GHEC is the logical outgrowth of the post-COVID-19 recommendations. It reflects the need for a strengthened collaborative approach within and among countries and health emergency networks, for connected health emergency leaders, surge capacities and an established group of dedicated and on-call professionals in every country to lead a new era of emergency coordination. GHEC is well integrated with the HEPR framework, the International Health Regulations (IHR) concept of National Health Authorities, and a reinvigorated approach to pandemic financing.

Box 2

Why a "Corps"?

Corps – A body of persons having a common activity or occupation, e.g. the press corps
– Merriam-Webster dictionary

Health Emergency Corps – A body of experts in ministries and agencies in every country who work on health emergencies and the global ecosystem through which they coordinate to:

- Strengthen responses to all health emergencies, and Stop the next pandemic

3. Purpose of this document

The purpose of this document is twofold.

1. To set guiding principles and actions to strengthen the individual and collective capacity of countries and institutions in preparing for and responding to disease outbreaks, pandemics and health impacts of emergencies or disasters.
2. To address the challenge of connecting regional and global response mechanisms in support of countries, reducing duplication, and maximizing opportunities in building and strengthening capacities and capabilities whilst providing a coordinated approach for much needed expertise and response capacity at times of need.

The GHEC frames the complex health emergency workforce ecosystem with the aim of bringing coherence and efficiency to the web of actors and relationships from the local to the global level.

4. Design process and approach

The broad concepts of the GHEC framework arose from the numerous reviews of the COVID-19 response cited above and were articulated by WHO Director-General, Dr Tedros Adhanom Ghebreyesus and other WHO leaders culminating in the 2023 launch of GHEC in the margins of the 2023 World Health Assembly. In the months following the launch further feedback from countries, networks, and regions emphasized the importance of country leadership and national sovereignty, the value of existing health emergency networks, and the growing role of regional entities in responding to epidemics and other health emergencies.

The development of the GHEC framework originated in the publication of the HEPR framework *(8).* The framework expands on the Emergency Coordination section, 5.1 on "Strengthened workforce capacities for health emergencies", and a concept note on strengthening health emergency workforce capacities that had been developed through an extensive consultation process throughout 2022 and 2023 as part of the broad process to develop the HEPR framework.

In 2024, WHO convened a GHEC Design Group of experts from 15 countries and leading health organizations and networks with the specific task of developing the GHEC framework. Identification of design team members sought balance in terms of regional representation, large and small countries, gender and content expertise. The development process included six online consultations over a period of approximately 6 months and a face-to-face workshop, held from 30 October to 1 November 2024 in Montreux, Switzerland.

An initial draft outline was prepared by the WHO GHEC Secretariat for the first consultation, then revised based on feedback by the group members. Members of the Design Group contributed text to different sections of the document which was consolidated by the GHEC Secretariat. At the end of that period the group was convened in a workshop that used a scenario-based exercise to test the GHEC framework and proposed modifications and improvements. Final revisions and clearances of the framework document involved all WHO regional offices, design team members, and network representatives, as well as internal WHO clearances.

5. Vision

The vision of the GHEC is a well-coordinated health emergency workforce centred in countries comprised of coordinated leadership, interoperable surge capacities, and a well-practiced emergency workforce able to rapidly detect and respond to disease outbreaks, pandemics, and humanitarian emergencies.

6. Objectives

The objectives of the GHEC are twofold: to strengthen the readiness and response to health emergencies, and to stop the next pandemic. The two objectives are interrelated and mutually reinforcing. Strengthening the response to all health emergencies depends primarily on a robust, well-skilled health emergency workforce in all countries, on interoperable surge capacities, and on leadership and coordination at national, regional, and global levels. These are critical elements that contribute to stopping the next pandemic most efficiently. Success also depends on the earliest possible detection, a decisive and coordinated global response, and universally accessible medical countermeasures. However, the most critical factor remains a well-coordinated workforce.

The notion of a "corps" describes a body of persons having a common activity or occupation (Box 2). Applied to the GHEC context, this concept translates into the need for a Health Emergency Corps at the country level, a structured and coordinated approach to its health emergency workforce capacity. By leveraging the collective resources of all countries in a well-coordinated way, the GHEC ecosystem allows for more effective and timely response that can be scaled up as needed to deliver better coordinated regional and global responses. While collaboration and coordination platforms remain specific to each region, maintaining a similar structure enables global coordination when needed.

Table 1. Ten benefits for countries adopting and adapting the GHEC approach

At the leadership level	**1** Equip your emergency leaders with quick access to evidence sourced from trusted counterparts.
	2 Connect your emergency leaders with their trusted counterparts in the region and globally.
	3 Help your country be a prominent voice in coordinating regional and global response efforts.
At the surge capacity level	**4** Faster on-ground deployment of national surge capacities, due to established 'plug-and-play' models.
	5 Access to a trusted backup of surge capacities that can be activated quickly when your country needs extra support on-the-ground.
	6 Create interoperable capacities within your national surge system that allow you to support your region in responding to health emergencies faster.
	7 Improve connectedness between your government and other governments and institutions regionally and globally, through the network's channels.
At the emergency workforce level	**8** Provide coordinated access to enhancing the expertise and skills of your emergency workforce across multiple specialities through expert networks and institutions.
	9 Provide your surge teams, experts, and emergency workforce with platforms to exchange, jointly train and conduct simulation exercises with their peers across different countries and specialties.
	10 Enable access to experienced human resources who can share learnings on outbreak preparedness and responses that may help inform the way your country strengthens its own health systems.

Table 2. Six asks of countries

Ask 1	Adopt and adapt the workforce pyramid as your framework for strengthening and globally connecting your national health emergency corps.
Ask 2	Identify your senior health emergency leaders who can be connected to regional and global networks of trusted colleagues.
Ask 3	Take steps to build interoperable surge capacities from your trained emergency workforce.
Ask 4	Commit to deploying your surge capacities as part of coordinated international emergency efforts.
Ask 5	Allocate resources to build the right size, expertise, and skills of the health emergency workforce for timely detection, alert, and response to all health threats.
Ask 6	Map the participation of your country's institutions in health emergency networks and ensure that network focal points are well-connected with your national health emergency leadership and coordination structure.

7. Guiding principles and values

The GHEC is based on three guiding principles:

- **Sovereignty:** It is owned by countries and their national institutions competent in health emergency leadership, surge capacities, and emergency workforce coordination
- **Equity:** It is committed to providing timely and equal access to information and support to every country and population
- **Solidarity:** It is supported by countries, regional and global networks, and institutions committed to collaboration to achieve the common vision of GHEC

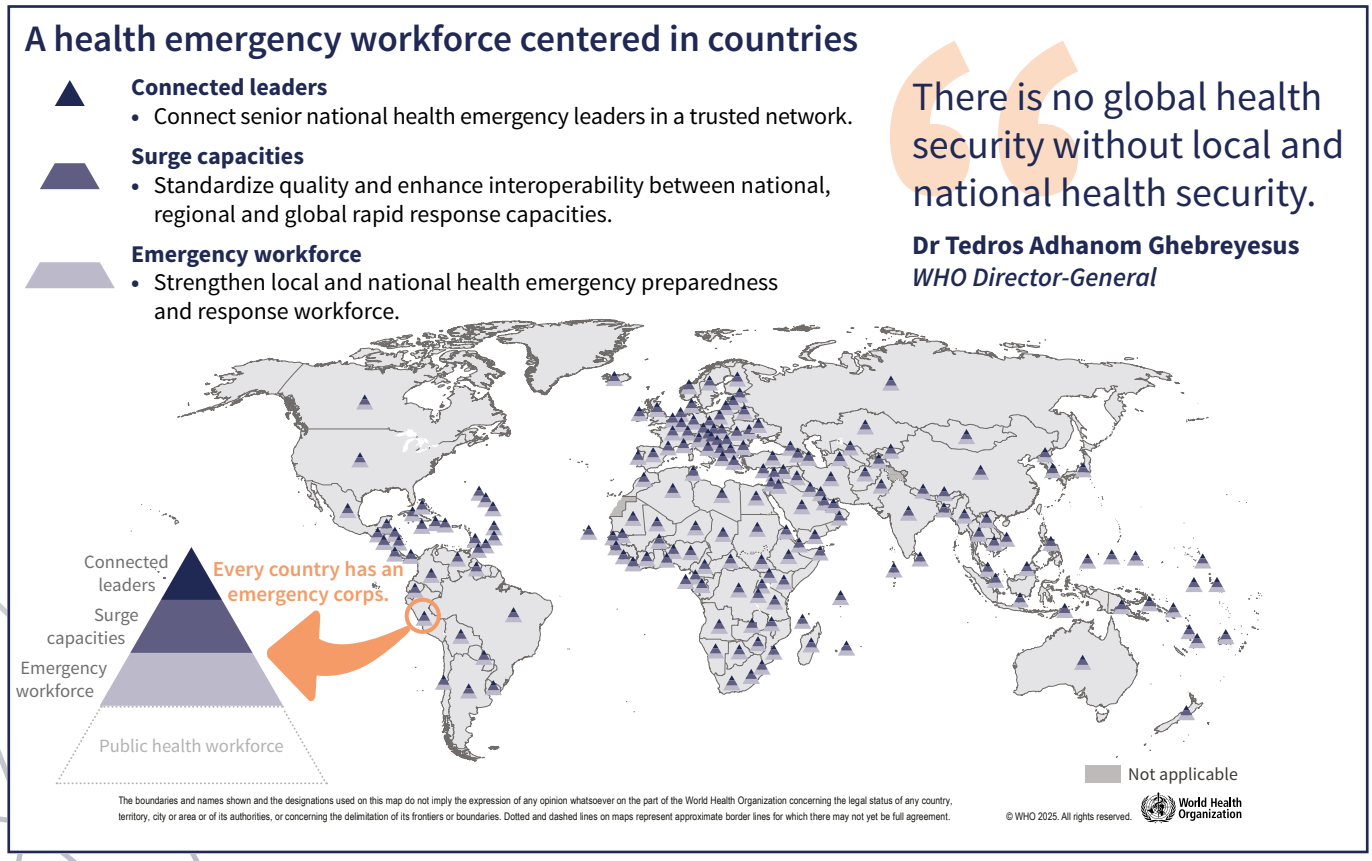
Furthermore, committing to the GHEC entails voluntary adherence to a set of core values which include:

- **Quality and professionalism:** Enhancing the quality and professionalism of pandemic and health emergency response and coordination, including through joint training and exercises
- **Predictability and efficiency:** Functioning based on standard operating procedures supported by the necessary tools and management support
- **Trust and acceptance:** Continuously building on trust and acceptance amongst members

8. Strategy

Effectively leveraging the GHEC begins with the recognition of national sovereignty, assuming that in a pandemic or other health emergency every country will prioritize the needs of its citizens and direct the actions of its emergency responders. Yet, each country will also depend on the coordinated actions of other countries if a regional epidemic or pandemic is to be stopped. Similarly, some health emergencies may overwhelm the capacities of affected countries where international cooperation may be required. These apparently competing observations can be more easily reconciled if the health emergency workforce pyramids in all countries are similarly structured. A structured, yet adapted approach to strengthening the health emergency workforce in every country (Fig. 4), with interoperable surge capacities to ensure that no area or country is overwhelmed, and an interconnected group of leaders coordinating their responses at national, regional, and global levels, provide the basis for a more effective response to health emergencies including pandemics.

Fig. 4. Consistently organized health emergency workforces in every country

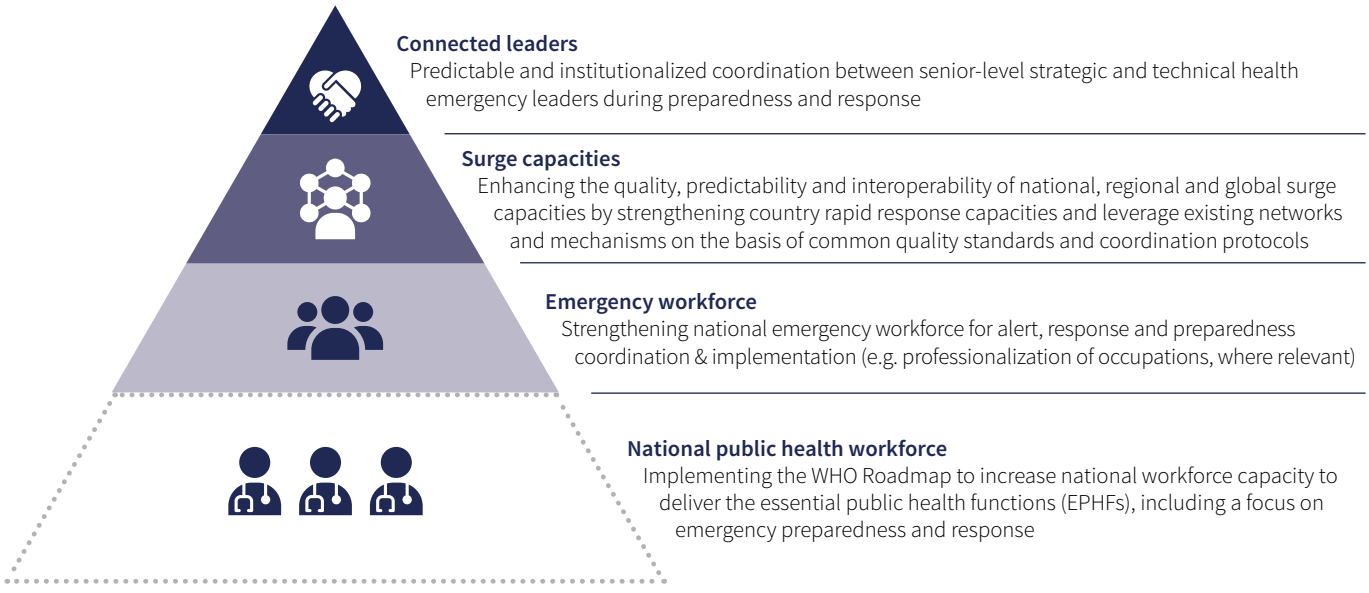


The elements of a national workforce corresponding to the GHEC are summarized in the upper three levels of Fig. 5, hereinafter referred to as 'health emergency corps'. The bottom and largest level depicts the entirety of the national public health workforce to deliver on the essential public health functions and requires the definition at country level of the essential public health functions and subfunctions, development of competency-based education, and mapping and measurement of occupations. This work lays a solid foundation for the national Health Emergency Corps.

Establishing the emergency-specific capacities at the leadership, surge and emergency workforce levels requires a recognition of the specificities inherent in health emergency management, whilst also recognizing that these capacities are embedded within the national public health workforce. It will also lead to creating robust, sustainable, and attractive career pathways for health emergency workers.

As the GHEC framework is adopted and adapted more explicitly in countries and regions, career recognition and opportunities may arise for a range of public health professionals who may have previously engaged in emergency response only as an occasional responsibility. Clear career pathways will likely include entry-level positions for recent graduates such as emergency response coordinators, surge deployers, or field officers. Mid-level regional managers, technical advisors, surge coordinators and team leaders are suitable positions for those with several years of experience; while global health directors, policy advisors, and connected leaders are best suited to seasoned professionals who have worked on health emergencies at national and sub-national levels for years and demonstrated their leadership skills. International secondments, including potential WHO-supported initiatives, could provide seasoned professionals with opportunities to share their expertise across countries and on the global stage, fostering cross-border learning and collaboration.

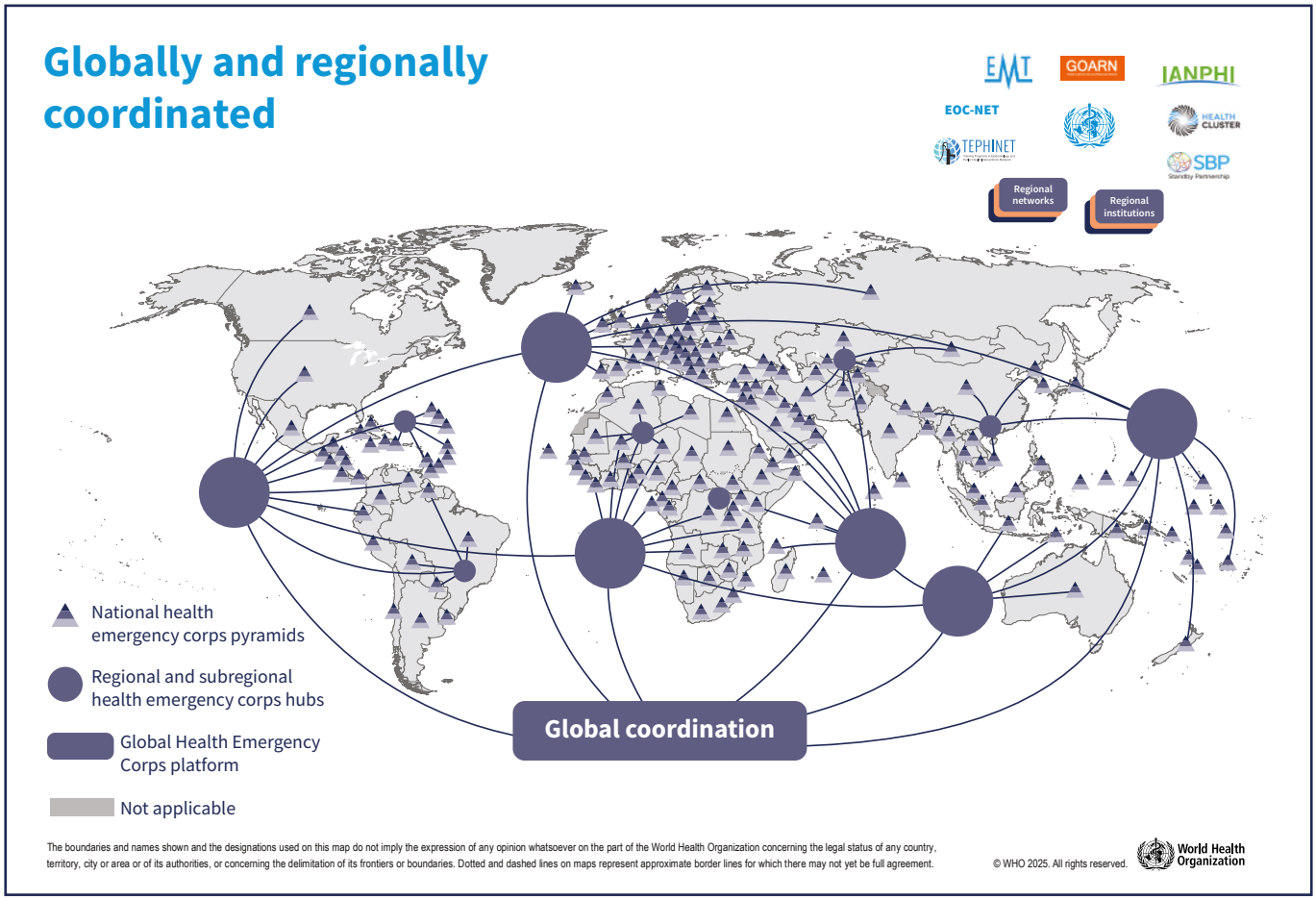
Fig. 5. A framework for strengthening national health emergency leadership, surge capacities, and emergency workforce capacity



Fostering such robust workforces requires countries to adopt a comprehensive approach to training programs including a foundation of focused training in such fields as epidemiology, emergency management, emergency logistics, and laboratory science, continuing education including advanced certifications, and periodic simulation exercises to ensure that skills remain up to date. Mentorship, peer support, and ongoing professional development seminars and workshops are helpful, recognizing that global mobility and flexibility in work arrangements make health emergency response work attractive to many talented young professionals. Partnerships between government agencies, non-governmental organizations, and academic institutions provide added career flexibility and incentives for those entering the field and for retaining talented individuals who have been in health emergency work for many years.

In the event of a multinational health emergency or regional epidemic, these national workforce pyramids need to be aligned and coordinated for the most effective response (Fig. 6). Strategically, for GHEC, such alignment leans heavily on effective existing emergency response networks. Such longstanding networks already coordinate the response to transnational health emergencies in the areas of humanitarian, disaster response, and public health emergency responses. Networks and coordination mechanisms such as, but not limited to, the Global Outbreak Alert and Response Network (GOARN), the Emergency Medical Teams (EMT) Network, Public Health Emergency Operations Center Network (EOC-NET), and the Global Health Cluster (GHC) already provide well-recognized global leadership and coordination in their respective spheres.

Fig. 6. Global and regional coordination of health emergency corps, building on existing networks



The GHEC adds value to these networks by providing a common framework for plugging into and supporting the national health emergency corps and facilitating collaboration and coordination between health emergency networks and mechanisms, thus aligning the respective contributions, reducing duplication, and maximizing opportunities in strengthening capacities and capabilities in health emergency preparedness and response. Such collaboration facilitates the sharing of resources, expertise, and best practices across networks to avoid duplication of efforts and optimize resource allocation.

The primary responsibility for coordinating the emergency response within a country rests with the national authorities. Complementary to this and in line with the GHEC approach, global and regional coordination (Fig. 6) will only happen as needed. Therefore, for emergencies affecting a few neighbouring countries, sub-regional coordination may be employed, while regional coordination may be required for more widely dispersed or fast-moving epidemics, and in rare circumstances global coordination may be required for diffuse emergencies or pandemics.

The subsequent section provides a more detailed description of the recommended functions and capability requirements for the health emergency corps at country level, followed by a section describing the GHEC ecosystem in which countries and health emergency actors collaborate through connected health emergency networks.

9. GHEC at the national level

At country level, the GHEC represents the body of persons in their respective ministries and organizations working on health emergencies, covering all emergency preparedness and response capability areas identified in the HEPR framework (the 5Cs), i.e., emergency coordination, collaborative surveillance, community protection, safe and scalable care, and access to countermeasures. What makes the Health Emergency Corps an active player in the GHEC ecosystem (section 9) are the connections established and regularly put into practice through different health emergency networks and mechanisms. Connections occur and are encouraged at all levels of the GHEC pyramid, including health emergency workforce, surge capacities and leadership. The GHEC approach encourages countries to map these connections and ensure that country focal points of regional and global health emergency networks are well-connected with the health emergency leadership and coordination structure of the country.

Taken globally, at least 70% of the GHEC workforce is projected to be professionals working at the country level, with smaller proportions at the regional level (up to 20%) and even less at the global level (10%).

Each country will determine the specific composition of its Health Emergency Corps, in alignment with the common parameters framed in this document, adapted as needed to fit its unique national governance structure, its institutional mandates and public health laws, and its local cultures and practices. The structure of the Corps is recommended to include three distinct yet interlinked and complementary components, derived from the broader national public health workforce: the staff of the emergency workforce, the surge capacities, and the connected leaders.

Box 3

The Health Emergency Corps and its positioning within the national workforce capacity to implement the essential public health functions (EPHF)

Achieving and sustaining progress towards global health goals such as universal health coverage and health security requires a health and care workforce that can deliver the full range of essential public health functions, including dedicated personnel charged with emergency preparedness and response functions. In light of the lessons learned from the COVID-19 pandemic and other pressing public health challenges, and after a comprehensive review of existing lists of essential public health functions and related concepts, WHO proposed a unified list of 12 high-level essential public health functions. Unsurprisingly, public health emergency management: managing public health emergencies for international and national health security is among these functions.

Recognizing that the implementation of each essential public health functions is interconnected, the concept of the Global Health Emergency Corps is based on the learning that a dedicated and specially trained and equipped workforce is required in every country to manage public health emergencies. The GHEC framework therefore provides a consistent approach to implementing this component of the EPHFs, recognizing the need for coordinated leadership, deployable and interoperable surge capacities, and a competent health emergency workforce.

For more information on strengthening national workforce capacity to undertake essential public health functions, please consult: https://www.who.int/teams/health-workforce/pheworkforce

9.1. The national health emergency workforce

The health emergency workforce, comprised of full-time and on-call persons, forms the base of the Health Emergency Corps in every country. Each country has a unique set of institutions and capacities that comprise their health emergency workforce, but there are common elements that can contribute to a more coherent and effective cross-country collaboration in the GHEC ecosystem.

Fully dedicated emergency staff form a small but important part of the national health emergency workforce, and these are likely to be distributed across several EPHF functions including public health emergency management, surveillance, and health protection. Whilst in some countries it may be seen as a hard-to-achieve objective, the COVID-19 pandemic has shown that the rapidly changing dynamic of an infectious threat that transcends boundaries of countries across the world requires well-trained emergency coordination and response structures. At a minimum, this would translate into having a standing health emergency monitoring and coordination structure *(13)* such as a public health emergency operations centre.

For large-scale or high-impact emergencies, much larger numbers of technical experts and other responders may be temporarily reassigned from their full-time duties to the response for a time-limited period. These additional, on-call emergency workforce members should be drawn from across the national public health workforce to support all five health emergency preparedness and response capability areas: collaborative surveillance, community protection, safe and scalable care, access to countermeasures, and emergency coordination.

The sources for these on-call responders vary by country and by emergency, including governmental institutions in human health, animal health, and environmental health, as well as non-governmental organizations, universities, civil society organizations, and the private sector. These varied sources of expertise make the clear identification of institutional responsibilities *(17)*, leadership and coordination structures, and dedicated health emergency staff even more important.

All countries should have an agile cadre of emergency professionals and experts across a range of disciplines *(18).* These professionals should be able to activate rapidly, exchange data and information predictably to enable decision making and related action, and reach emergency zones fast with the right skills, equipment, and operational support *(19).*

In countries with ongoing humanitarian emergencies, member organizations of the health cluster or similar health emergency coordination mechanism are key contributors to the country's health emergency workforce. Specific coordination structures, such as the cluster approach itself, exist in these instances and their role is important to consider in reaching the most vulnerable populations.

The emergency workforce is to be activated and coordinated by the relevant competent authority. Depending on the national governance systems for emergency preparedness and response, national or sub-national activation may be undertaken by the Ministry of Health, or the national (or subnational) public health authority or agency. During emergencies, members work within well-defined emergency management systems (such as incident management systems) to pull together the required multi-sectoral and interdisciplinary capacities. Often, their work is organized and coordinated from a Public Health Emergency Operations Center (PHEOC) through an incident management team.

To function well, the cadre of health emergency professionals at the national level require the following capabilities:

- Clarified institutional accountabilities for health emergency leadership, coordination, and response, including surge capacities
- Dedicated personnel with the right numbers, expertise, and skills to enable timely detection, alert, and response to new events as well as preparedness, prevention and readiness assessment, planning, resource mobilization and implementation. This includes emergency trained professionals in core health emergency capability areas of collaborative surveillance, community protection, safe and scalable care, access to countermeasures, and emergency coordination
- Sufficient operational support capacity through adequate supplies, space, systems, and financing
- Continuous specialized and interdisciplinary learning through regular trainings and simulations based on local hazard profiles

Box 4

Workforce requirements for a Public Health Emergency Operations Center (PHEOC)

PHEOCs can be large and complex structures when fully activated, or small and minimally resourced when on watch mode. PHEOCs normally function using an incident command system that is designed for consistency and interoperability to promote the most efficient rapid activation and response to health emergencies.

A PHEOC serves as a hub for coordinating the preparedness for, response to, and recovery from public health emergencies. The preparedness includes planning, such as risk and resource mapping, development of plans and procedures, and training and exercising. The response includes all activities related to investigation, response, and recovery. The PHEOC also serves as a hub for coordinating resources and information to support response actions during a public health emergency and enhances communication and collaboration among relevant stakeholders (WHO Regional Office for Africa, 2021).

Typically, a PHEOC has two types of staff: permanent and surge staff. The permanent staff is responsible for the day-to-day operation of the PHEOC. These include PHEOC manager, leaders of the key functional areas and staff under each area. The PHEOC manager reports to the leadership under which the PHEOC is placed in the ministry's organizational structure and the PHEOC staff report to the PHEOC manager. An EOC should also be able activate rosters of multi-disciplinary and multisectoral experts who can be mobilized and staff the PHEOC, in accordance with the needs identified in the Incident management structure required for the operation. Surge staff can also be activated from partners in which case the procedures need to be clear for requesting this type of support.

For further information, refer to the Framework for a Public Health Emergency Operations Center (WHO, 2015), currently being updated, or the Handbook for Public Health Emergency Operations Center – Operations and Management (WHO Regional Office for Africa, 2021)

Box 5

Mozambique's health emergency workforce – drawing from multiple sectors

The Instituto Nacional de Saude is Mozambique's National Public Health Institute, responsible for many of the essential public health functions. Health emergency coordination is often the responsibility of INS, with the emergency response coordination function played by the Public Health EOC, located within the National Directorate of Public Health in the Ministry of Health.

In Mozambique, some important components of the emergency workforce are under provincial and district health authorities. In addition, Mozambique has important community health systems, often supported by non-governmental organizations (NGOs). NGOs recruit talented staff and can play important roles in health emergencies. Universities also are a source for talented technical staff.

Although valuable staff may not be within the government – coming from civil society or outside the national health system – the government sometimes struggles to get them on board in a timely manner when they are needed. Hence, the GHEC emergency workforce in Mozambique must provide the framework that allows for the inclusion of all these elements as needed in an emergency.

Box 6

China – organizing a health emergency workforce in a large complex country

Health emergency responses in China are coordinated at the national level from the Chinese Center for Disease Control and Prevention (China CDC) Public Health Emergency Center, under the direction of the National Disease Control and Prevention Administration and the National Health Commission. With some 30 full-time emergency staff, the Center pulls in and coordinates the contributions of technical experts from other institutes – nutritional, occupational, infectious, and others. The Center also conducts annual exercises with involved groups to practice surge and coordination.

These structures are replicated at varying scales in each of the Provincial CDCs, and at the county and city CDCs across mainland China. Most of the health emergency workforce is pulled in as needed on an occasional basis from their full-time technical work.

A particularly valuable component of the coordinated health emergency responses in China is the use of the Public Health Emergency Management System, which was established following SARS 2003. This system places a heavy emphasis on internet-based reporting and advanced disease surveillance systems, facilitating nationwide information flow and coordination for a population of more than 1.4 billion.

9.2. National surge capacities

In addition to the dedicated body of persons comprising the health emergency workforce, with its dedicated and on-call components, countries should have workforce mechanisms in place to ensure overwhelmed areas are identified and timely supported. This can typically occur in the event of a geographically concentrated health emergency, such as that engendered by an earthquake, but also through a fast-evolving outbreak that overwhelms the local health system's capacities. In such cases, having surge capacity that can be drawn from the temporary repurposing of staff, hiring of additional staff or the deployment of on-call, pre-trained and equipped teams and experts is valuable *(20)*.

In implementation of the IHR (2005), every country should develop and test a national multisectoral workforce surge strategic plan that is based on a gap analysis of required surge health workforce for emergencies based on the country's risk profile *(21)*. The surge strategy and plan should include the ability to deploy and receive multidisciplinary surge teams and experts for public health rapid response, clinical care, humanitarian, or disaster response anywhere within its own borders. These teams should include emergency medical teams (including specialized care teams), and public health rapid response teams, both potentially including laboratory capacities, and community-based, volunteer and health teams.

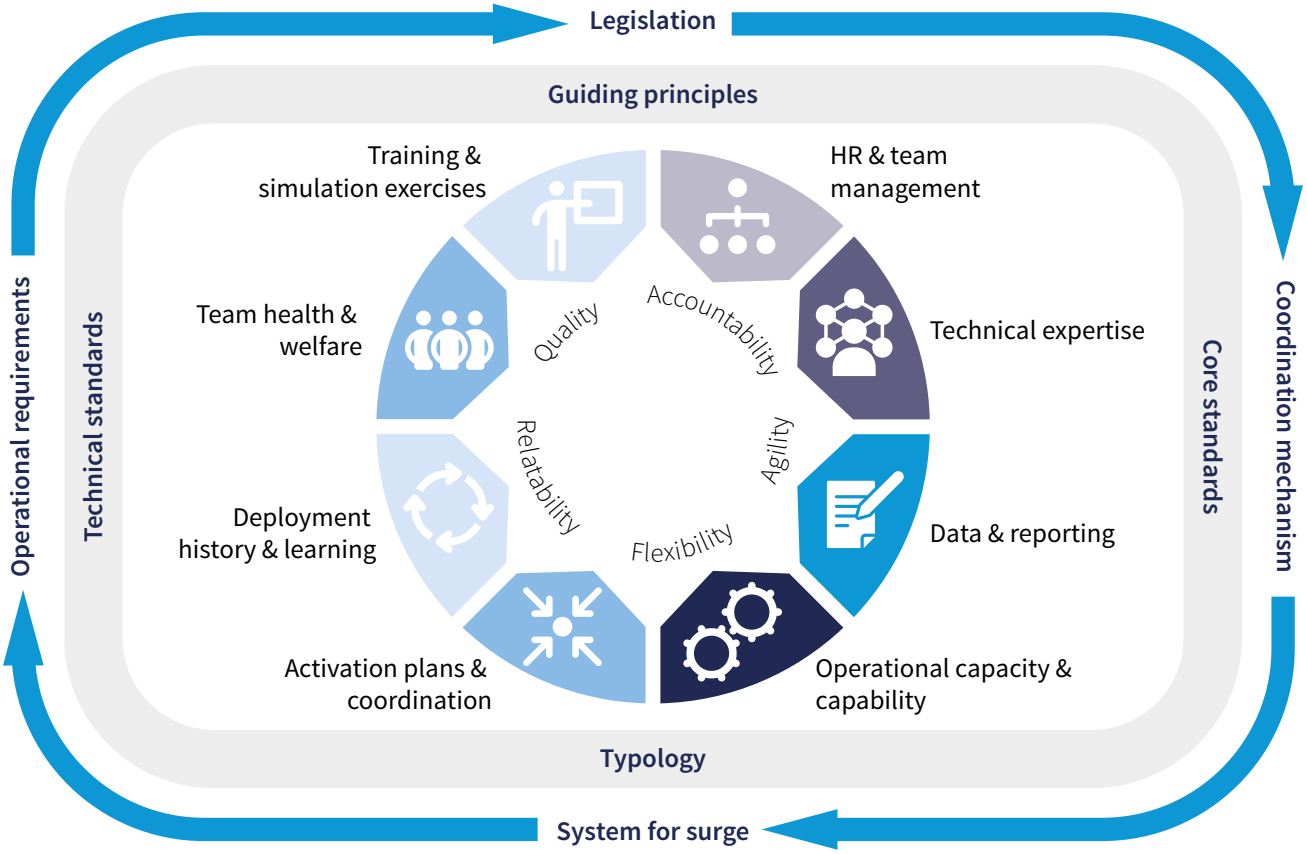
Countries are encouraged to establish and maintain their own surge teams based on their capacities and risk profile, and where possible, based on international standards adapted to the country context. For situations that require collaboration and external expertise, countries should also be capable of receiving surge teams from neighbouring countries, other countries, or regional and international organizations, as needed *(19)*.

While different approaches exist to developing such deployable surge capacities, many focus on training as the primary activity to build such response capacities, which does not represent the full scope of activities required to achieve sustained improvements in rapid response. The GHEC approach encourages countries to develop sustainable and interoperable systems for surge, where possible enhancing efficiencies by integrating common functions, trainings, and exercises. In this context major global emergency response networks and regional entities have committed to supporting countries in developing strong and scalable rapid response capacities based on the development and planned implementation of joint guidance *(22)*.

At the national level, countries can enhance the quality, predictability, and interoperability of their rapid response capacities by developing the following capabilities:

- Developing and using national minimum standards for rapid response capacities aligned to international standards.
- Investing in the sustainability of surge capacity development by covering all domains identified in Fig. 7 (note: more detailed guidance is being developed by a GHEC Technical Working Group on Rapid Response Capacities)
- Establishing integrated and coherent activation, coordination and information exchange protocols, tools, and platforms across surge deployment mechanisms
- Setting up quality assurance processes and mechanisms for surge capacities
- Carrying out regular training, workshops and simulations for joint and interdisciplinary learning, cooperation and experience sharing, including with regional and international partners.

Fig. 7. Common domains for the development of sustainable rapid response capacities



Box 7

Emergency medical teams as part of Ethiopia's surge capacities

Ethiopia has different types of workforces who can be deployed within 24hrs for any emergency. These include the rapid response teams (RRTs), AVoHC SURGE responders, European FETP, and EMTs, the latter being a particularly active portion of Ethiopia's public health emergency workforce.

The initial training of EMTs is the responsibility of EMT programme managers who also oversee continuous education of EMT personnel. Regular simulation exercises are held to test team coordination and response procedures. Medical countermeasure stockpiles are also managed.

In a response, EMTs composed of doctors, nurses, paramedics, and support workers provide on-site clinical management and medical services. EMT clinicians and field epidemiologists may also conduct disease surveillance as per national guidelines on integrated disease surveillance and response, and public health emergency management. This includes collecting epidemiological data from patients. Operations staff include drivers and maintenance crews supporting the logistics of transporting EMTs, equipment and medical supplies to response sites via ambulances and other vehicles. Warehouses are used to pre-position response assets.

All of this requires coordination, using incident managers for activation, communication, and operations management when teams are deployed for emergency response. Ambulance dispatch is also coordinated, and cross-border agreements allow for potential international surge support from neighbouring country EMTs under the Ministry of Health.

Box 8

The role of research in building rapid response team capacities in Papua New Guinea

Research plays a critical role in informing an evidence-based approach to building, training, and sustaining RRTs. In 2024, the Papua New Guinea National Department of Health with financial support from the WHO Regional Office for the Western Pacific and technical support from the University of Newcastle, conducted research on the barriers and enablers to the timely activation and effectiveness of provincial rapid response teams responding to public health alerts in Papua New Guinea.

Research findings highlighted that training alone is insufficient for achieving rapid team mobilization and containment of public health threats. Sustainable structures supported by clear plans, guidelines, and standard operating procedures are necessary to secure timely funding, maintain human resources, and ensure logistical readiness. Key barriers such as funding delays, financial system rigidity, and the country's challenging geography hinder response effectiveness. With over 80% of the country's population living in isolated areas accessible only by helicopter, boat, or on foot – addressing these issues requires enhanced communication and structured coordination mechanisms. Providing training to district-level personnel will equip local responders with the skills needed for effective emergency response, in addition, designated focal points for RRT coordination within each provincial health authority would streamline communication and logistics during emergency responses. This will enhance early detection, improve response capabilities, and strengthen resilience in remote communities, enabling a more proactive approach to emergencies.

RRTs need more than just training. Challenges and enablers associated with operationalization should be identified and a culture of continual reflection, improvement, and adaptability to changing needs created.

Box 9

Australia's national emergency medical team – national and international clinical deployments

The Australian Government's Medical Assistance Team (AUSMAT) has the capability of deploying a multidisciplinary emergency medical team to respond to requests in both national and international health emergencies. The National Critical Care and Trauma Response Centre (NCCTRC) is the headquarters and operational base for AUSMAT.

AUSMAT consists of multidisciplinary clinicians including nurses, doctors, allied health professionals, medical equipment technicians, biomedical scientists, and logistics officers. AUSMAT can rapidly deploy at short notice to support and assist populations when their health care system is overwhelmed by all hazards disasters. AUSMAT is WHO verified as an EMT Type 1 Mobile and Fixed, and EMT Type 2 Surgical Field Hospital.

To ensure teams are prepared, the NCCTRC conducts initial training, continuous education, and simulation exercises for AUSMAT personnel. An online resource hub for AUSMAT members and the broader EMT community supports ongoing education and resourcing. The NCCTRC maintains a cache of equipment and supplies to ensure that AUSMAT teams have the capacity and resources available to be fully self-sufficient in the event of a deployment.

Both national and international responses are possible, tailored to the request of the host country. Such deployments may include an EMT configuration, specialized care teams, public health rapid response teams, or a bespoke team matrix.

AUSMAT mostly deploys internationally however it first deployed nationally in 2019 in response to the Black Summer bushfires in Victoria and southern New South Wales. In response to the COVID-19 pandemic, domestic deployments expanded to include establishing the Howard Springs International Quarantine Facility for repatriated Australians, supporting a Tasmania Emergency Department following an outbreak of COVID-19 amongst hospital staff, and supporting the Victorian Aged Care Response to COVID-19.

Box 10

Thailand's public health rapid response teams – wide community-level response

Established in 2004 in the wake of the first SARS crisis, Thailand's surveillance and rapid response teams have expanded to encompass approximately 1,000 teams distributed across the country of 71 million people *(23)*. A key feature of the teams is the use of a multidisciplinary approach with medical doctors, veterinarians, pharmacists, and nurses participating. The RRTs played a key early role in the response to avian influenza in 2004, MERS in 2015, and COVID in 2020, when Thailand identified the first case outside of China but had early success in containing its spread.

The RRTs supported the COVID response by conducting surveillance and extensive contact tracing, supplemented by the activities of one million existing village health volunteers who were recruited and provided with public health training specific to the COVID-19 situation.

9.3. Connected leaders at the national level

Every country has its unique health governance structures in place during emergencies. Health leaders in countries tend to sit within a similar subset of institutions at national or state levels and occupy similar positions including the health minister, chief medical officer/ director-general for health, head of national public health authority or agency, director of the national reference laboratory, PHEOC manager, and others.

Public health emergencies that involve many countries require strong political and technical leadership and a coordinated approach between many institutions and levels of government for effective control *(9)*. Strong national leadership is an essential ingredient to provide "unity of purpose and strategy as well as coordination with other countries for resources and coordinated response" *(13)*.

The need for multi-country coordination arises in instances of regional health emergencies such as a drought-induced famine and especially true in case of a widespread epidemic such as COVID-19 where ineffective control in one country can quickly impact neighbouring and distant countries *(24)*. Close communication and coordination among the top technical leaders in each country is essential in such circumstances for the most effective control *(25)*.

Health emergency coordination and leadership structures are different in every country, but similarities in their composition exist many times "consisting of Head of Government, Health Minister, Chief Medical Officer/Lead Public Health Officer, Epidemiologists and Virologists as well as civil defense/military representatives" *(13)*.

The GHEC approach encourages every country to clearly identify their top technical emergency leaders including those with the relevant experience who might be outside of the government or national health system, who will play influential roles in a health emergency and will be influential in enabling policy-level decisions that are likely to prove decisive in the early stages of a pandemic *(26).* These leaders are likely those embedded in the senior health emergency coordination structure at the national level. To enable these leaders to have access to quick and trusted information from their peers in other countries, it is recommended that they be networked with their counterparts as needed, whether amongst neighbouring countries, at the sub-regional level, or regionally and globally in the event of a widespread emergency or pandemic.

The characteristics and proposed responsibilities for the connected national leaders include maintaining awareness of potential epidemic threats, establishing the authority to direct or influence national epidemic response policies, and leading national epidemic response and pandemic preparatory work, as summarized in Table 3.

Table 3. Connected national leaders – proposed responsibilities

Responsibilities of connected leaders	National level activities
1 Maintain ongoing awareness of potential transnational epidemic threats	• Oversee or maintain awareness of the full range of national surveillance targeting potential transnational epidemic threats • Work to ensure the analysis and response to potential threats aligns with global norms such as the IHR and response metrics like 7-1-7 metric
2 Establish and maintain authority to direct or influence national epidemic response policy	• Establish personal authority through formal (directives or statutes) or informal (precedent and norms) means to direct or influence national epidemic response policy decisions • Maintain national policy decision influence through regular exercising of such, trust building, networking with other national authorities
3 Engage regularly in routine naturally occurring outbreak and epidemic responses	• Lead or influence national level responses to transnational and potential transnational epidemics on a routine basis • Align national activation and coordination protocols with common protocols at regional level in collaboration with respective regional emergency directors
4 Conduct periodic drills to exercise and test aspects of transnational responses unlikely to be seen in routine epidemics	• Lead or facilitate simulation exercises at the national level against a range of pandemic threats unlikely to be seen in routine practice • Participate in joint reviews, exercises, and training at national, regional, and global levels • Share learnings through regional information exchange platforms in collaboration with respective regional emergency directors
5 Establish standard operating procedures for a range of potential transnational epidemics	• Work with relevant sectors within government to develop and gain approval for a range of standard operating procedures addressing varied scenarios of transnational epidemic threats

Identification of appropriate leaders will be straightforward in some situations and complicated in others. Many countries have a National Public Health Agency with a director and a lead for Health Emergencies, that responsibility may lie with the Ministry of Health, or the lead may depend on the type of health emergency and its origins. All countries have or soon will identify a National Health Authority broadly responsible for IHR implementation in response to the 2024 revision of the IHR, and many countries established multi-sectoral committees or other mechanisms to oversee the COVID-19 response.

Once identified, these leaders can be regularly networked with their counterparts elsewhere, as highlighted by the Mycoplasma and the avian influenza A(H5N1) examples (Box 20). Such networking helps to ensure the leaders are empowered with the best possible information about new threats. Also, it is envisioned that the network conduct drills and exercises in addition to emergency responses to strengthen the network for both expected and rare emergencies.

A well-constituted set of connected health emergency leaders at the national level entails several elements. It begins with trusted and supported health emergency leadership embedded within the competent national structure that is responsible for crisis control such as the Ministry of Health, National Public Health Agency (NPHA) or the equivalent. These leaders must be well connected, respected, and influential with national policy makers who are likely to make the most critical decisions early in a pandemic, such as instituting travel restrictions, specific public health, and social measures, or launching vaccination campaigns. There should be established and predictable triggers and mechanisms for gathering these leaders across countries and regions to enable common situational awareness and collective decision-making. Regular networking, simulation exercises, and experience sharing amongst health emergency leaders across countries and regions will strengthen the network and improve its effectiveness (See more in section 9.3 Leaders' networks in the GHEC ecosystem).

Box 11

Examples of National Technical Emergency Leaders

The identification of top technical leaders to participate in the GHEC has varied from country to country. For example:

- In China, the director of the Public Health Emergency Operations Center in the Chinese Center for Disease Control and Prevention (China CDC) is identified as a primary point of contact for the Global Health Emergency Corps. China CDC is the lead technical public health agency under the National Disease Control and Prevention Administration (NDCPA) and the National Health Commission, and the IHR National Focal Point rests with NDCPA.
- In Qatar, the director of the Health Emergency Department is the primary lead for GHEC as well as being responsible for implementation of all IHR mandates and leading the Public Health Emergency Operations Center. There is also a high level multisectoral committee, a proposed one health committee at ministers/assistant minister level, and there was a COVID-era strategic committee, along with a multisectoral national committee led by the Prime Minister.
- In Mozambique the primary technical leader for GHEC is the director of the National Public Health Institute. The Instituto Nacional de Saude is an institution subordinated to the Ministry of Health and dedicated to the generation of technical and scientific information in health for Mozambique.
- In Germany, the acting Vice President and director of the Centre for International Health Protection at the Robert Koch Institute (Germany's NPHA) is the primary technical lead for GHEC.

9.4. Guiding questions on GHEC at national level

Connected leaders

- What is the highest multisectoral health emergency coordination structure in your country?
- Who are the technical health emergency leaders represented in this coordination structure?
- How are they linked to the operational and tactical response coordination (i.e., EOC, PHEOC, etc.)?
- How do they engage with regional or global networks of peers to share information on health emergencies, including pandemic response strategies and measures?
- What kinds of multi-sectoral exercises, or trainings are conducted to prepare senior health emergency leaders for informed and quick decision-making during emergencies?

Surge capacities

- What are the required surge capacities identified in your national multisectoral workforce surge strategic plan (as per IHR)?
- Which surge capacities does your country have on stand-by mode, ready for deployment within 72 hours?
- What standards guide your national surge capacities, and how closely aligned are they with international standards?
- Which regional and global mechanisms or networks for building, deploying, and receiving surge capacities is your country a part of?
- What are the protocols for deploying your surge capacities or receiving international surge capacities when required?
- What type of exercises or trainings conducted to prepare your surge capacities for activation and collaboration during emergencies?

Emergency workforce

- What is the composition of your emergency workforce dealing with the core capability areas of emergency coordination, collaborative surveillance, community protection, safe and scalable care, and access to countermeasures? What are the identified gaps?
- What logistical and financial resources are available to your emergency workforce to perform their tasks (such as office space, information technology, vehicles, funding)? What are the identified gaps?
- What is the operational and tactical health emergency coordination platform to activate and mobilize the necessary workforce for health emergencies, including partners (PHEOC, or equivalent)?
- How does the health emergency coordination platform link up with the multi-sectoral governance and coordination mechanisms when required?
- What academic and professional education pathways, including continuous and interdisciplinary learning pathways are available for the workforce involved in health emergencies?
- How active is your country in regional and global health emergency networks?

10. GHEC, a connected ecosystem

At the regional and global levels, GHEC represents the ecosystem in which countries and health emergency actors collaborate more efficiently through strengthened connections among health emergency networks and collaborations across national technical leaders.

Recognizing the complexity of a constantly evolving global health emergency landscape, the interacting components are best defined through a systems approach that identifies the principal actors and their relationships. The GHEC ecosystem is defined by the health emergency response actors involved in regional and global collaboration on health emergencies through connected health emergency networks.

A defining feature of GHEC is its guiding principles and values (see section 6). Therefore, health emergency response actors that are considered part of the GHEC ecosystem are those who recognize and commit to the guiding principles of sovereignty, equity, and solidarity as well as the core values of (i) quality and professionalism, (ii) predictability and efficiency, and (iii) trust and acceptance in health emergency management.

Being part of the GHEC therefore implies for any regional and global health emergency actor and network a commitment to enhance the coherence and efficiency of collaboration and coordination of the health emergency workforce across the 'five Cs' (HEPR core capability areas).

Globally, the following health emergency networks have demonstrated their alignment with and commitment to the Global Health Emergency Corps as they strengthen workforce capacities and facilitate coordination between countries and health emergency actors at all levels of the GHEC pyramid:

- Global Outbreak Alert and Response Network (GOARN)
- Emergency Medical Teams (EMT) Initiative
- Public Health Emergency Operations Centres Network (EOC-NET)
- Global Health Cluster
- Stand by Partnership programme
- International Association of National Public Health Institutes (IANPHI)
- Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)

Many of these networks have regional chapters which add to regional mechanisms and networks dedicated to supporting countries in their health emergency workforce capacities.

A selection of specific regional mechanisms and networks includes:

- The Pan American Health Organization's Regional Response Team
- The WHO-Africa Centres for Disease Control and Prevention (Africa CDC) joint initiative of African Volunteer Health Corps & Strengthening the Utilization of Response Groups for Emergencies (AVoHC-SURGE)
- The African health emergency preparedness and response leader's network
- The African Field Epidemiology Network (AFENET) Corps of Disease Detectives (ACoDD)
- The European Union Health Task Force

See below for a more detailed description of each of the networks, the types of collaboration modalities they support, and how they can be activated in response to emergencies in support of the response at country level.

The GHEC approach is designed to provide coherence, consistency, and efficiency by structuring collaborations across the three levels of the GHEC pyramid (emergency workforce, surge capacities, connected leaders). Many networks situate themselves in the surge capacity and emergency workforce levels, demonstrating the need for cross-network connections to ensure consistency and avoid duplication.

The GHEC ecosystem also aims to strengthen and expand networks of technical leaders. The COVID-19 pandemic demonstrated a lack of connection between the most senior technical leaders who work within each country's highest level of health emergency coordination structure to influence key decision making. Such networks exist either in ad hoc forms (Box 12) or at sub-regional levels, with increasing levels of networking also needed among senior technical leaders from countries in different regions.

Box 12

Sub-regional Leaders' Network – the Regional Ebola Task Force of 2022

As an outbreak of haemorrhagic fever caused by Sudan ebolavirus unfolded in Uganda in September of 2022, a sub-regional leaders' network was rapidly convened and activated. This regional task force, convened by the WHO Regional Office for Africa and Africa CDC, was comprised of a top technical leader from each of 9 surrounding countries at highest risk from disease spread. Eligible leaders included the directors of the National Public Health Institute, the head of the national Public Health Emergency Operations Center, or other designated senior officials. The leaders rapidly agreed to principles and guidelines and monthly virtual meetings facilitated both information sharing as well as cross-border cooperation. The group disbanded after resolution of the outbreak but laid the groundwork for other such leaders' networks in response to future epidemics.

10.1. Initial implementation of the GHEC approach

10.1.1. Advocating for and supporting health emergency corps capacities at country level

In line with its vision and guiding principles, the primary focus of the GHEC is to advocate for country ownership and support countries in the adaptation and adoption of the GHEC framework.

With the Pandemic Fund having recognized the investments in the health emergency workforce as a core priority, WHO and partners have encouraged countries to use the GHEC framework in identifying their health emergency workforce and coordination capacities that require further investments. Dedicated assistance has been provided through the proposal development stage and will continue in the implementation phase, including by leveraging resources from partners best placed to support project implementation.

WHO is currently working with pathfinder countries to adapt the GHEC framework at country level and identify gaps for further investment. This includes supporting countries in adopting a systematic approach to building different types of rapid response capacities, including emergency medical teams and public health rapid response teams, as well as exploring the utility of generative artificial intelligence in scaling the roll out of the GHEC framework.

10.1.2. Investing in sustainability and interoperability of rapid response capacities

In implementing the GHEC approach, WHO established a global level Technical Working Group with national experts from across health emergency networks bringing together expertise from different settings and regions and tasked with producing a common guidance and benchmarks for establishing national rapid response capacities whether these are public health rapid response teams, emergency medical teams or other types of deployable capacities. This guidance is expected to assist countries and partners supporting them in establishing their rapid response capacities in a consistent and predictable manner.

10.1.3. Enhancing timely information sharing and coordinating by establishing connected leaders' networks

WHO and partners have conducted a broad consultation process to understand, map and support existing or create new health emergency leaders' networks at regional or sub-regional levels. The process has demonstrated that networking amongst senior technical leaders is very much valued and that networks of national technical health emergency leaders already exist or are in development at sub-regional and regional levels. See examples in boxes 12 and 19. Valuable as these networks are, they have mostly emerged or were created on an ad hoc basis, often not institutionally supported over time, therefore short-lived.

GHEC leaders' networks are envisioned to have the explicitly aim of building trusted working relationships among the participants over time, with deliberately planned convenings and procedures for connecting in times of emergencies. A key role globally is to develop connections between regional leaders' networks.

10.1.4. Fostering trust for more predictable collaboration through exercising

The efficiency of collaboration and coordination is dependent on the level of trust between the different actors. Simulation exercises provide an opportunity to enhance this trust by interacting, practicing, and validating operational processes and ways of working in a safe environment. Countries are therefore encouraged to practice and validate the collaboration and coordination of their national health emergency corps on a regular basis. WHO is also working with interested countries and partners to run regional or global simulation exercises to practice the cross-country collaboration and coordination through the GHEC ecosystem. A first global exercise was held in April 2025.

10.1.5. Enhancing coherence and connectedness of the GHEC ecosystem

Recognizing the need for connecting regional and global response mechanisms and networks to maximize collaboration in building and strengthening capacities, WHO has established a global GHEC working group bringing together secretariats of the global networks, regional office focal points, and the relevant technical teams to facilitate information exchange, identify common priorities and agree on common activities in support of strengthening health emergency corps capacities at country level. This working group is set to evolve over time and, as needed, support regional equivalents.

10.1.6. Activating the GHEC approach in response operations

The GHEC approach should translate into increased efficiency in the information sharing and external surge support mechanisms on which countries can rely during health emergencies, including pandemics. Achieving this requires a broad awareness and understanding of the regional and global health emergency (leadership and surge) mechanisms and networks that exist and how they relate to and complement each other.

In emergency response operations, these are brought together through the partnership pillar of the WHO-led Incident Management Support Teams.

Box 13

Activating the GHEC ecosystem for mpox 2024

An initial activation of this approach was implemented in the 2024 mpox response where WHO worked on three layers: (i) with IANPHI to understand the workforce gaps at national level through the National Public Health Institutes, (ii) with GOARN to map the different surge deployments to selected countries, and (iii) convened a call between technical leaders from affected countries and other countries to discuss the most effective control measures, share best practices and coordinate their efforts to halt the outbreak.

10.2. Health emergency networks for surge and coordination in the GHEC ecosystem

10.2.1. Global Outbreak Alert and Response Network (GOARN)

Description

GOARN *(26)* is a network of more than 310 technical institutions and networks globally, supporting preparedness, operational readiness, and response. This includes capacity strengthening for outbreak response, rapid information sharing and the deployment of staff and resources to affected countries. Coordinated by an Operational Support Team based at the WHO headquarters in Geneva and governed by a Steering committee, GOARN delivers rapid and effective support to prevent and control infectious disease outbreaks and public health emergencies when requested.

Collaborations supported and role in the GHEC ecosystem

GOARN has strengthened collaborations across national outbreak response institutions since its inception in 2000. By facilitating strategic institutional groupings, formal and informal twinning of institutions, global and regional partner meetings, and collaborative projects, GOARN has helped to enhance the quality and disseminate standards for outbreak alert and response across key institutions from many countries.

Box 14

Building global surge deployment capacity through GOARN trainings

Equipping responders with tools for deployment: In June 2024, WHO, GOARN and the Chinese Center for Disease Control and Prevention (China CDC) along with four other GOARN partners – Guangdong Provincial Center for Disease Control and Prevention; National Institute for Infectious Diseases, Japan; Ministry of Health Labor and Welfare, Japan; and the Robert Koch Institute, Germany – jointly delivered GOARN's 'Orientation to International Outbreak Response' training module. This training, attended by 78 participants from 10 countries, focused on strengthening emergency response capacity. The goal was to equip participants with the tools needed for effective deployment in emergency settings, ensuring they are well-prepared to respond swiftly and efficiently.

"I hope that more public health experts will have more opportunities to participate in GOARN trainings, so that we can be fully prepared to respond to any international public health events in the future." Dr Yan Li Deputy Director, Guangdong Provincial Center for Disease Control and Prevention. "This partnership fosters a sense of global solidarity and shared responsibility in addressing challenges faced when responding to an outbreak in the field, helping to build trust among partners and facilitating smoother and more effective joint efforts in the future."

Enhancing women's leadership skills: In September 2024, WHO and GOARN held their first leadership training for women, aimed at enhancing the emergency response leadership skills of women in outbreak response. Supported by the Australian government and hosted by the National Critical Care Trauma and Response Centre (NCCTRC), the training bought together 24 women leaders from 12 countries across Asia and the Pacific. The program focused on strategic, operational, and decision-making skills, underscoring WHO and GOARN's commitment to gender equity and strengthening global health emergency response capacities.

"GOARN's first Outbreak Response Leadership Training for women is a crucial step towards closing the gender gap in global health emergency leadership. By empowering women with strategic, operational and decision-making skills, we are not only fostering gender equity, but also strengthening the global capacity to manage public health crises." Ms Meredith Neilson, Co-Director, PHOENIX, National Critical Care Trauma Response Centre.

In preparing and responding to emergencies, GOARN weekly operations calls are an invaluable source for information sharing across responding institutions. Operationally, GOARN deploys experts based on requests received. GOARN issues a Request for Assistance to the network through the GOARN knowledge platform where GOARN member institutions are requested to submit candidates that fit the required profile(s). These are then presented to the WHO Country Office/National authority for final decision.

Joint trainings (Box 14) are one example of the multinational collaborative activities that GOARN promotes which strengthen the fabric of international emergency collaboration. In the event of a pandemic or other multinational health emergency, the common standards for response and the institutional working relationships established through such training activities can prove to be invaluable assets in facilitating a coordinated response across institutions, other networks, and affected countries.

Box 15

A case study of interoperable surge deployments in Lesvos

The refugee and migrant camp on the Greek island of Lesvos was one of the largest such camps in Europe when the COVID-19 pandemic struck, necessitating the rapid establishment of clinical care via an EMT. As the need for diagnostic testing expanded for both clinical and public health purposes, the GOARN-supported rapid response medical laboratory (RRML) was also deployed. The coordinated clinical and public health responses continued, eventually ensuring that more than 85% of refugees and migrants at the camp were protected by vaccination by March 2022. This case study illustrates the interoperability between GOARN and EMTs and showcases the utility of the establishment of the GOARN Strategic Group for Diagnostic Surge Capacities, which serves as a home for RRMLs.

10.2.2. Emergency Medical Teams (EMT) Initiative and Network

Description

The purpose of the EMT Initiative is to improve the timeliness and quality of health services provided by national and international emergency medical teams and enhance the capacity of national health systems in leading the activation and coordination of rapid response capacities in the immediate aftermath of a disaster, outbreak, or other emergency. The EMT Initiative is composed of a Strategic Advisory Group with representation from member states, a Secretariat located at WHO headquarters and regional offices and the EMT Network.

The EMT Network is a global, cooperative structure composed of EMTs, organizations, stakeholders and partners that have a shared purpose and operational, technical, and strategic interests in the work of EMTs and the EMT Initiative.

Collaborations supported and role in the GHEC ecosystem

The EMT *(28)* Initiative operates across three main pillars – capacity building, quality assurance and standard setting, and emergency response.

Capacity-building activities support countries in developing rapid response capacities through training, team twinning, and simulation exercises. These efforts strengthen emergency preparedness and response capabilities.

Standard setting and quality assurance are essential to the EMT Initiative. Technical working groups with representatives from the EMT Network and partners ensure evidence-based, consensus-driven standards applicable across diverse contexts. Initially focused on international EMT deployments through the Global Classification process, these quality assurance mechanisms now extend to locally deployed teams, promoting consistent adherence to principles and standards.

The EMT Network provides critical support to countries overwhelmed by emergencies such as outbreaks or disasters. Upon request, the WHO EMT Secretariat coordinates the activation and deployment of international EMTs, issuing calls to the global EMT Network. Interested teams submit expressions of interest, which the Secretariat shares with national authorities. All EMTs must follow WHO principles and standards, ensuring effective and high-quality emergency responses.

As highlighted in Boxes 16–17, the EMT Initiative plays a vital role in raising the quality of emergency medical teams and promoting adherence to a standard set of expectations. Also, the collaboration with GOARN in the Lesvos emergency exemplifies the joint work across networks with complementary skill sets in the context of a complex emergency.

Box 16

Raising the quality of EMT response at national, regional and global levels

Quality assurance has been cornerstone of the EMT Initiative since its inception.

The Global Classification, launched in 2015, is a peer-reviewed external evaluation mechanism designed to ensure EMTs deploying internationally comply with established minimum standards. This mechanism enhances the quality and effectiveness of EMTs in providing critical health services during emergencies. The process follows a continuous improvement cycle comprising eight steps, including self-assessment, mentorship, pre-survey visits, and survey visits.

As of December 2024, 52 EMTs from all WHO regions have been classified, collectively contributing over 30,000 personnel to the global health emergency workforce. An additional 110 teams are currently undergoing the classification process, further strengthening global response capacities.

Recognizing the growing emphasis on building national EMTs, the EMT Secretariat has expanded its efforts by developing a new quality assurance mechanism called National Validation. While the Global Classification is designed for EMTs deploying internationally, National Validation focuses on supporting EMTs operating within their own countries. This mechanism will provide guidance to countries and organizations on how to adapt international EMT standards to their specific contexts, ensuring that national teams maintain quality of care and are aligned with global principles.

Box 17

Activation and coordination in response to the measles outbreak in Samoa in 2019

In a global context with rising measles transmissions in 2019, Samoa witnessed a large-scale outbreak in the months following September 2019 with more than 5700 cases reported which led to a massive surge in paediatric hospitalizations, overwhelming national health care capacity. In November 2019, Samoa's Ministry of Health initially sought support from the Government of Australia which led to the deployment of AUSMAT; this was soon followed by the deployment of New Zealand's Medical Assistance Team. The response was coordinated by Samoa's Ministry of Health with support from WHO through the establishment of an EMT coordination cell within the health EOC. Measles cases continued to surge prompting Samoa to request support from WHO in mobilizing the global EMT network which was done through WHO's EMT Secretariat. The request was for teams already classified or in the process of being classified to present their written offers of assistance. Teams were asked to confirm their compliance with the EMT principles and standards, their ability to work in English and to be accountable to the local population and the Ministry of Health, to be fully self-sufficient and able to manage their own logistical arrangements, and their commitment to deploy for a period of at least 4 weeks. A total of 18 teams were deployed throughout the response.

10.2.3. Public Health Emergency Operations Centres Network (EOC-NET)

Description

WHO established the EOC-NET *(29)* in 2012 with the vision that all PHEOCs have the required capacities for effective response to health emergencies. The network aims to: 1) promote best practice and standards; 2) support EOC capacity building in countries including technical assistance, training program, information sharing and advocacy; 3) strengthen the collaboration and coordination between EOCs and the response partners.

EOC-NET has regional subsets in the African Region and the European Region. Other regions are developing regional subset of EOC-NET. EOC-NET partners include national and subnational PHEOCs, relevant agencies and institutions in the field of public health emergency management, and experts in the PHEOC areas of work.

Collaborations supported and role in the GHEC ecosystem

WHO EOC-NET secretariat at headquarters and in regional offices works with EOC-NET partners in conducting research and expert consultations to develop, publish and implement best practices guidance in implementing, managing and operating PHEOCs to ensure the functionality and interoperability of PHEOCs for effective coordination and collaboration among response partners. These include building emergency management workforce to function properly and efficiently in PHEOCs.

EOC-NET developed training programs and provide support to regional and country level PHEOC trainings to public health emergency management professional and build national, regional, and global PHEOC workforce. In 2023 and 2024, EOC-NET conducted one global and five regional PHEOC training of trainers workshop, trained over 180 experts from over 60 countries. The participants of these workshops trained with standards are added to the global and regional EOC-NET rosters of experts and become part of the GHEC surge capacity.

Through EOC-NET, WHO provides technical assistance to countries in establishing, operationalizing, and improving their PHEOCs, in the areas of legal, policy plans and procedures, infrastructure and information communication technologies, the information and data systems, and training and exercise.

EOC-NET develops regional and global EOC exercises to test response systems at country, region and global levels, identify gaps, enhance emergency preparedness and coordination.

Additionally, EOC-NET promotes regional and international collaborations between EOCs and response partners. This ensures that response efforts are harmonized, and resources are shared efficiently during emergencies.

10.2.4. Global Health Cluster

Description

The Global Health Cluster (GHC) *(30)* is a humanitarian coordination platform for organizations to work in partnership to ensure collective action results in more timely, effective, and predictable health response to humanitarian emergencies. It is part of the Inter-Agency Standing Committee cluster approach which was created in 2005 to address gaps and strengthen humanitarian response through enhanced partnership and clarifying organizational roles and responsibilities with the different technical sectors of response. WHO is the Cluster Lead Agency and provides secretariat and coordination support through the Global Health Cluster Unit.

Collaborations supported and role in the GHEC ecosystem

The GHC coordinates more than 900 partners at the country level and 65 strategically engaged partners globally. These partners include international organizations, UN agencies, non-governmental organizations, national authorities, affected communities, academic institutions, and donor agencies. Together, they work to ensure coordinated and effective health responses in humanitarian emergencies.

Box 18

Global EOC-NET exercise, 2024

In November 2024, EOC-NET conducted a global exercise to test and improve the capabilities of PHEOCs in managing health emergencies. The exercise involved multiple PHEOCs from different WHO Member States and aimed to enhance operational readiness, response capabilities, and coordination mechanisms. 67 countries from all WHO six regions participated in the exercise to:

- Test the effectiveness of the procedure in place to promptly activate PHEOC in response to public health emergencies
- Familiarize staff with existing legal authorities, plans, and procedures that enable PHEOC activation and operation
- Test the ability to set up an Incident Management System and establish effective response coordination mechanisms
- Test the capabilities and capacities of PHEOCs to coordinate and collaborate across Member States, IHR focal points, key partners, and relevant stakeholders during activation in response to public health emergency response operation
- Test the utility of PHEOC information and communications technology systems

Participants recommended WHO to conduct or support to conduct such exercises regularly at global, regional, and country levels.

The GHC provides technical support by building the capacity of Health Cluster Coordinators, staff, and partners to lead and implement health responses effectively. It facilitates information sharing by gathering and disseminating relevant data to guide decision-making and response efforts. Additionally, the GHC identifies and addresses gaps in technical knowledge, developing guidance to ensure that health responses align with global best practices and standards.

The GHC also advocates for humanitarian health action on a global scale, promoting the importance of health response and securing the political and financial support needed to sustain Health Clusters. During widespread emergencies that include but are not limited to humanitarian settings, the GHC helps to ensure that humanitarian priorities are integrated within the overall GHEC ecosystem and response.

10.2.5. Standby partnership programme

Description

Standby partners *(31)* provide short-term support to WHO's emergency work to support the rapid and flexible delivery of surge capacity. They maintain deployment rosters of pre-screened and trained candidates available for rapid deployment. Currently, these Standby Partnership Agreements are held with eleven external partners, governmental and non-governmental organizations. The most deployed areas of expertise include information management, health cluster coordination, prevention of sexual exploitation and abuse, mental health and psychosocial support, infection prevention and control, logistics, risk communication and community engagement, water, sanitation and hygiene, and nutrition.

Collaborations supported and role in the GHEC ecosystem

The Standby Partnership Programme facilitates surge capacity during health emergencies by deploying skilled professionals through its network of external partners. These partners manage rosters, cover deployment costs, and handle administrative requirements, enabling WHO to rapidly mobilize expertise in critical areas such as information management, health cluster coordination, logistics, and risk communication.

By addressing immediate human resource gaps, the programme ensures that WHO and other UN agencies can scale their operations flexibly and effectively in response to emergencies. This collaboration strengthens the GHEC ecosystem by supporting timely, coordinated, deployment of certain professionals with necessary skillsets during emergencies.

10.2.6. International Association of National Public Health Institutes (IANPHI)

Description

IANPHI *(32)* is unique as an association of government-owned public health agencies and authorities, as a peer, leader-led network which is growing each year with currently 129 members in 107 countries. It fosters the development and strengthening of National Public Health Institutes (NPHIs) through a peer-to-peer model leveraging the expertise of its members, with targeted support to enhance national public health systems through evidence based public health actions.

Collaborations supported and role in the GHEC ecosystem

IANPHI facilitates regional exchanges of best practices and technical capacity among National Public Health Institutes (NPHIs). Members share knowledge and practical solutions through communities of best practice to address public health challenges, including outbreaks and response for diseases like Ebola, Zika, and climate change events, as well as tackling health inequities and public health risks associated with non-communicable diseases.

Peer-to-peer evaluation and assistance are key components of IANPHI's collaboration model. Member institutes provide bilateral or multilateral support to strengthen public health systems. Since 2006, IANPHI's targeted approach has supported institutional development in 45 countries, helping NPHIs consolidate core public health functions, such as prevention, health protection, health promotion, as well as strengthened enabling functions of surveillance, research and evidence-based planning and policies.

Technical resources are also provided to support NPHIs in developing their infrastructure and capacity. These efforts focus on enabling NPHIs to better coordinate and implement public health policies, deliver services efficiently, and respond effectively to health emergencies.

NPHIs form a critical part of the GHEC ecosystem, contributing to surge capacity with their skilled experts often contributing independently through bilateral partnerships, under GOARN or other networks above, and with their leaders forming a core part of regional and global leaders' networks.

10.2.7. Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)

Description

TEPHINET *(33)* is a global network of Field Epidemiology Training Programs (FETPs) dedicated to strengthening applied epidemiology expertise worldwide. Its mission is to ensure that every country is equipped with the workforce needed to promote and protect public health. Through its member programs in over 100 countries, TEPHINET develops, connects, and mobilizes a global workforce to enhance the timely detection, investigation, and response to public health emergencies.

Collaborations supported and role in the GHEC ecosystem

TEPHINET collaborates with global health networks such as GOARN, IANPHI, and the Pandemic Actions Network to strengthen the integration of FETPs into the global health architecture. These partnerships facilitate technical support and advocacy for FETPs, enabling them to build sustainable capacity for applied epidemiology and public health interventions.

The network supports quality improvement for FETPs through activities like accreditation, revising or developing competency frameworks and curricula, and providing technical support for institutionalization. It also advocates for sustainable funding opportunities and career pathway development for field epidemiologists to ensure long-term program viability.

TEPHINET organizes network-strengthening activities such as scientific conferences, regional field epidemiology forums, and the development of repositories of learning resources. These initiatives foster knowledge sharing, alumni engagement, and collaboration among FETPs globally. Additionally, TEPHINET supports data-driven decision-making by implementing monitoring, evaluation, research, learning, and adaptation practices across its programs.

By supporting and standardizing the training of field epidemiologists, TEPHINET contributes to one of the most critical human resources in the GHEC ecosystem, and it does so with an explicit eye towards standardizing the skills and interoperability of field epidemiologists across countries and regions.

10.2.8. The Pan American Health Organization's Regional Response Team

Description

The Pan American Health Organization's Regional Response Team *(34)* is a core component of the regional Health Emergency Corps and is an interdisciplinary team that provides rapid, expert assistance during emergencies and disasters to countries in the region. It is part of the regional strategy to strengthen national and regional rapid response capacities for health emergencies by harmonizing efforts across countries and fostering predictable regional cooperation.

Collaborations supported and role in the GHEC ecosystem

The Pan American Health Organization Regional Response Team includes a diverse workforce of public health experts, such as experts in coordination, administration/procurement, logistics, water/sanitation, epidemiology, health services, and information/communications, and other areas, adapting team composition to the specific needs of each event. This flexibility allows for efficient resource allocation and swift response to various types of health emergencies. Engagement and collaboration opportunities within the Rapid Response Team are maintained through an online information platform developed which serves as a hub for the team. The Pan American Health Organization also connects the Pan American Health Organization Emergency Operations Center with other regional and country-level PHEOCs. This enhances the ability to respond to widespread damage from hurricanes, transnational disease outbreaks, and other emergencies. Additionally, the program emphasizes a multi-hazard approach, considering the profile of emergencies in the region based on factors such as countries' exposure, geology, and other risks. This ensures a comprehensive and effective response framework tailored to the region's unique challenges, while harmonizing the regional response with the overall GHEC ecosystem.

10.2.9. WHO-Africa CDC joint initiative of AVoHC-SURGE (African Volunteer Health Corps & Strengthening and Utilizing Response Groups for Emergencies)

Description

African Volunteer Health Corps – Strengthening and Utilizing Response Groups for Emergencies (AVoHC-SURGE) *(35)* is an initiative designed to enhance Africa's capacity for rapid and effective health emergency response. It focuses on developing a network of trained healthcare professionals and response teams across the African continent, ensuring that countries have the workforce and resources needed to efficiently manage epidemics and other health crises.

Collaborations supported and role in the GHEC ecosystem

AVoHC-SURGE mobilizes an emergency workforce, including doctors, nurses, epidemiologists, veterinarians, and laboratory technicians, through targeted training programs. These programs prepare personnel for deployment during emergencies by addressing areas such as outbreak investigation, infection prevention and control, risk communication, and emergency health interventions.

The initiative integrates response teams with national and regional emergency management systems, facilitating coordinated efforts and resource sharing across borders. It also encourages countries to collaborate with international networks like GOARN to strengthen coordination and access to additional support during emergencies.

AVoHC-SURGE contributes to strengthening national and community capacities by integrating efforts into existing health infrastructure. Activities include enhancing disease surveillance, improving risk communication, and fostering community engagement. The initiative also focuses on long-term capacity building through training programs, knowledge transfer, and partnerships with national health authorities to develop a sustainable framework for emergency

response. By explicitly integrating with global networks such as GOARN and collaborating across the GHEC ecosystem, AVoHC-SURGE ensures the African surge capacities are well coordinated and standardized with other global responders in the event of an emergency involving countries or actors from outside of Africa.

10.2.10. European Union Health Task Force

Description

The European Union Health Task Force (EUHTF) *(36)* is a deployable public health workforce providing operational response and crisis preparedness support to Member States of the European Union/European Economic Area (EU/EEA) and contributing to wider global health security. The EUHTF was established and is coordinated by the European Centre for Disease Prevention and Control (ECDC).

The EUHTF supports Member States of the EU/EEA, partner countries and international organizations, on request, for timely emergency response during outbreaks and crises related to communicable diseases or diseases of unknown origin. The EUHTF can additionally be mobilized to support activities to strengthen countries' emergency preparedness. The EUHTF acts as a flexible body that can mobilized in different situations and under different mechanisms and can provide remote support as well as rapid in-country field deployment.

The EUHTF draws expertise from three distinct expert pools; i) the ECDC Expert Pool, formed by the ECDC technical staff, ii) the ECDC Fellowship Pool, formed by fellows in the ECDC and affiliated field epidemiology and microbiology fellowships during their two-year placement, and iii) the EUHTF External Expert Pool, formed by technical experts in EU/EEA Member States.

Collaborations supported and role in the GHEC ecosystem

The EUHTF was established as a collaborative body, working closely with the other major European and global public health actors. The EUHTF maintains a close collaboration with counterparts in the European Commission as well as international partners such as WHO GOARN.

Activities outside the EU/EEA are conducted in collaboration with the European Commission, in particular the EU Directorate General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) and international networks such as the GOARN which are part of the GHEC ecosystem.

10.2.11. AFENET Corps of Disease Detectives (ACoDD)

Description

The African Field Epidemiology Network (AFENET) *(37)* is a not-for-profit networking and service alliance of Field Epidemiology (and Laboratory) Training Programs (FE(L)TPs) and other applied epidemiology training programs in Africa. Established in 2005, AFENET collaborates with ministries of health, national, regional, and international partners to improve public health systems. The network currently comprises 40 FE(L)TPs.

Launched in 2018, the AFENET Corps of Disease Detectives (ACoDD) is a civil voluntary service of culturally competent professional field epidemiologists based on the one health approach. The aim is to ensure maximum and efficient utilization of the well-trained public health workforce from the 3-months frontline, 9-months intermediate and the 2-year advance FE(L)TPs in response to disease outbreaks and other public health emergencies. ACoDD provides a platform for rapid mobilization and prompt deployment of field epidemiologists within and across countries to respond to public health events.

Collaborations supported and role in the GHEC ecosystem

ACoDD works closely with ministries of health and other public health partners to support public health surveillance, emergency preparedness and response, and recovery by enhancing surveillance systems and supporting surge capacity in emergency response. It assists countries' efforts at improving their IHR core capacities and supports health workforce development through FE(L)TPs. Through the ACoDD platform, AFENET has collaborated with ministries of health to deploy ACoDD members to respond to several outbreaks such as Ebola Virus Disease (EVD), COVID-19, vaccine preventable diseases (VPDs), cholera and other public health emergencies in Africa. Activating ACoDD requires a request from a ministry of health or other partners to AFENET to mobilize and deploy experts in the field to respond to a public health event or to identify suitable and available experts from ACoDD for a partner organization to deploy. In the past, AFENET used the ACoDD platform to mobilize surge teams for partners such as GOARN and Africa CDC to respond to large scale outbreaks such as the EVD outbreak in the Democratic Republic of the Congo from 2018 to 2020, and the COVID-19 pandemic.

AFENET leverages the ACoDD platform to contribute to GHEC through close collaborations and alignment with integrated public health networks such as TEPHINET, GOARN, AVoHC-SURGE, and others comprising the GHEC ecosystem.

10.2.12. The Eastern Mediterranean Public Health Network (EMPHNET)

Description

The Eastern Mediterranean Public Health Network (EMPHNET) is a regional public health organization established in 2009 to enhance health outcomes across the Eastern Mediterranean Region. EMPHNET collaborates with Ministries of Health, academic institutions, non-governmental organizations, and international entities to strengthen health systems, build public health capacity, and support applied research and practice. The network's activities align with the International Health Regulations (IHR) and focus on disease prevention, control, and health systems strengthening, with a special emphasis on countries affected by emergencies and protracted crises.

Collaborations Supported and Role in the GHEC ecosystem

EMPHNET supports public health priorities through capacity building, technical assistance, and multisectoral coordination in health emergencies. The network works closely with FETPs to strengthen epidemiological surveillance, build leadership, and support countries in their preparedness and response to health emergencies. EMPHNET's programs and initiatives contribute significantly to the GHEC ecosystem in the following ways:

Strengthening IHR core capacities: EMPHNET collaborates with countries to enhance core capacities in surveillance, laboratory diagnostics, risk communication, and emergency preparedness, helping them meet IHR requirements and improve regional health security.

Supporting rapid response to health emergencies: Through its Public Health Emergency Management Center, EMPHNET deploys multidisciplinary rapid response teams (RRTs) to investigate and control outbreaks and provides technical support during public health crises such as cholera, measles, and polio.

Advancing One Health approaches: EMPHNET integrates the One Health approach into its work to address health threats at the intersection of humans, animals, and the environment, especially for zoonotic diseases.

Enhancing public health leadership: Through FETPs and other initiatives, EMPHNET builds a skilled workforce capable of leading public health programs and responding effectively to emergencies.

Promoting research and innovation: EMPHNET conducts operational research, facilitates knowledge sharing, and supports the dissemination of best practices through biennial conferences, publications, its other knowledge exchange, and networking initiatives.

Facilitating regional and global collaboration: EMPHNET engages with regional and global networks, including GOARN, TEPHINET, AFENET, and others, to strengthen collective efforts in managing and mitigating public health emergencies.

By bridging regional and global efforts, EMPHNET amplifies the GHEC's ability to address diverse health emergencies effectively. Its expertise and strong connections with communities and health systems in the EMR make it a critical player in enhancing regional preparedness, promoting resilience, and ensuring a more coordinated and robust global health emergency response system.

10.3. Leaders' networks in the GHEC ecosystem

Networks of national technical leaders already exist and are in further development at the sub-regional and regional levels and can be supported and interconnected at multi-regional and global levels. An example of a multi-regional network including the Eastern Mediterranean Region and African Region is summarized in Box 19.

10.3.1. Regional leaders' networks

Regional leaders' networks can help advance cross-border collaboration, resource sharing and facilitate access to extra capacity where needed during a crisis *(38).* Small groups of top technical health emergency leaders have periodically organized themselves informally in regional or sub-regional networks in response to regional or global health crises. These networks have sometimes evolved from professional associations such as the African Field Epidemiology Network (AFENET), the European Public Health Association, the Latin American Association of Public Health and many others. During the COVID-19 pandemic, leaders from groups of neighbouring countries with cultural and historic ties such as the Nordic countries, the Gulf States, and Australasia communicated periodically to share information, discuss best practices, and facilitate alignment on responses.

During health emergencies these informal networks of leaders have occasionally been formalized, typically on an ad-hoc basis. The sub-regional Ebola task force of 2022 convening the top technical leaders of 9 countries as detailed in Box 12 is one such example. Ad-hoc convenings of regional groupings of leaders arise by necessity to improve coordination and information sharing, but do not have the advantage of pre-crisis preparation, networking to build trust, and drills and exercises to test responses to situations rarely encountered in routine public health responses.

The more formal convening of African technical leaders recently launched by the WHO Regional Office for Africa and the WHO Regional Office for the Eastern Mediterranean (Box 19) may be one important step to address the challenges of ad-hoc gatherings of leaders prompted primarily by a health crisis. If successful, this regional network of leaders has the potential to build trusted working relationships well ahead of a crisis, to establish ways of working effectively together to influence policy makers on the African continent and donors across Africa and elsewhere. In this event, the regional network may become a model that other regions can follow, as well as an essential building block of the GHEC.

Box 19

Regional leaders' network in Africa

In a strategic move to fortify Africa's capacity to respond to health emergencies, the WHO Regional Office for the Eastern Mediterranean and the WHO Regional Office for Africa are establishing a regional health emergency leaders' network. This initiative aims to transform the continent's ability to manage complex public health crises.

Timely and accurate information is critical for coordinated and effective crisis management. The network will establish robust systems for rapid data exchange and dissemination. This will empower decision-makers with the insights needed to navigate complex situations and implement more coordinated and effective response measures. It will serve as a dynamic hub for the exchange of knowledge, experiences, and best practices among countries in the region and will foster collaboration, trust, and the dissemination of valuable insights to enhance emergency response capabilities across the continent. By facilitating cross-border coordination and cooperation the network will ensure a unified and effective response to transboundary challenges such as pandemics, refugee crises, and environmental disasters.

The network will champion pandemic preparedness and ensure that it remains a priority for national leaders even in non-emergency times. This sustained focus will foster a culture of readiness across all sectors of society. It will provide invaluable counsel to governments on national and regional preparedness strategies, leveraging peer review, recognition, and diplomatic channels to galvanize cooperation and action. The network will actively engage with donors, providing them with critical intelligence and insights to ensure that resources are strategically allocated and deployed where they are most needed.

10.3.2. Global leaders' networks

Pandemic risks are difficult to predict. Depending on the pathogen, the next pandemic may begin locally and spread uncontained for years or decades, as did HIV, or it may spread quite rapidly, affecting nearly all countries within weeks, as did SARS-CoV-2. In the first scenario, the world must have strengthened health systems, including strong surveillance, community protection mechanisms and equitable access to countermeasures. In the latter scenario, success will depend on a highly coordinated global response supported by a network of globally connected health leaders *(39).*

A critical piece of the GHEC is a new mechanism for national health emergency leaders to coordinate their responses in a predictable manner thus ensuring swift and uniform regional and global responses. The Emergency Corps will establish and maintain professionalized networks of national health emergency leaders, regionally and globally coordinated, with the purpose of stopping and containing transnational health threats via:

- Support for each country's top 3-5 health emergency leaders embedded within the appropriate national structure (NPHA or equivalent) that will be consistently staffed within its institution.
- Established response triggers and mechanisms for gathering leaders across countries and regions to enable collective decision-making to find and stop transnational health threats.
- Regular networking, joint responses to outbreaks and epidemics, simulation exercises, and experience-sharing among health emergency leaders.

These leaders, often leaders of NPHAs or an equivalent, will be key advisors to heads of state, ministers of health and other decision makers. They will provide guidance on preparedness such as standard operational procedures, coordination across government sectors, coordination with regional entities, sustainable financing, and response measures such as border closures, travel restrictions, quarantines, activation and coordination of responses, and the implementation of public health and social measures to contain the next potential pandemic.

Activities of the leaders' network will include both preparedness and response components. Preparedness activities during inter-epidemic periods will strengthen the network and build relationships and trust among its members, facilitating coordinated responses during times of regional or global epidemics.

Box 20

A summary of recent calls with GHEC technical leaders

Mycoplasma technical leaders' call – Convened in December 2023 with approximately 30 participants, the call was prompted by widening concerns about upsurges in paediatric hospitalized pneumonia caused by *Mycoplasma pneumoniae.* Detailed reports from three affected regions were shared, including largely reassuring data reflecting disease incidence within historical ranges, lack of new severity or antimicrobial resistance manifestations. Discussion focused on what changes might prompt a reassessment or further action by affected countries and others.

Avian influenza A(H5N1) technical leaders' call – Convened in September 2024 with approximately 50 participants. This call was driven by longstanding and growing concerns about the behaviour of H5N1 influenza viruses, specifically the clade 2.3.4.4b that had established itself in dairy cattle in the United States of America, with occasional spillover to humans. Reports from the animal and human sectors in the United States of America, WHO, and leaders in Finland who began offering H5N1 vaccines to at-risk agricultural workers provoked a lively but abbreviated discussion.

Mpox clade 1b technical leaders' call – Convened in October 2024 with approximately 60 participants. Mpox was declared a Public Health Emergency of International Concern in 2022 with the global spread of clade IIb, and again in 2024 with the upsurge in transmission of clade 1b in the Eastern Democratic Republic of the Congo, Burundi, and countries neighbouring and distant. Discussions highlighted the factors leading to the largely successful control of clade IIb in 2022, potential lessons for combatting clade 1b, and the successes and challenges faced by countries with heavy burden, light introductions, and those with no detected introductions but at risk.

Convenings of similar groupings of leaders have occurred in ad-hoc groupings at the sub-regional level, as described above for Ebola in East Africa; among small groups of like-minded countries, as with the Nordic or Australasian gatherings; and at the global level at the beginning of the COVID-19 pandemic (Box 21).

Valuable as these ad-hoc gatherings have been, they were not deliberately planned, did not explicitly aim to build trusted working relationships among the participants over time, and were not maintained after the end of the crisis which prompted the gathering. In contrast, the GHEC leaders' network is envisioned as a deliberately planned and convened network, organized at the global level in addition to its smaller regional and sub-regional gatherings, and built and strengthened over time through repeated responses and exercises.

An informal network of GHEC technical leaders has been convened on three recent calls to share cutting edge information, highlight emerging best practices, and to provide a forum for frank and confidential discussions held under the Chatham House Rule. A summary of the general topics and participants in these calls is in Box 20.

Box 21

Example of COVID-19 leaders' calls convened by the WHO Director-General

From the earliest weeks of the COVID-19 pandemic a small group of the top technical leaders from countries around the world was convened by WHO Director-General Dr Tedros Adhanom Ghebreyesus. The purpose of the call was to share real-time information on the rapidly evolving pandemic, to discuss possible responses, and to highlight best practices. The call was not intended to take decisions or to reach consensus. There were about 2 dozen participants at any given time. The call was viewed as extremely valuable by WHO and the participants, was held weekly initially and spaced further out through the first months of the pandemic and less frequently thereafter.

11. Conclusion

As “the body of experts in ministries and agencies in every country who work on health emergencies and the global ecosystem through which they coordinate”, GHEC is designed with the aim of strengthening the response to all health emergencies and stopping the next pandemic. These are ambitious goals, and the design of such a collaborative global ecosystem will take commitment, investment, and persistence. As countries work on adopting and adapting the 3-level structure of GHEC to fit their unique set of institutions and capabilities, it is likely that the design for GHEC will evolve. Ideally, emergency workforces in countries will be strengthened, surge response capacities will become even more interoperable, and technical leaders will build trusted networks that will be regularly exercised for emergencies large and small. As this occurs, future iterations of this framework document must reflect the evolving realities and highlight a world better protected against pandemics and all health emergencies.

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Annex 2. Definitions

Emergency medical team (EMT). A group of health professionals (doctors, nurses, paramedics, etc.) that provide direct clinical care to patients and communities affected by disasters, conflict, disease outbreaks or other health emergencies. To ensure quality of care, EMTs should work to comply with the guiding principles and the core and minimum technical standards established by WHO and its partners.

Interoperability. The ability to respond together coherently, effectively, and efficiently. It can be achieved by considering multiple dimensions: technical (i.e. hardware, equipment, and systems), procedural (i.e., common standards and procedures), human (i.e. terminology and training) and information. (Adapted from NATO)

Rapid response capacities (RRC). This term is used interchangeably with 'surge capacities' in this document. Medical, healthcare, and public health services and functions that can be deployed at short-notice and on a non-routine basis to address health needs during and/or after a health emergency. This encompasses a wide range of capacities, including emergency medical teams, specialized care teams, public health rapid response teams, mobile laboratories, and community based, volunteer and health teams.

Rapid response team (RRT). A group of trained individuals that is ready to respond quickly to an event. Multi-disciplinary teams of experts that can be deployed on short notice by a health authority to locations of public health events to augment surveillance, risk assessment and response activities already being implemented, to control disease outbreaks and strengthen international public health security.

Rapid response mobile laboratory (RRML). RRMLs are mobile units designed for national or international deployment and are used to effectively address laboratory and diagnostic gaps by providing surge capacities during emergencies and throughout all phases of the emergency management cycle (i.e. prevent, prepare, respond, recover).

Strategic leadership. The strategic level has overall command and responsibility of an incident and is responsible for decision making at the policy/strategy level. It is activated when the health emergency requires a comprehensive multi-agency/sectoral response strategy and coordination. This level is away from the scene, usually located at the competent national level.

Surge. A sudden or incremental demand for (health) services, such as in a health emergency or mass casualty incident, where additional capacities (in terms of staff, supplies and space) and/or capabilities (in terms of specialized expertise) are required.

Surge capacity. The measurable ability of the community or health system (or component part) to manage a sudden increase in demand for services (e.g., the influx of patients due to a health emergency). There are four main components to this ability: staff, supplies, space, and systems (such as systems for incident command, coordination, and surge planning and activation). Improving surge capacity is an important part of strengthening the preparedness and resilience of health systems.

Surge capacities. See rapid response capacities.

Quality assurance mechanisms assure governments, communities, and donors that rapid response capacities have the adequate personnel, structure, and processes to provide quality services and assistance to populations affected by emergencies.

Note: The mechanisms consist of different forms of external evaluation, in which an independent national or internationally recognized authority assesses compliance with agreed minimum standards through a transparent, systematic method (Examples include the Global Classification and the National Validation of EMTs targeting international and national deployments, respectively).

Tactical leadership. Tactical leadership is in-charge of translating policy into practice. It is engaged in analytical decision making based on risks and hazards to mobilize optimum resources to manage/respond to the emergency, and therefore it is normally away from the scene, located with the competent national authority. In any multi-site emergency or emergency with evolving scenarios, the tactical (and strategic) level leadership will be activated.

Notes

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