



WHO's response to COVID-19 in the Eastern Mediterranean Region

Independent review by Dalberg Advisors

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Dalberg



**World Health
Organization**

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Cover photo: Meeting community healthcare workers in Garowe, Puntland, on 29 September 2021.
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EXECUTIVE SUMMARY

The World Health Organization (WHO) supported the COVID-19 response across the Eastern Mediterranean Region (EMR). To date, the Region has reported over 23 million COVID-19 cases and over 349,000 deaths.¹ The Region consists of 22 countries and territories, of which 15 were already responding to 17 graded emergencies at the onset of COVID-19, including eight large-scale humanitarian crises. In response to the pandemic, the WHO Regional Office for the Eastern Mediterranean (EMRO) set up a regional Incident Management Support Team (IMST). WHO Country Offices (WCOs) set up country-level Incident Management Teams (IMTs) or similar emergency response mechanisms.

A team from Dalberg Advisors conducted an independent review of WHO's COVID-19 response in the EMR. The review aims to provide actionable recommendations, based on lessons learned, to improve WHO's prevention of, preparedness for, detection of, response to and recovery from ongoing and future health emergencies. The assessment framework was grounded in WHO's Emergency Response Framework (ERF),² covering six critical functions: Leadership and internal coordination; Information management and surveillance; Health operations and technical expertise; Partner coordination and engagement; Operations support, logistics (OSL) and procurement; and Finance, administration and resource mobilisation. In addition to the functions listed, this review assessed how WHO incorporates Gender, Equity and Human Rights (GEHR) considerations into its programming. The review was structured around the following key objectives: 1) understanding WHO's role during a health emergency response, 2) understanding the extent to which WHO was able to fulfil that role during the COVID-19 pandemic as well as the successes and challenges in doing so and 3) developing recommendations for future responses to pandemics/ health emergencies based on lessons learned and best practices. The review is based on data collective via: more than 100 interviews with WHO staff (at HQ, regional, and country-level), representatives from Ministries of Health, UN organizations, and other partners; an online survey of WHO staff and external stakeholders; and an extensive review of available documentation. It is important to note that the focus of the review is to identify key lessons learned and understand how these can be useful going forward. (The review is not intended as a backward looking assessment, or evaluation, of WHO's performance).

The review found that WHO successfully provided an appropriately tailored response to each Member States' needs and that WHO support frequently strengthened Member State's own response efforts while contributing towards long-term capacity building.³ Alongside WHO's Health Emergencies Programme (WHE), many technical departments were heavily involved in the response, enabling an intersectoral approach. The resulting broad set of expertise meant that WHO could provide each Member State with a unique blend of technical and operational support. Typically, high-income countries with strong health systems primarily benefitted from the provision of technical guidelines and expertise. Countries with weaker health systems required more operational support to bridge capacity gaps (which in some cases was successfully converted into longer-term capacities, agendas, and networks in Member States). In these countries, Ministries of Health (MoHs) tended to be aligned that WHO's operational support was its most valuable contribution to their response

¹ COVID-19 situation in the Region – total reports, WHO EMRO, Webpage. Accessed at: <https://www.emro.who.int/health-topics/corona-virus/index.html> on 6 January 2023.

² Emergency Response Framework (ERF), 2nd edition, WHO, 2017.

³ Note: the successes, challenges and recommendations included below are non-exhaustive; the full list of these is included in the main body of the review.

efforts. The majority of external survey respondents indicated that WHO's COVID-19 response in the Region either met or exceeded expectations.⁴

Additionally, WHO demonstrated a number of best practices which enabled successes in the COVID-19 response. The review found there to be inclusive and experienced leadership at EMRO and in many WCOs, and that effective leadership came particularly from those individuals with emergency and operational backgrounds. EMRO's IMST facilitated extensive communication and collaboration across functions, mobilised expertise across departments and successfully broke down siloes. Within OSL, WHO's logistics hub in Dubai (the 'Dubai Hub') facilitated stockpiling and centralised logistics, improving timely access to critical COVID-19 supplies in the Region (and globally). The Hub was scaled-up to provide support for WHO globally and for responses other than COVID-19 – e.g., the ongoing cholera outbreak in eight countries in the Region.⁵ Separately, the Case Management and Clinical Operation pillar's strong on-the ground presence, and in particular, its efforts in scaling up medical oxygen capacities, played a large role in reducing the severity of COVID-19 cases and in filling health systems gaps in low-resource settings.

WHO achieved these successes in the context of several notable external obstacles. The COVID-19 outbreak was novel and fast-changing, making it difficult for WHO to provide up-to-date and evidence-based technical guidance to Member States. Unprecedented supply chain disruptions also caused operational challenges across WHO, exacerbated in the EMR by a lack of regionally-based medical goods suppliers, as well as economic sanctions in several Member States.⁶ Weak health system capacities also caused challenges in several EMR Member States, both in terms of limited physical infrastructure (e.g., laboratories and intensive care unit (ICU) facilities) and human capacity (e.g., lack of healthcare workers). Lastly, political barriers impacted some aspects of WHO's COVID-19 response (e.g., limited data sharing from some member states).

Nevertheless, several internal challenges also prevented WHO from always providing comprehensive technical support to Member States or filling gaps in operational support. A subset of key challenges identified by the review is listed below, with the complete list included in main body of the report.

- **Shortage of human capacity.** The majority of EMRO and WCO stakeholders cited shortages of human capacity as impeding the delivery of technical support (in areas such as Case Management and Clinical Operations, IPC, RCCE, IHR and Social Measures, and OSL) as well as the on-the-ground operational support required by Member States. This lack of capacity caused delays in providing support to Member States, and in some cases meant that pillars and WCOs could not fulfil all requests for support.
- **Design and application of administrative processes.** Several EMRO and WCO staff and stakeholders cited internal administrative processes as impeding the delivery of technical and operational support. One example was lengthy human resources (HR) surge approval processes, which delayed the rapid scale-up of staff capacity at both EMRO and WCOs. Another example was multi-layered emergency procurement approval processes, which were cited as causing delays to sourcing of supplies, often in time-critical scenarios. Across both HR and procurement challenges, stakeholders highlighted the inconsistent application of

⁴ External survey respondents included individuals from MoHs and partner organisations.

⁵ At the time of writing, eight Member States are experiencing cholera outbreaks. They are: Afghanistan, Iran (Islamic Republic of), Iraq, Lebanon, Pakistan, Somalia, Syrian Arab Republic and Yemen. See more on WHO Regional Director's statement on cholera outbreaks, by WHO EMRO, Webpage. Accessed at: <https://www.emro.who.int/media/news/who-regional-director-for-the-eastern-mediterraneans-statement-on-cholera-outbreaks.html> on 25 January 2023.

⁶ Countries in the Region with economic sanctions are Afghanistan, Iran, Iraq, Lebanon, Libya, Somalia, Syrian Arab Republic and Yemen.

emergency standard operating procedures (SOPs), due to lack of familiarity with the procedures, or a failure to apply them, as an underlying cause of delay.

- **Balance of delegation of authority.** Limited autonomy over decision-making at the country and pillar level might have impeded a more effective and timely response (although note that this is in-part linked to the previous point) by increasing the amount of discussion and approval required for many decisions.
- **Variable quality of country-level leadership.** Stakeholders frequently described variability in the quality of WHO's country-level leadership throughout the COVID-19 response. Leadership was often perceived as being weaker where leaders' did not bring prior experience (i) in emergency settings and (ii) as part of heavily operational programmes.
- **Fragmented surveillance systems.** Fragmented disease surveillance systems led to resource duplication and delays in detection which hampered surveillance efforts.
- **Unsystematic approach to GEHR.** GEHR considerations were not systematically embedded across activities, mainly due to the lack of a formal approach or specific personnel dedicated to GEHR in emergencies.

The review team proposes several recommendations that seek to either build on the successes presented by existing best practices, or address challenges experienced during the COVID-19 response. These recommendations aim to improve the reach and quality of support provided in the ongoing COVID-19 response and in responses to future health emergencies. A complete set of recommendations is included in the main body of the report. Below is a selection of key recommendations from the report which, from the perspective of the review team, have the largest translatable impact on future emergency responses at EMRO and WCOs.

Recommendations to build on successes:

1. Capitalise on the momentum from the COVID-19 response by turning temporarily scaled-up capacity in Member States into permanent capacities, agendas, and networks. Examples include developing EMRO and WCO critical care training into longer-term certifications; maintain newly-built laboratory capacities and Public Health Emergency Operations Centres (PHEOCs); and institutionalise IPC and RCCE units set up in MoHs.⁷
2. Track Member State technical and operational needs on a continuing basis, and tailor provision of WCO skills profiles and operational capacity accordingly (e.g., offering additional operational support to countries with weaker health systems).⁸
3. Ensure the presence, visibility and availability of senior EMRO and WCO leadership to spearhead future responses, especially through prompt response times, visibility in team-wide meetings and engagement of national leadership and partner agencies.⁹
4. Maintain the collaborative working style achieved through successful cross-departmental working within EMRO's IMST by continuing to communicate regularly in wider forums and encouraging multi-department programmes (including beyond emergencies).¹⁰
5. Build on the successes of the Dubai Hub by expanding its operational capacity and by formalising its engagement with WHO's procurement teams at all levels (Headquarters (HQ), EMRO and WCOs) and with partner agencies with strong logistics capabilities.¹¹

⁷ See *Health operations and technical expertise* section for full recommendation.

⁸ See *Health operations and technical expertise* section for full recommendation.

⁹ See *Leadership and internal coordination* section for full recommendation.

¹⁰ See *Partner coordination and engagement* section for full recommendation.

¹¹ See *Operations Support, Logistics (OSL) and procurement* section for full recommendation.

6. Institutionalise Case Management and Clinical Operations as a permanent function of EMRO's WHE.

Recommendations to address challenges:

7. Address structural gaps in technical expertise and operational capacity at both EMRO and WCOs by (i) performing a capacity gap analysis across Health operations and technical expertise sub-functions – covering current and likely future gaps, and (ii) developing and implementing a strategic plan to close capacity gaps.¹²
8. Streamline and adapt administrative processes to reduce emergency response delays, specifically:
 - Improve surge recruitment capabilities during emergencies by (i) adapting emergency HR recruitment processes (ii) bolstering emergency HR teams at HQ and EMRO, (iii) continuing to build surge rosters at EMRO and WCOs in advance of future emergencies, and (iv) consistently applying emergency SOPs at EMRO and WCOs.¹³
 - Conduct a process review of emergency procurement bottlenecks at HQ, EMRO and WCOs to reduce delays in provision of supplies to Member States. The process review should also take into account how well existing emergency procurement procedures and relevant SOPs are followed.¹⁴
9. Review (and potentially increase) the delegation of decision-making authority to WCOs in emergency contexts to speed up critical operational decisions (particularly in terms of approvals for surge recruitment and emergency procurement).¹⁵
10. Map WCO leadership skills requirements to Member State contexts and increase emergency and operational leadership capacity where needed, particularly in countries with protracted humanitarian crises and/or high risks of emergencies. There are several options to increase capacity including: (i) adjusting the WHO Country Representative (WR) appointment process to further take into account unique Member State needs and circumstances; (ii) providing requisite training and (iii) supplementing WCO leadership teams with additional capacity to purposely fill gaps in expertise or experience (e.g., through more consistent recruitment of deputy WRs with complementary skillsets across more Member States).¹⁶
11. Enhance collaboration across EMRO departments to roll out and fully implement the regional strategy for Integrated Disease Surveillance (IDS).¹⁷
12. Formalise the incorporation of GEHR considerations as one of WHO's responsibilities during emergencies, including in the ERF, and support the dissemination and uptake of new policies at EMRO and WCOs.¹⁸

¹² See *Health operations and technical expertise* section for full recommendation.

¹³ See *Finance, administration and resource mobilisation* section for full recommendation.

¹⁴ See *Operations Support, Logistics (OSL) and procurement* section for full recommendation.

¹⁵ See *Leadership and internal coordination* section for full recommendation.

¹⁶ See *Leadership and internal coordination* section for full recommendation.

¹⁷ See *Information management and surveillance* section for full recommendation.

¹⁸ See *Gender, Equity and Human Rights (GEHR)* section for full recommendation.

ACRONYMS

BOS	Business Operations
BMS	Business Management System
CHW	Community Health Worker
COVAX	COVID-19 Vaccines Global Access
CPIE	Comprehensive Post Introduction Evaluations
CSO	Civil Society Organisation
CST	Country Support Team
DHIS2	District Health Information Software
ECDC	European Centre for Disease Prevention and Control
EIOS	Epidemic Intelligence from Open Sources
EMR	Eastern Mediterranean Region
EMRO	WHO Regional Office for the Eastern Mediterranean
ERF	Emergency Response Framework
ERP	Enterprise Resource Planning
EWARN	Early Warning, Alert and Response Network
EWARS	Early Warning, Alert and Response System
EURO	WHO Regional Office for Europe
FCV	Fragile, conflict-affected and vulnerable
GCC	Gulf Cooperation Council
GEHR	Gender, Equity and Human Rights
GER	Gender, Equity and Rights
GPW 13	Thirteenth General Programme of Work
GSC	Global Service Centre
HCW	Health Care Worker
HQ	WHO Headquarters
HR	Human resources
IAWG	Interagency Working Group
ICU	Intensive care unit
IDS	Integrated Disease Surveillance
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IMS	Incident Management System
IMST	Incident Management Support Team
IMT	Incident Management Team
IOM	International Organization for Migration
IPC	Infection Prevention and Control
M&E	Monitoring and Evaluation
MoH	Ministry of Health
NIC	National Influenza Centre
NGO	Non-Governmental Organisation
OSL	Operations Support and Logistics
PCR	Polymerase Chain Reaction
PHEOC	Public Health Emergency Operations Centre
PHSM	Public Health and Social Measures
PMO	Project management office
PoE	Points of Entry
PRSEAH	Preventing and Responding to Sexual Exploitation, Abuse and Harassment
RC	Regional Committee
RCCE	Risk Communications and Community Engagement
RO	Regional Office
RRT	Rapid Response Team
RT-PCR	Reverse Transcription-Polymerase Chain Reaction
SEARO	WHO Regional Office for South-East Asia
SOC	Situations of Concern
SOP	Standard Operating Procedure

SPRP	Strategic Preparedness and Response Plan
SRHR	Sexual and Reproductive Health and Rights
ToR	Terms of Reference
TWG	Technical Working Group
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNHCR	United Nations Refugee Agency
UNICEF	United Nations Children's Fund
UNV	United Nations Volunteer
WCO	WHO Country Office
WIPRO	WHO Regional Office for the Western Pacific
WFP	World Food Programme
WHE	WHO Health Emergencies Programme
WHO	World Health Organization
WR	WHO Country Representative

I. ABOUT THE WHO EMRO RESPONSE REVIEW

Objectives of the review

WHO commissioned Dalberg Advisors to conduct an independent review of WHO's COVID-19 response in the EMR. The overall objective of the review is to provide an independent, objective and systematic assessment of WHO's response to COVID-19 in the EMR. This includes WHO's strategy, interventions, operations, performance, results to date, and engagement and coordination with partners. Specific objectives of the review are to:

1. Identify best practices and lessons learned from WHO's regional- and country-level response.
2. Synthesise information and provide analysis on the enablers and challenges faced by WHO.
3. Develop strategic recommendations to feed into WHO's prevention of, preparedness for, detection of, response to and recovery from ongoing and future health emergencies.

The intended outcome of this review is to provide pragmatic suggestions that can improve WHO's prevention of, preparedness for, detection of, response to and recovery from health emergencies. In addition to the specific objectives above, this review provides a forum to surface divergent perceptions of performance where relevant, with analysis where possible. As this is not a formal evaluation, the review does not comprehensively document or measure the impact of WHO's activities. Rather, the review provides actionable learnings and recommendations, and areas for further study, while still providing a holistic documentation of WHO's response.

Methodology

Assessment framework

The assessment framework for this review is grounded in WHO's ERF.¹⁹ The ERF lays out six critical functions that WHO should play in an emergency²⁰—to be adapted to the relevant context and grading of emergency, detailed in the figure below (Figure 1). This review has tailored these functions to focus on the following:

1. Leadership and internal coordination
2. Information management and surveillance
3. Health operations and technical expertise
4. Partner coordination and engagement
5. Operations Support, Logistics (OSL), and procurement
6. Finance, administration and resource mobilisation

In addition to the functions above, this review assesses how WHO has taken Gender, Equity and Human Rights (GEHR) considerations into account across its programming.²¹

¹⁹ Emergency Response Framework (ERF), 2nd edition, WHO, 2017.

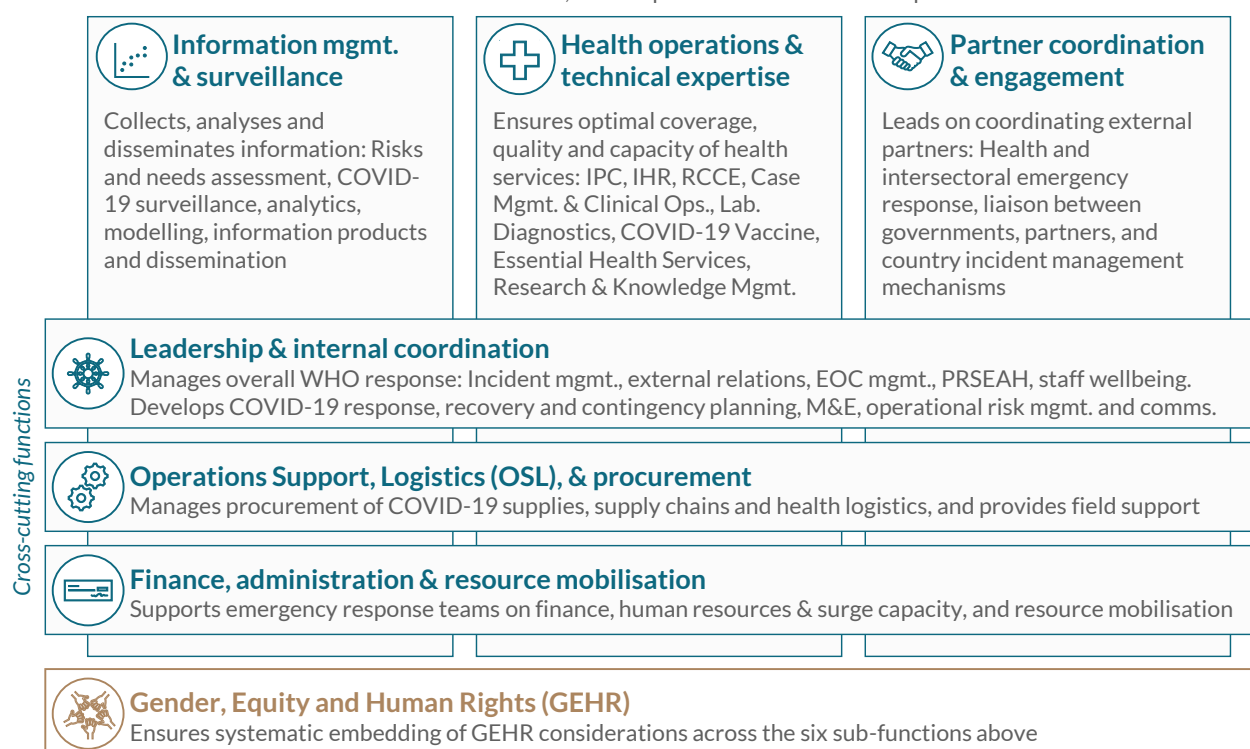
²⁰ Leadership, Information and planning, Health operations and technical expertise, Partner Coordination, Operations support and logistics, and Finance and Administration. Refer to Emergency Response Framework (ERF), 2nd edition, by WHO, for more.

²¹ WHO also often refers to GEHR as Gender, Equity and Rights (GER).

Figure 1: Assessment framework for the review of WHO's response to COVID-19 in the Eastern Mediterranean Region²²

Dalberg review assessment framework

Definitions included are based on the ERF sub-functions, and adapted to the COVID-19 response



This review assesses how WHO responded to the COVID-19 pandemic within and across these functions. The ERF consists of three programmatic functions and three largely cross-cutting functions (that also include programmatic sub-functions such as logistics). The findings and recommendations are positioned within the most relevant function, and aim to enable WHO to better deliver these core functions in future health emergencies. The review team employed the following question structure when interviewing experts, surveying stakeholders and reviewing documentation (albeit tailored to suit each interviewee's expertise and context):

- **Understanding WHO's role:** What is the role of WHO during a health emergency response, and in relation to MoHs and other country stakeholders?
- **Successes and challenges:** To what extent was WHO able to fulfil that role during the COVID-19 pandemic, and what were the successes and challenges in doing so? What were the drivers of those successes and challenges?
- **Lessons learned and best practices:** What could be done differently in a future pandemic or health emergency? What should be continued and built on?

WHO's response to the COVID-19 pandemic involved all three organisational levels: country offices, regional offices (ROs) and HQ. This review focuses on how each of the three levels delivered WHO's core functions in the Region to support Member States, especially focusing on EMRO and the Region's WCOs. This also includes how each level interacted with and supported each other, especially focusing on how EMRO supported the Region's WCOs.

²² Adapted from WHO's Emergency Response Framework (ERF), by WHO.

This review took a mixed-method approach and captured perspectives from a range of stakeholders and documents:

- **Interviews with 102 internal and external stakeholders in ten focus countries, EMRO and HQ:** Internal stakeholders included WHO Country Representatives (WRs), WCO COVID-19 leads, EMRO leadership, EMRO technical leads and IMST members, WHO Health Emergencies Programme (WHE), HQ leadership, and external country-level partners including MoH officials and United Nations Country Team (UNCT) members.
- **Online surveys sent to internal and external stakeholders in the remaining 12 countries and territories, regional partners and EMRO (75 responses were received from ten additional countries and territories, alongside regional partners and EMRO):** Stakeholders included EMRO IMST members, WRs and WCOs, and external partners. External stakeholders were from MoHs, Non-Governmental Organisations (NGOs), donors and UNCT members, among others.
- **Desk research of over 185 documents:** Reviews, evaluations, progress reports and mission reports among others.

Country-level evidence and perspectives have been gathered from across the EMR. This said, ten Member States were selected as focus countries for interviews and desk research, representing a range of income levels and health system capacities. These were: Bahrain (Kingdom of), Egypt, Iran (Islamic Republic of), Jordan, Kuwait, Pakistan, Saudi Arabia (Kingdom of), Somalia, Sudan, and Syrian Arab Republic.

The findings in this review are based on the range of perspectives captured through these channels of data collection. To ensure that findings were robust and relevant, and provided insights to improve WHO's emergency response capabilities, this review considered:

- i. the strength of the corresponding evidence, e.g., whether a datapoint is a verifiable fact, a verifiable statistic or an opinion, and the proximity of the stakeholder providing the opinion to the situation.
- ii. the level of alignment of observations, e.g., whether multiple stakeholders and documents provided the same viewpoint. Not all findings have strong evidence of widespread alignment among stakeholders – where this is the case, we have indicated as such.
- iii. the logical link between the observation and the related success or challenge.
- iv. the magnitude of impact of the observation on the strength of the COVID-19 response, and the breadth of its applicability.

Recommendations are based on findings, and are grounded in best practice observed within WHO and elsewhere.

The approach for this review accounted for varying perspectives and levels of evidence for findings. In some instances, stakeholders perceived the same activities differently based on their differing levels of visibility as well as their inherent incentives and biases. Some sources of evidence were stronger than others, driven by data availability among other reasons. The objective of the review in these instances is not to draw inferences on clear successes or challenges, but rather to present and contextualise the underlying fact base and the level of alignment across stakeholders, while protecting the anonymity of interview and survey respondents. Examples obtained from interviews or surveys have been anonymised, unless they have been publicly shared in WHO publications.

Limitations

The review aimed to incorporate input from all MoHs (or other government stakeholders) in each Member State, however engagement was incomplete. The review team shared requests and sent follow-ups for feedback from all MoHs through interview or survey requests made via WCOs. Due to time constraints and, in some cases, limited engagement from stakeholders, the review team was unable to gather feedback from all Member States. Interviews with and survey responses from other non-governmental external partners from a majority of Member States in the Region provided independent perspectives of WHO's COVID-19 response.

The review was comprehensive in covering the functions played by WHO in an emergency (in line with the scope of the review), but additional analysis and follow ups may be required in a number of areas. This review provides an independent assessment of the main challenges and successes throughout WHO's response and indicates where more focused follow-ups may be needed. For example, while this review provided examples of where WHO may have benefitted from additional technical capacity, a more detailed skills mapping for technical departments could provide more comprehensive insights.

The extensive external challenges that COVID-19 posed may be difficult to separate from WHO's internal challenges. For instance, this is the case when discerning bottlenecks caused by WHO's supply chain or general disruptions to global supply chains and travel. In such cases, the review acknowledges that the challenges may be external, or that further study may be required to pinpoint WHO's internal obstacles. The review still includes these challenges to inform further study and future emergency responses.

Some sub-sections of the report were not reviewed by technical leads at EMRO. Draft sub-sections of this review were circulated with regional emergency leaders and relevant technical leads (e.g., IMST pillar leads) for validation of findings, recommendations and factual accuracy. While the vast majority of the report was reviewed and validated by both regional emergency leaders and relevant technical leads, the review of a small number of sub-sections by technical leads remains outstanding.

II. INTRODUCTION AND CONTEXT

Context

Over 23 million positive cases and 349,000 deaths from COVID-19 have been reported across the 22 Member States and territories in the EMR, as of 31 January 2023.²³ Out of the six WHO Regions, the EMR has the fourth-highest number of cumulative cases and third-highest number of deaths, while vaccination rates remain the second-lowest.²⁴ The first cases of COVID-19 in the Region were reported by the United Arab Emirates on 29 January 2020. By the end of February 2020, 11 countries in the Region had reported cases of COVID-19, and by 10 April 2020 all 22 countries and territories of the Region had reported COVID-19 cases.²⁵ Since the beginning of the pandemic, the countries reporting the highest numbers of total cases have been the Islamic Republic of Iran (over 7.5 million cases), Iraq (approximately 2.5 million cases) and Jordan (over 1.5 million cases). The peak recorded number of active cases in the Region was in January 2022, when over 800,000 cases were recorded.²⁶

The Region consists of a diverse set of Member States, ranging from fragile, conflicted-affected and vulnerable (FCV) countries to high-income countries. Six Member States in the Region are classified as high-income, three countries as upper-middle-income, eight as lower-middle-income and five as low-income. In turn, there is wide variation in the capacities of healthcare systems and the abilities of those systems to respond to health emergencies. The Region also comprises of a comparatively high proportion of Member States responding to complex and protracted emergencies (nine out of 22), and 66% of refugees in the world come from the Region.²⁷

Across all levels of the organisation, WHO activated the Incident Management System (IMS) to support the Region's COVID-19 response. WHO's overarching objective has been to mitigate COVID-19 outbreaks and to ensure global public health security, as per the ERF.²⁸ Following the Director-General's declaration of a public health emergency, the regional COVID-19 Incident Management Support Team (IMST) was set up in January 2020 to coordinate with HQ and WCOs on the delivery of technical and operational support to Member States and territories. Health Clusters led by WCOs brought together governments and partners from the United Nations (UN) and other institutions to deliver a unified strategy. The COVID-19 IMST included approximately 100 active members and was made up of nine pillars,²⁹ each of which were responsible for serving a critical function in the response. In addition to coordinating the response, the IMST was responsible for providing strategic guidance, technical and operational support, streamlining information sharing, engaging with partners, raising and allocation resources, deploying surge support and scaling up

²³ COVID-19 situation in the Region – total reports, WHO EMRO, Webpage. Accessed at: <https://www.emro.who.int/health-topics/corona-virus/index.html> on 6 January 2023.

²⁴ WHO Coronavirus (COVID-19) Dashboard, WHO, Webpage. Accessed at: <https://covid19.who.int/table> on 13 December 2022.

²⁵ COVID-19 strategic preparedness and response plan: sustaining an effective response to end the acute phase of the pandemic and transitioning to recovery in WHO's Eastern Mediterranean Region – 2022 edition., WHO EMRO, 2022.

²⁶ WHO Coronavirus (COVID-19) Dashboard, WHO, Webpage. Accessed at: <https://covid19.who.int/table> on 13 December 2022.

²⁷ Al-Mandhari A, Ardalan A, Mataria A, Rifaey T, Hajjeh R. Refugee and Migrant Health Strategy for the Eastern Mediterranean Region. *Eastern Mediterranean Health J.* 2021 Dec 28;27(12):1129-1131.

²⁸ Emergency Response Framework (ERF), 2nd edition, WHO, 2017.

²⁹ Note: IMSTs typically comprise six pillars, but the COVID-19 IMST comprised nine due to the addition of some pandemic-specific pillars.

supply chains (amongst other responsibilities).³⁰ Since the Region recorded its first case of COVID-19 on 29 January 2020, EMRO has conducted over 151 missions in all Member States and comprehensive reviews of the COVID-19 response in 14 countries.³¹

WHO commissioned this review to consolidate lessons learned and best practices from the COVID-19 pandemic to improve emergency response capabilities in the EMR. The COVID-19 pandemic response was one of WHO's longest-running emergency responses. Stakeholders involved in the Region's COVID-19 response provided a range of perspectives on WHO's response against the backdrop of external constraints faced by each pillar. The key objective of this independent review is to articulate the key enablers and challenges in responding to the COVID-19 pandemic, and to suggest where to build upon the Region's existing capabilities to better tackle future health emergencies.

³⁰ COVID-19 EMRO Incident Management Support Team: Terms of Reference and Structure, WHO EMRO, April 2020 and May 2020.

³¹ COVID-19 strategic preparedness and response plan: reinforcing the collective readiness and response in the WHO Eastern Mediterranean Region – 2021 edition, WHO EMRO, 2021.

III. FINDINGS AND RECOMMENDATIONS

This section provides an overview of findings and recommendations across the six emergency functions in the review's assessment framework. Each section contains: Context, Findings (including successes and challenges) and Recommendations (to build on successes and to address challenges).

Leadership and internal coordination

Context

WHO's Leadership and internal coordination function was responsible for WHO's leadership during the COVID-19 emergency response. This included day-to-day management of WHO's emergency response mechanisms – i.e., EMRO's IMST, and WCOs' IMTs (or equivalents) – as well as providing general leadership capabilities to ensure a high-quality COVID-19 response.

For the purposes of this review, Internal and external communications is considered as a sub-function of Leadership and internal coordination. Across EMRO and WCOs, this sub-function: (i) developed and disseminated internal and external communications materials, including in multimedia formats; (ii) adapted information from HQ to regional and national needs; (iii) provided communications guidelines and SOPs for use by Member States; (iv) coordinated media and public queries for information, including building relationships with media outlets, and training senior staff on media engagement.

The following section expands on the best practices and challenges in three main areas: leadership, internal coordination, and internal and external communications.

Findings

Leadership

Successes

The presence and involvement of senior EMRO leadership was a helpful enabler of WHO's response at the regional level. WHO leaders were heavily involved and available throughout the response, especially within the IMST. Regional stakeholders within WHO and at partner agencies consistently valued this presence, commitment and involvement of senior leadership, especially the Regional Director, the Director for Programme Management, the Regional Emergency Director and the EMRO IMST Incident Manager. Examples included their presence and leadership at EMRO IMST meetings, representation at global coordination meetings, and their willingness and availability to engage with WCOs, Member States and partners. Interviewees mentioned that their consistent presence and commitment sent a strong and positive signal throughout the institution that the COVID-19 response was of the highest priority. Their presence also drew good attendance to IMST meetings from WRs and colleagues throughout EMRO and WCOs, enabling broader information and guidance sharing.

Prior emergency and operational experience were often observed to be an enabler of effective WHO leadership when responding to emergencies, especially at the country level. Leaders at EMRO and some WCOs were cited by interviewees as key enablers of WHO's country level response; in these instances, these were often leaders with emergency response and operational experience. This was true of WRs, as well as WHO technical experts who had delivered their role in emergency contexts in the past.

Challenges

Leadership experience and skillsets at some WCOs, particularly for some WRs, were inadequately matched to the country context (e.g., a lack of prior emergency experience was noted in some

countries) which had an adverse effect on the response. Interviewees at all levels of WHO agreed that the quality and suitability of experience of leadership (especially at a country-level) is the core enabler of an emergency response, especially one as global as COVID-19 where there was limited scope for reallocating resources across countries. Accordingly, stakeholders mentioned that where relevant experience was lacking among leaders it had detrimental impacts on decision-making and the overall response. Some stakeholders further indicated that a lack of prior emergency and operational experience among WRs had an adverse effect on the overall response.

WCOs and IMST pillar leads expressed that greater autonomy over decision-making at the country and pillar level would have led to a more effective and timely response. Interviewees mentioned that slow approvals from EMRO or the Global Service Centre (GSC) led to delayed action in time-sensitive situations. Examples of this included WCOs requiring regional technical approvals in order to procure medical supplies or to hiring new staff (including staff at relative low financial thresholds). IMST pillar leads also mentioned that requiring approvals from non-emergency staff led to delayed action. For example, the IMST's Communications pillar sometimes required approvals from non-emergency staff for particular pandemic response activities (e.g., publishing materials), causing some delays to the timely releasing of emergency communications. Much of this balance of authority is intentional to WHO's organisational design, but some WCO and IMST pillar stakeholders, as well as two MoH stakeholders, suggested that there is scope to review how the delegation of authority may need to shift during an emergency given the importance of timely decision-making and action. Conversely, other interviewees at WCOs were comfortable with the balance of authorities, often citing the support and trust they had from EMRO leadership.

Internal coordination

Successes

EMRO's IMST for COVID-19 served as an effective coordinating mechanism that balanced centralised leadership and priority-setting with information-sharing, and collective problem-solving. WHO colleagues at all levels credited the EMRO IMST as an enabler for many of the successes throughout the Region. In particular, the IMST mechanism (i) supported greater collaboration within EMRO as compared to reportedly a more siloed working style pre-pandemic, (ii) provided a platform for regular information-sharing and problem-solving discussions and (iii) facilitated discussions and decision-making on strategies to improve the COVID-19 response, with the participation of both EMRO and WCO stakeholders.

Challenges

Country Support Teams (CSTs) added value in a limited number of cases, predominantly where WCO relationships with EMRO colleagues were less strong. Elsewhere, CSTs added an additional coordination layer and provided limited added value. CSTs were set up to coordinate WCO requests and information exchanges with EMRO's IMST. They were created for WCOs that did not already have a standing CST to streamline the support it required from EMRO's IMST. CST support added value where it (i) effectively captured the needs of a country, (ii) engaged EMRO capacities as needed in a timely manner, (iii) was guided by a CST lead with strong coordination capabilities (and the spare capacity to do so), strong commitment and engagement as well as technical expertise that matched the country's needs. CSTs tended to add more value in WCOs where existing relationships with EMRO were less strong. On the whole, however, most WCOs were able to directly access EMRO advisors, and thus perceived the CST to be an unnecessary coordination layer. Once COVID-19 CSTs were disbanded, most WCOs continued to receive the support they needed from EMRO without the additional coordination layer. One stakeholder suggested that CSTs could have been more effective had the role been defined and evaluated jointly with WCOs (to ensure that support was aligned with the WCOs' and Member States' visions and objectives).

EMRO's IMST meetings were sometimes not conducive to detailed technical discussion, in part due to the presence of senior leaders and the sheer number of meeting participants. While EMRO's IMST meetings had fostered collaboration, a small number of interviewees and survey respondents noted that EMRO's IMST meetings could have had more opportunities for peer-to-peer technical collaboration. Although pillar leads had separate meetings with the IMST incident manager to discuss technical matters on a bi-weekly or monthly basis, they were irregular. Some stakeholders also indicated that the presence of senior EMRO leaders sometimes prevented candid communication or created a focus on success-sharing. They suggested that technical leadership (e.g., IMST pillar leads) could have benefitted from alternative platforms or meeting spaces to coordinate on specific issues without senior leadership. Others indicated that there was potential to have fewer participants and in some cases more decision-focused IMST meetings.

Internal and external communications

Successes

Media engagement by the Internal and External Communications sub-function provided tailored information to press outlets, whilst also building WHO's credibility with the public. EMRO and WCOs provided regular, tailored press briefings to media outlets. This helped to build relationships through which media in turn provided WHO with increased opportunities to share messaging with the public (e.g., through television appearances and press conferences). This had the mutual benefit of providing up-to-date and relevant information to media outlets, whilst also building WHO's media network and public credibility. During COVID-19, EMRO built its regional media database, which will support quick and widely disseminated vital information to the public in non-COVID-19 emergencies. WCO stakeholders reiterated the value of media engagement and cited EMRO's provision of media talking points to WCOs as a helpful enabler of well-informed and standardised media engagement.

Recommendations

Leadership

To build on successes:

1. **Ensure the presence, visibility and availability of senior EMRO and WCO leadership to spearhead future responses, especially through prompt response times, visibility in team-wide meetings and engagement of national leadership and partner agencies.**

Consistent involvement and buy-in of senior leadership could help in driving efficient and effective emergency responses. As per the COVID-19 response, benefits could range from breaking down reported siloed cultures within EMRO, to motivating and empowering staff throughout the Region to adapt and go beyond WHO's standard response. Retaining regular senior-level engagement with national leaders and partner agencies could also be helpful in facilitating continued country-level alignment and joint technical work.

To address challenges:

2. **Map WCO leadership skills requirements to Member State contexts and increase emergency and operational leadership capacity where needed, particularly in countries with protracted humanitarian crises and/or high risks of emergencies. There are several options to increase capacity including:**
 - i. **Adjusting the WR appointment process:** The WR appointment process could further take into account unique Member State needs and circumstances. Some countries require emergency experience, while higher income countries may benefit from

experience in navigating complex political contexts as well as in resource allocation and mobilisation.

- ii. **Providing requisite training:** WHO could continue to incorporate training and internal capacity building to ensure that WRs and other key WHO staff, especially those with limited emergency experience, are well-trained in the particular emergency response requirements of their Member States. For example, WHO could establish a programme to develop the next generation of WRs, including a specific focus on developing emergency management capacities.
 - iii. **Supplementing WCO leadership teams with additional capacity to purposely fill gaps in expertise or experience:** WRs could also be supported by sufficient technical leadership suited to emergencies and their country's operational context. For example, in countries with protracted humanitarian crises, WHO could recruit Deputy WRs that bring specific and complementary skills to those of the WRs.
3. **Review (and potentially increase) the delegation of decision-making authority to WCOs in emergency contexts to speed up critical operational decisions (particularly in terms of approvals for surge recruitment and emergency procurement).**

The balance of decision-making authority during emergencies could be reviewed, particularly for key processes identified as having bottlenecks. For instance, EMRO could explore delegating further HR authorities to WRs during emergency responses, enabling quicker recruitment. Once bottlenecks in the decision-making process are identified, some processes may be sped up without changes to policies on delegated authorities. The greatest potential for progress likely lies within administrative delegations of authority that could enable more rapid scaling and adapting of technical capacity. A more consistent application of emergency SOPs could also contribute to faster decision-making processes.

Internal coordination

To build on successes:

4. **Maintain the collaborative working style achieved through successful cross-departmental working within EMRO's IMST by continuing to communicate regularly in wider forums and encouraging multi-department programmes (including beyond emergencies).**

Departments across EMRO can continue to think and work collaboratively in future emergency responses. This includes collaboration throughout all elements of emergency management, including prevention/mitigation, preparedness, detection, response and recovery. In particular, EMRO could continue to host cross-departmental forums for communications and updates on programmes, and encourage multi-department programmes. This could be useful in both emergency and non-emergency contexts.

For ongoing and future emergency responses, EMRO could ensure that regular high-level discussion forums or IMST meetings involving all staff (similar to the COVID-19 IMST meetings) are held. The frequency of the high-level meetings could be reduced to set aside time for staff to engage on more in-depth technical issues (without the presence of senior leadership); and regional senior management could consider consistently convening regular meetings with pillar leads.

Information management and surveillance

Context

The Information management and surveillance function aimed to provide WHO, Member States and partners with the epidemiological information required to guide emergency response and recovery planning. During the COVID-19 response, this function primarily conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- **Surveillance:** Supported COVID-19 surveillance in the Region by detecting and verifying outbreaks. Collected epidemiological data from Member States through MoH websites, social media and IHR mechanisms. 15 Member States have sites reporting for influenza-like illness (ILI) and severe acute respiratory infections (SARI).³² Engaged with systems such as Epidemic Intelligence from Open Sources (EIOS) for detection, Eastern Mediterranean Flu (EMFLU) and District Health Information Software 2 (DHIS2) for data collection management, and Go.Data for data aggregation, early detection and contact tracing activities.
- **Data analytics and forecasting:** Conducted data analysis to facilitate the understanding and interpretation of COVID-19 data. Guided the implementation of public health and social measures (PHSM) in 11 Member States after collaborating with the COVID-19 International Modelling (CoMo) Consortium to carry out mathematical modelling.³³
- **Information sharing:** Consolidated epidemiological information to be shared with National IHR focal points, key partners, governments and all parts of WHO. Produced information products, including IMST presentations, regional and national dashboards, maps, and regularly-disseminated Situation Reports. As of November 2022, EMRO's Information Management and Surveillance pillar had circulated more than 186 IMST presentations, 1,550 daily data updates, 436 epidemiological reports and 92 weekly WhatsApp posts related to COVID-19.³⁴
- **Monitoring and evaluation:** Tracked WHO's progress against the key performance indicators outlined in EMRO's COVID-19 Strategic Preparedness and Response Plans (SPRPs) and country-level response plans, as well as supported other evaluations of WHO's emergency response.

It is important to note that these activities were delivered in the context of three severe challenges, including:

- Limited data sharing from most Member States.
- Difficulties in collecting accurate information in FCV settings due to security reasons and weak surveillance infrastructure.
- Lack of available genomic sequencing information of COVID-19 variants.

³² Epidemic and pandemic-prone diseases, WHO EMRO, Webpage. Accessed at: <https://www.emro.who.int/pandemic-epidemic-diseases/news/influenza-surveillance-in-the-region.html> on 30 December 2022.

³³ Adib K, Hancock PA, Rahimli A, et al A participatory modelling approach for investigating the spread of COVID-19 in countries of the Eastern Mediterranean Region to support public health decision-making. *BMJ Global Health* 2021;6:e005207.

³⁴ Health Emergency Information and Risk Assessment (HIM), Eastern Mediterranean Region (EMRO), Cairo, 22 November 2022, WHO EMRO, 2022.

- Managing the detection and surveillance of, as well as data requirements for, other concurrent health emergencies, including outbreaks and humanitarian crises.

The Information and surveillance function was carried out by WCOs and the EMRO IMST Information Management and Surveillance pillar, which comprised of approximately 40 team members throughout the pandemic.

Findings

Surveillance

Successes

WHO's upgraded digital infrastructure improved its ability to aggregate COVID-19 data and to conduct contact tracing. Given the constant evolution of the COVID-19, decision-makers and health experts required a greater flow of data than usual to analyse and prevent its spread. In response, WHO effectively improved its digital health data infrastructure to facilitate the input of and access to COVID-19 related data. In particular, WHO worked with DHIS2 to develop the Health Data Toolkit for surveillance and vaccine delivery.³⁵ The DHIS2 toolkit is an information management system that automates the process of data aggregation and allows for integrated data analysis, amongst other functions.³⁶ Information from the DHIS2 platform was then fed into the regional COVID-19 dashboard – a one-stop platform providing overviews of the situation across the Region. The use of the DHIS2 package increased the efficiency of information management at EMRO and reduced EMRO's reliance on manual data processes. Automation also eased and quickened the process of producing analysis and information products (e.g., risks assessments) for pillars and WCOs to share with Member States. According to EMRO stakeholders, this represented progress that had been difficult to achieve pre-pandemic, but was accelerated by the need to support the pandemic response.

In some instances, WHO was quick to adapt pre-existing surveillance infrastructure and manpower to avail real-time COVID-19 data. WHO's polio staff across several member states were actively involved in COVID-19 surveillance. For example, WCO Pakistan successfully repurposed polio emergency structures for transport, data collection and data management for COVID-19 data. The polio eradication call centre, "Sehhat Tahaffuz", was adapted to answer the public's COVID-19 queries, and provided WHO with useful information on the public's attitude towards and knowledge of COVID-19.³⁷ Several Member States also utilised pre-existing sentinel surveillance sites for ILI and SARI, as well as the Early Warning, Alert and Response System (EWARS) for the detection and monitoring of COVID-19. At the regional level, EMRO adapted the EMFLU platform (EMRO's data collection and sharing tool for influenza)³⁸ in one to two months to receive COVID-19 information from Member States. WHO saved time and resources by adapting tools that were already familiar and widely-established across Member States. Nonetheless, an EMRO stakeholder noted that the same process of adapting EMFLU for COVID-19 took much longer in majority of Member States, which then eventually set up new and/or independent surveillance systems.

WHO successfully diversified its data collection processes to adapt to increased government use of social media as official information sharing channels. Prior to the pandemic, EMRO relied on HQ's EIOS platform, which only captured publicly available information from traditional sources, to conduct

³⁵ WHO Health Data Toolkit, DHIS2, Webpage. Accessed at: <https://dhis2.org/who/> on 19 December 2022.

³⁶ Ibid.

³⁷ Coronavirus Disease – 2019 (COVID-19), Country Support Missions, Mission Report, Pakistan – 14-24 October 2020, WHO EMRO, 2020.

³⁸ EMFLU, Home, WHO EMRO, Webpage. Accessed at: <https://emflu.emro.who.int/> on 6 January 2023.

online media scanning.³⁹ EMRO recognised that governments and partners were increasingly using social media for official updates and showcased its willingness to change and adapt by embracing additional sources. EMRO collaborated with the European Centre for Disease Prevention and Control (ECDC) to develop Epi tweetr, a tool that scrapes epidemiological information on Twitter while tracking variables such as timing, location and themes. Epi tweetr was used in conjunction with the Sprinklr platform, which tracked information on social media to analyse and visualise COVID-19 data, and provided warnings of anomalies detected by its artificial intelligence and machine learning capabilities. Approximately 96% of COVID-19 updates captured by EMRO were from social media sources, primarily from Twitter and Facebook.⁴⁰

In response to the low availability of surveillance data in less accessible areas, WCOs in some countries filled surveillance gaps by mobilising volunteers and community healthcare workers (CHWs) to collect data on-the-ground. Health centres in some countries were less reliable data sources as many were operating at little to no capacity, especially when there were many cases of health care worker (HCW) infections. In response, several WCOs developed community-based surveillance systems by training and deploying CHWs to conduct contact tracing in priority districts. For example, WCO Somalia trained more than 3,500 CHWs and volunteers on community-based surveillance who at some points reached over 30,000 households, including those in hard-to-reach and security-compromised regions.⁴¹ External stakeholders cited WHO's collaboration with the International Organization for Migration (IOM) and the MoH to train 45 migrant community members on community-based surveillance as critical to filling data gaps amongst migrant populations in their Member State. Beyond the pandemic, mobile teams have also been used for surveillance in other emergencies and for routine health screenings, indicating a legacy impact beyond the COVID-19 pandemic.

Challenges

COVID-19 surveillance efforts were hindered by the fragmentation of disease surveillance systems, which led to resource duplication and delays in early warning detection. In the Region, pre-existing tools used by WHO and Member States for surveillance activities, including data entry and analysis, were typically disease-specific and carried out by separate stakeholders. Some concerns surrounding inefficiencies have been raised by stakeholders: finite financial, infrastructural, and human resources are currently being used to perform similar functions with significant overlaps. In an emergency context, the lack of a unified approach results in irregularities and thus, contributes to delays in early warning systems. In some cases, the absence of strong linkages with national health information systems also prevented a more holistic overview of the impact of COVID-19 on the overall health systems of Member States. One stakeholder mentioned that weak integration of surveillance programmes, coupled with heightened focus on COVID-19, meant that many other outbreaks were left unmonitored. Another stakeholder indicated that fragmented systems reflected WHO's internal siloed mode of operations and emphasised the need for greater collaboration between different vertical programmes within WHO. During the 68th Regional Committee (RC), Member States passed resolution EM/RC68/R.3 calling for a regional IDS strategy⁴² and released a technical paper on steps

³⁹ Abbas H, Tahoun MM, Aboushady AT, et al Usage of social media in epidemic intelligence activities in the WHO, Regional Office for the Eastern Mediterranean. *BMJ Global Health* 2022;7:e008759.

⁴⁰ Ibid.

⁴¹ Responding to the COVID-19 pandemic: WHO's action in countries, territories and areas, 2020, WHO, 2021.

⁴² A regional strategy for integrated disease surveillance: overcoming data fragmentation in the Eastern Mediterranean Region (EM/RC68.5), Regional Committee for the Eastern Mediterranean, Sixty-eighth session, Agenda item 3(b), WHO EMRO, 2021.

WHO will undertake to facilitate stronger integration of disease surveillance systems in the Region.⁴³ Since then, EMRO has established an inter-departmental Technical Working Group (TWG) responsible for coordinating the Region's surveillance efforts and providing technical guidance on IDS to Member States.⁴⁴

WHO faced challenges in most countries as a result of government unwillingness to share data.

Multiple regional and country stakeholders highlighted that WHO often found difficulties in obtaining epidemiological data, especially disaggregated data. Although some Member States did share sub-national data, sharing was often inconsistent or lasted only for a short time. This was despite the fact that (i) data sharing is required by the IHR and (ii) WHO's senior leadership made efforts to engage with relevant national stakeholders, encouraging them to share data. Typically, data sharing decisions were taken at the most senior levels of government beyond the remit of the MoH and, according to stakeholders, some governments perceived data sharing as a national security and reputational risk. The lack of data reporting from official sources limited WHO's ability to capture, assess, and share a complete epidemiological assessment of the Region. Obstacles to data access not only affected surveillance, but also caused delays in the completion of risks assessments⁴⁵ and the quality of data analytics.

While the quality of technological tools for surveillance improved, some Member States did not receive sufficient support from WHO to maintain functional systems. While WHO introduced DHIS2 to some countries, its implementation was largely carried out through national healthcare systems. One MoH stakeholder highlighted that their Member State's surveillance team had sought additional technical support from HQ and the Health Information Systems Programme Centre at the University of Oslo (creators of DHIS2) to conduct troubleshooting, but found that the support was insufficient. Combined with internet connectivity issues, the Member State discontinued the use of DHIS2. An EMRO stakeholder noted that EMRO's human capacity constraints resulted in difficulties in meeting Member States' requests for technical guidance to support the implementation of DHIS2. In Somalia, the Early Warning, Alert and Response Network (EWARN) was operating at low capacity partly due to high operational costs and insufficient access to the internet,⁴⁶ affecting WHO's ability to track COVID-19 data from sentinel facilities.⁴⁷

Disaggregated data was not always easily accessible nor systematically tracked, leading to limited visibility for WHO and the health community on COVID-19's impact on vulnerable and high-risk groups. There were few instances in which WHO was able to obtain disaggregated data from several partner agencies and governments. For instance, a WCO stakeholder cited the example of the UN Refugee Agency's (UNHCR's) work in monitoring COVID-19 cases within refugee camps and relaying data back to WHO. Nonetheless, WHO lacked a regional strategy for both the systematic collection of sex-disaggregated data and HCW infections. Although the collection of sex- and age-disaggregated data improved over time, stakeholders noted that there is room for a more systematic approach in data collection. Similarly, most WCOs faced challenges in obtaining sex-, age- and co-morbidity-

⁴³ A regional strategy for integrated disease surveillance: overcoming data fragmentation in the Eastern Mediterranean Region (EM/RC68.5), Regional Committee for the Eastern Mediterranean, Sixty-eighth session, Provisional agenda item 3(b), WHO EMRO, 2021.

⁴⁴ Proposed Integrated Disease Surveillance (IDS) Technical Working Group (TWG), WHO EMRO, 2022.

⁴⁵ Noting that a project initiated by the Public Health Intelligence team on improving the speed and frequency of information sharing of public health events by IHR NFPs to WHO is currently underway. Refer to Strengthening the Notification and Information Sharing of Acute Public Health Events to WHO by the IHR-NFP by WHO EMRO for more.

⁴⁶ National Preparedness and Response Plan for Corona Virus Disease 2019 (COVID-19), Somalia, Ministry of Health and Human Services, Federal Government of Somalia. 2020.

⁴⁷ Review of the COVID-19 Response in Somalia, 26-30 September 2021, WHO Mission Report, WHO EMRO, 2021.

disaggregated data from governments, and sometimes case numbers amongst HCWs and non-citizens. The lack of data especially affected WHO's ability to offer technical and operational guidance on how to prioritise support to vulnerable groups. It is worth noting that after the initial phases of the pandemic, a WCO stakeholder mentioned that WHO was able to convince their Member State to share disaggregated data by reassuring the Member State that WHO's increased data access would allow WHO to improve their overall operational response.

Data analytics and forecasting

Successes

WHO used COVID-19 modelling and analysis as a key tool to engage with decision-makers in 11 Member States and shape policy. EMRO and WCOs supported Member States in conducting COVID-19 mathematical modelling based on the COVID-19 International Modelling (CoMo) approach.⁴⁸ COVID-19 modelling helped to guide the implementation of appropriate PHSM policies in Member States.⁴⁹ For instance, the results from COVID-19 modelling shaped the timing of school re-openings in multiple Member States. EMRO and some WCOs also convened scientists and researchers from other organisations to conduct data analysis, which contributed towards stronger evidence-based responses in Member States.

Challenges

Epidemiological data could have been analysed in more detail to guide decision making at the regional level. Epidemiological reports released by EMRO covered topics including the number of cases in the Region, the distribution of cases, and the emergence of new COVID-19 variants. While data was well-aggregated, EMRO stakeholders found the nature of EMRO's data analysis to be largely descriptive, which potentially limited discussion on the implications on the response for IMST pillars. For instance, there could have been more frequent analysis on how specific interventions (e.g., provision of ventilators) could address critical gaps or lead to better health outcomes. Nonetheless, other EMRO stakeholders also noted that some operational IMST pillars did not always take action based on COVID-19 data and analysis provided, and expressed difficulties in obtaining country-level contextual data (e.g., policies enacted by Member States) needed as background for analytical work. Additionally, stakeholders pointed to the shortage of human capacity in EMRO's and WCOs' data analytics teams and highlighted the shortage of expertise in epidemiology, particularly field epidemiology, in the Region.

The Situations of Concern analysis was a useful risk assessment tool to improve global planning but didn't directly influence decision-making at EMRO (although EMRO may have benefitted from it indirectly). At the global level, HQ held weekly Situations of Concern (SOC) meetings where Regions provided data and analysis on potential risks facing Member States. This included epidemiological data, but also other factors such as developments in humanitarian settings, the impact of other ongoing emergencies, vaccine uptake levels, and more. The SOC analysis was used as an ongoing internal risk assessment tool so as to modulate WHO efforts towards specific countries. It was also a way to gauge potential near-term increases in demand for health supplies from specific Regions and Member States, which could enable OSL teams to plan ahead. In the EMR region, staff felt that the SOC work hadn't impacted the nature of their support. This perception was driven by a sense that (i) EMRO staff were the source of underlying risk data and so related risks were already factored into their planning and (ii) EMRO staff did not have visibility over the ways in which WHO HQ (including

⁴⁸ Abbas H, Tahoun MM, Aboushady AT, et al Usage of social media in epidemic intelligence activities in the WHO, Regional Office for the Eastern Mediterranean. *BMJ Global Health* 2022;7:e008759.

⁴⁹ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

the OSL team) was using that data to adjust its support – and so may have unknowingly benefitted from its use.

Monitoring and evaluation

Successes

EMRO monitored WHO's response against the COVID-19 Monitoring and Evaluation (M&E) framework, providing staff with key datapoints signalling the Region's progress. EMRO released the Region's first COVID-19 SPRP containing the IMST's goals and an M&E framework detailing a set of key performance indicators across pillars in February 2020.⁵⁰ Priority activities of individual IMST pillars were articulated clearly, and the indicators tracked outputs, inputs and outcomes, such as the number of healthcare workers trained on case management, vaccination rates, and the percentage of countries with functional IPC programmes. EMRO gathered and compiled the indicators to be shared with wider staff throughout the response and via the IMST Progress Reports.

Challenges

EMRO's M&E indicators had limited specificity to WHO and targets were sometimes less actionable, hindering their effectiveness as a tool to improve WHO's support. EMRO developed quantifiable and measurable M&E indicators, and in later SPRP issues, the framework was adapted to have more specific metrics, including data dimensions such as data type, source and frequency of collection. However, goals sometimes lacked specific targets, or were set as "100%", which although ideal, might not be feasible in many contexts. Besides cross-cutting IMST functions, most indicators tracked data on progress made by Member States rather than WHO's own technical teams. This provided helpful datapoints on tracking progress on outcomes within Member States and the general COVID-19 response in the Region. However, the data potentially limited WHO's ability to accurately assess its own impact in influencing outcomes. One EMRO stakeholder also mentioned that the ERF's performance standards, which outlines the responsibilities of ERF functions according to response timelines,⁵¹ could have been better monitored. Additionally, a pillar lead expressed difficulties in measuring WHO's impact due to the broad and far-reaching scope of activities, such as when carrying out cascade training. The lack of internal-facing data also contributed to difficulties in documenting WHO's efforts and reporting WHO's progress to donors. Further to this, there was a lack of external data from Member States, which also hindered M&E efforts.

Once the M&E framework was established, formal mechanisms for data collection at country-level were not always fully institutionalised or followed by pillars at regional-level. EMRO compiled the M&E indicators and trained focal points from pillars on data collection procedures whenever the framework was updated. However, there were differing extents of follow-up in data collection across pillars and WCOs, according to EMRO stakeholders. Additionally, EMRO often resorted to collecting country-level M&E information on an ad-hoc basis, such as through COVID-19 missions. Where WCOs did not have access to M&E data, which consisted of several external indicators, they relied on Member States to contribute. However, EMRO stakeholders noted that there was a lack of formal data collection mechanisms for (i) WCOs to update EMRO about M&E indicators and (ii) WCOs to obtain M&E data from national counterparts. It was also mentioned that some Member States do not have M&E data due to the absence of national M&E teams, and that WHO could provide technical support to those Member States to set up M&E personnel and frameworks.

⁵⁰ Coronavirus disease 2019 (COVID-19) strategic preparedness and response plan: Accelerating readiness in the Eastern Mediterranean Region, February 2020, WHO EMRO, 2020.

⁵¹ Emergency Response Framework (ERF), 2nd edition, WHO, 2017.

Information sharing

Successes

EMRO consolidated and shared epidemiological data across WHO, providing staff with useful updates. EMRO compiled data outputs, along with a summary of global trends and anomalies, in PowerPoint slides for the regional IMST, and then for dissemination by the IMST's Coordination and Documentation Cell. Pillars at EMRO used the up-to-date epidemiological data to guide and adjust WHO's operational response while WCOs were able to share important epidemiological developments with Member States.

Externally, partners saw WHO as a source of credible health information. In the context of misinformation about the COVID-19 outbreak, partners consistently relied on WHO for reliable and accurate health-related information. WHO disseminated epidemiological reports to staff across the UN system, improving partners' ability to provide a tailored and informed response. WHO's epidemiological information products formed the basis for fact-checking activities, according to an external stakeholder. In one Member State, the WCO also consolidated the government's COVID-19 policies and activities, which was useful for UN agencies to monitor strategies that Member States had put in place.

Challenges

UN partners' perception on the usefulness of the information reports provided by WHO varied. In some cases, situation reports received by partners were less suited to countries' needs. UN partners also indicated that WHO's information reports could have been more accessible to UN staff without professional backgrounds in the medical field as it was sometimes difficult for staff to comprehend medical terminologies and technicalities, although this was said to have improved over time as WHO incorporated their feedback. While stakeholders appreciated that WHO provided a vast amount of information, some indicated that reports could be improved with more data insights and highlights of the most important developments at different stages of the pandemic.

Recommendations

Surveillance

To build on successes:

- 1. Expand the use of adaptable and innovative data collection methods to increase data availability at regional- and country-levels (e.g., collection through social media scraping and community-based surveillance programmes).**

WCOs could strengthen community links to obtain data at the local level and in areas inaccessible to governments. WHO can expand community-based surveillance programmes by training (or working with governments and Civil Society Organisations (CSOs) to train) more CHWs to track and report outbreaks within communities and supporting mobile teams with the necessary equipment to conduct field missions. Although there was an uptick in community-based surveillance activities, there remain some rural and FCV regions within Member States that could benefit from further coverage. EMRO and WCOs could work with local NGOs to build a stronger presence in these regions to ensure better coverage during future emergencies. Developing local solutions for data collection could engender strong levels of trust within communities, encourage upwards reporting, and provide WHO, governments and hospitals with an additional data source. This also has the added benefit of obtaining data in FCV settings, especially areas outside the reach of governments due to security reasons or with weaker healthcare systems.

Social media is a powerful tool for EMRO to source data from both official and unofficial sources. In particular, further social media scraping could enable WHO to collect data from various governmental channels in a timely manner, especially when governments are not sharing the most up-to-date information directly with WHO.

To address challenges:

2. Enhance collaboration across EMRO departments to roll out and fully implement the regional strategy for IDS.

EMRO could continue advocating for the need to consolidate surveillance systems in the Region. The TWG for IDS could strengthen for the implementation of EM/RC68/R.3⁵² by standardising the format in which data is being collected and coordinating with donors on how to integrate surveillance-related activities, amongst other actions.⁵³ The TWG could benefit from stronger collaboration across EMRO departments, including non-WHE ones, to better align surveillance programmes and resources. Combining the efforts of different surveillance teams (whether the teams are working across different geographical areas or disease types) could prevent the duplication of resources and save time during emergencies as decision-makers would not have to refer to multiple information sources.

3. Assess where gaps in skills and infrastructure (e.g., internet connectivity and communication devices) are preventing Member States from utilising WHO systems (e.g., DHIS2), particularly in low-income settings, and provide training and resources from across WHO to fill these gaps.

HQ and EMRO could assess whether countries, particularly LMICs, have the appropriate infrastructure, financial resources and human capacity to utilise the technological tools that WHO has introduced and advocated for. Ensuring the functionality of surveillance tools could ease the process for Member States to collect and share data, improving WHO's access to data. Depending on the requirements of Member States, WCOs could provide additional technical training to their own staff and to HCWs more broadly. Timely support from HQ to debug and troubleshoot system issues could also encourage uptake of more efficient data collection and management tools such as DHIS2. To facilitate online reporting, EMRO and WCOs will need to ensure that data collection points receive operational support and are also, for example, equipped with internet connectivity and communication devices. To avoid data gaps in the meantime, WHO could consider alternative resources for collection and analysis.

4. Encourage governments to share health data by proactively demonstrating how Member States can use data to improve their emergency responses.

While countries' policies on data sharing are inherently political, stakeholders shared best practices for WHO to encourage data sharing, on top of WHO's senior management's advocacy efforts. Suggested best practices have included developing and presenting specific examples of how the use of disaggregated data could strengthen Member States' responses – e.g., in improving vaccine targeting or distributing scarce resources. Stakeholders have also recommended providing case studies from peer governments.

In addressing governments' security and reputational concerns, WHO can distinguish between health data that will be disseminated to the public and data used for the sole purpose of guiding operational activities internally. By building a confidential space, barriers to data

⁵²A regional strategy for integrated disease surveillance: overcoming data fragmentation in the Eastern Mediterranean Region (EM/RC68.5), Regional Committee for the Eastern Mediterranean, Sixty-eighth session, Agenda item 3(b), WHO EMRO, 2021.

⁵³Proposed Integrated Disease Surveillance (IDS) Technical Working Group (TWG), WHO EMRO, 2022.

sharing could be lowered. HQ, EMRO (including all pillars) and WCOs could make joint efforts in collecting data and sharing them internally.

- 5. Draw upon the capacities of country-level partners to collect disaggregated data which might be otherwise challenging to access (e.g., by using the on-the-ground presence of NGOs).**

Other UN agencies and NGOs are likely to have stronger on-the-ground presence in local communities or sites such as refugee camps and port of entries. As Health Cluster lead, WHO could draw upon their pre-existing capacities to help with surveillance efforts during outbreaks. As part of countries' national preparedness and response plans, WCOs could codify the roles that different partners can play in surveillance efforts and put guidelines and systems in place for the smooth reporting of health data. Partners have expressed interest in sharing best practices and case examples with WHO, which could help foster stronger coordination.

Data analytics and forecasting

To build on successes:

- 6. Build and strengthen working relationships with research working groups and academic institutions to generate advanced data insights.**

On top of strengthening in-house capacity for data analytics, EMRO could tap on the knowledge of external experts, such as epidemiologists and data scientists, to modernise WHO's approach to data analysis. During COVID-19, WCOs and Member States benefitted from data modelling, in particular, which helped to fill knowledge gaps in areas where information is inaccessible to WHO, providing a more holistic sense of Member States' epidemiological situation. As skills required for data analysis are independent of country context, such an initiative could be more efficient at higher levels of WHO.

Monitoring and evaluation

To address challenges:

- 7. Track internal-facing indicators within WHO's emergency response M&E framework to better determine progress of WHO activities and improve monitoring and learning.**

M&E frameworks could consist of indicators that track progress on WHO activities against the SPRP and in line with the ERF's emergency performance standards and response procedures. In the COVID-19 context, many of the indicators in the SPRP M&E framework tracked outcome-indicators within Member States, which limited insights on WHO's progress against the SPRP. For future emergencies, WHO could use internal-facing indicators, i.e., progress on the activities that WHO sets out to conduct in the SPRP or national response plans, to better monitor its progress during an emergency response. While noting challenges in data collection and quality in the Region, focal points in pillars could take further steps in recording internal activities and liaising with WCO or national counterparts, with the support of EMRO's M&E team. EMRO could also include indicators to track the number of pillars and WCOs that have submitted M&E data to increase accountability during an ongoing emergency response.

- 8. Strengthen Member States' commitments to establish M&E best practices and share data with WHO, as well as expand EMRO's and WCOs' M&E capacity.**

EMRO and WCOs could communicate the importance of M&E best practices to Member States and provide technical guidance on how to set up M&E teams and frameworks, where applicable. WCOs and Member States could both establish dedicated focal points for all data

requests around M&E. EMRO could also consider establishing a Memorandum of Understanding with MoHs suggesting the frequency of M&E data sharing. Correspondingly, EMRO could commit to presenting consolidated data, along with recommended actions based on the emergency response performance, back to MoHs. Including EMRO's M&E team in review missions could also strengthen communication links with WCOs and Member States. This could improve coordination between WHO and Member States in data collection and response monitoring, and improve WHO's identification of gaps and interventions during an emergency. To achieve these recommendations, EMRO could expand human capacity in emergency response M&E.

Health operations and technical expertise

Context

WHO's Health operations and technical expertise emergency function aimed to ensure optimal coverage and quality of health services in response to health emergencies. Activities in specific sub-functions (e.g., IPC, Laboratory Diagnostics) are detailed in the sub-sections below. Across these sub-functions, WHO delivered the following types of activities:

- **Prevention & control measures:** Developed clear recommendations, disseminated guidance and provided technical assistance to MoHs and partners on the most relevant actions to prevent and/or control public health risks.
- **Risk communication and community engagement:** Ensured the provision of authoritative information to a range of target audiences using relevant communications platforms. Provided guidance on ways to strengthen community participation in localised public health emergency management.
- **Health service delivery:** Collaborated with MoHs and partners to ensure the delivery of COVID-19 clinical care and broader essential health services, including operational support (e.g., delivery of biomedical supplies and equipment) and direct provision of health services by WHO where necessary.
- **Technical expertise, science and research:** Informed health operations about the best available technical expertise and guidance to ensure that operations adhered to recognised standards and best practices.
- **Training of health staff:** Provided training to HCWs, often in relation to the sub-functions outlined below.

The following section expands on the successes and challenges in WHO's Health operations and technical expertise function during the pandemic response. The section firstly presents findings and recommendations which apply to several sub-functions (cross-cutting findings), and secondly presents findings and recommendations specific to individual sub-functions. These sub-functions are:

- Laboratory Diagnostics
- Infection Prevention and Control (IPC)
- International Health Regulations (IHR) and Social Measures
- Risk Communication and Community Engagement (RCCE)
- Case Management and Clinical operations
- COVID-19 Vaccine
- Essential Health Services and Systems
- Research and Knowledge Management

Cross-cutting findings

Successes

In many countries, WHO tailored its support to suit each Member State's specific needs by considering the range of contexts and respective health systems across the Region. Though the EMR includes countries with strong health capacities (e.g., Gulf Cooperation Council (GCC) countries), a significant proportion of the Region's countries have weaker health systems. In alignment with WHO's

approach detailed in the Thirteenth General Programme of Work (GPW 13),⁵⁴ support from EMRO and WCOs to countries varied according to the maturity of health systems. In countries with stronger health systems, EMRO and WCOs' support was focused on providing guidelines and technical expertise when requested. For example, EMRO supported the National Regulatory Authorities of all GCC countries on approval processes of new COVID-19 vaccines. In countries with weaker health systems, WHO supplemented its response with improved access to operational support on two levels. Firstly, EMRO and WCOs directly delivered operational support, such as the procurement of testing equipment and medical supplies for patient management. Secondly, EMRO and WCOs indirectly facilitated operational support by mobilising and coordinating partner activities. For instance, through their role as Health Cluster leads (see **Partner coordination and engagement** section for more information), some WCOs facilitated the provision of medical supplies such as masks and oxygen by UN partner agencies.

WHO's technical expertise and guidelines were critical to MoHs and other partners throughout the Region. WHO's expertise was delivered via technical guidance documents, briefings at coordination mechanisms and informal communications platforms such as WhatsApp groups, amongst other channels. EMRO and WCOs were typically the authoritative source of technical expertise for MoHs and partner agencies in countries in the Region. Stakeholders at MoHs and partner agencies universally highlighted WHO's technical guidance as being critical in strengthening their respective response efforts. For example, stakeholders at other UN agencies explained that WCOs were their main source of technical guidance when planning their response activities, and valued the regularity and relevance of advice received in briefing meetings. WHO's technical support to National Regulatory Authorities – which enabled all Member States in the Region to approve COVID-19 vaccinations within less than five months – was another example cited by stakeholders.

In some Member States, WHO rightly focused on creating a foundational level of MoH capacity in specific technical areas (e.g., IPC) due to the limited preparedness of Member States in those areas. Stakeholders noted that many countries in the Region did not conduct any preparedness activities for, or have physical/human capacity dedicated to, response areas such as IPC, RCCE, Laboratory diagnostics and PHEOCs. This was a challenge raised in the context of countries with weaker health system capacities, as well as some with overall strong capacities. In some of these cases, EMRO and WCOs did not have teams or senior contacts to work with in MoHs. In turn, EMRO and WCOs split their efforts between supporting the establishment of foundational capacities and providing technical guidance relevant to COVID-19. For example, EMRO advised MoHs on setting up their first ever IPC and RCCE units, and provided basic training for healthcare workers, in addition to providing ongoing technical guidance. Some WHO stakeholders suggested that the low levels of preparedness were driven by Member States and donors deprioritising such technical areas prior to the pandemic. Many Member States have now, as a result of the COVID-19 pandemic, recognised the importance of establishing and strengthening PHEOCs and are now investing in this area (e.g., by reviewing legal frameworks and updating existing plans, policies and procedures). A cross-regional and cross-organisational PHEOC TWG has also been established along with a PHEOC information system and a 5-year bi-regional PHEOC strategic plan.

EMRO and WCOs filled gaps in health service delivery in countries with weaker health systems by providing operational support, in addition to technical guidance. Many countries in the Region had significant gaps in healthcare capacity (e.g., ICU beds and ventilators). EMRO and WCOs often combined technical support for MoHs (e.g., training for healthcare workers) with operational activities including procurement of supplies, payment of salaries and setup of physical infrastructure. The operational support was an essential enabler of Member State health responses, and was often seen by MoHs as the most important form of support provided by WHO. For example, during the first two

⁵⁴ Thirteenth General Programme of Work 2019-2023, WHO, 2019.

years of the COVID-19 response in the occupied Palestinian territory, WHO combined training of nearly 1,000 HCWs in ICU and case management with the provision of 60 ICU beds, 124 ventilators and 150 oxygen concentrators.⁵⁵ In Somalia, which had no testing capacity at the onset of the pandemic, the WCO brought two virologists from Ethiopia (via a UN flight) to help establish three laboratories in a month, which enabled authorities to monitor disease spread and plan interventions.⁵⁶ While WHO's technical and normative guidance are critical for all Member States, its operational capacities form an increasingly important role in the delivery of health services to Member States, especially in low- and middle-income countries, and is an essential enabling function of its technical support.

WHO's emergency support (both technical and operational) sometimes helped build long-term health system capacities beyond COVID-19. WHO provided technical capacity building across the Region (e.g., providing basic training on IPC and PHEOC management), as well as physical and operational capacity building in countries with weaker health systems (e.g., construction of isolation centres and ICUs). In several countries, these activities have built long-term health system capacities that serve other health emergencies and routine health services – most notably in IPC, RCCE, Case Management and Clinical Operations, PHEOCs and Laboratory Diagnostics. For instance, WHO strengthened capacity for genomic sequencing in Iran (Islamic Republic of), which is now usable for other outbreaks.⁵⁷ Similarly, CHWs trained and mobilised by WHO in one Member State have been redeployed for service delivery in the country's drought response. In another Member State, Rapid Response Teams (RRTs) trained on outbreak investigation and contact tracing during the COVID-19 response now have the capacity to respond to other outbreak-prone diseases and emerging diseases. Some of this progress was possible as COVID-19 realigned Member State priorities and also enabled political buy-in for such investments, which WHO took advantage of.

In cases where WHO was able to provide sufficient support for preparedness activities, Member States responded more efficiently to COVID-19. Several WCOs collaborated with Member States to build health emergency preparedness prior to and at the outset of the COVID-19 pandemic. This included support for: (i) pandemic preparedness plans based on past outbreaks (e.g., national pandemic plans in the Saudi Arabia (Kingdom of) developed following MERS),⁵⁸ (ii) assessments of readiness to respond to outbreaks (e.g., hospital readiness checklist used to assess facilities in Tunisia);⁵⁹ and, (iii) establishment of transferrable outbreak response infrastructure (e.g., virology and epidemiological surveillance capacities established in Morocco).⁶⁰ In many cases, these preparedness activities enabled more efficient COVID-19 responses. Specific benefits of preparedness activities included: quick dissemination of pre-established guidelines on outbreak responses; pre-establishment of working relationships between WHO and national counterparts; and, quick scale up of emergency response infrastructure (e.g., testing facilities and data systems).

⁵⁵ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

⁵⁶ Responding to the COVID-19 pandemic: WHO's action in countries, territories and areas, 2020, WHO, 2021.

⁵⁷ WHO donates 6 advanced genomic sequencing machines to Islamic Republic of Iran to support nationwide monitoring of COVID-19 variants, WHO, webpage. Accessed at <https://www.emro.who.int/iran/news/who-donates-6-advanced-genomic-sequencing-machines-to-islamic-republic-of-iran-to-support-nationwide-monitoring-of-covid-19-variants.html?format=html> on 13 December 2022.

⁵⁸ Responding to the COVID-19 pandemic: WHO's action in countries, territories and areas, 2020, WHO, 2021.

⁵⁹ Ibid.

⁶⁰ Ibid.

Challenges

A shortage of human capacity at both EMRO and WCOs, and difficulty in scaling up surge capacity, limited the technical and operational support that WHO could offer to Member States. Several regional IMST pillars and WCOs cited shortages of technical experts as a constraint in several sub-functions, including Case management and clinical operations, IPC, RCCE, and IHR and social measures. A lack of wider human capacity also limited the on-the-ground operational support which WHO was able to provide. This challenge was attributed to a range of factors, including: (i) structural shortages of skillsets in some technical areas across the Region (e.g., IPC); (ii) challenges in attracting talent to EMRO and WCOs over offices of WHO/partner agencies; (iii) bottlenecks in recruitment processes (see *Finance, administration and resource mobilisation* section for further detail). This lack of capacity caused delays in providing support to countries, and in some cases meant that pillars and WCOs could not fulfil all demands from countries. EMRO's Case Management and Clinical Operations pillar, for example, had one member of staff in the early months of the pandemic, and therefore was somewhat limited in its ability to meet massive demand for case management training and technical guidance from Member States. Focal points at WCOs sometimes stretched to cover various roles, meaning that they were slower to share their technical guidance with all country stakeholders as may have been needed, and sometimes covering roles that they had less specialist experience in (e.g., RCCE).

WCOs and EMRO cited internal procurement bottlenecks as a source of delays in providing operational support. As is further detailed in the *Operations support, logistics (OSL) and procurement* section of this review, both external and internal stakeholders cited the procurement delays as a key bottleneck in their operational support to countries. Examples included delays to the restocking reagents, provision of polymerase chain reaction (PCR) machines, delivery of regular genomic sequencing and construction of isolation centres.

When resource-limited countries did not receive operational support to fill gaps in service delivery, this sometimes prevented the applicability of WHO's technical support. For instance, WHO supported approval of and access to vaccines in all EMRO countries. However, some lower-resource countries did not have operational capacity to store, distribute and administer vaccines, and therefore did not make full use of the vaccine supplies that they had access to. Though this was not necessarily the responsibility of WHO alone, it was an impediment to WHO's technical support translating to higher vaccination coverage.

Although WHO's guidelines were appreciated for their credibility and quality, its development and dissemination of guidelines was at times too slow, hindering their utility for MoHs, agencies and populations. Many stakeholders praised the timeliness of WHO's provision of technical advice, whether formal (e.g., guidelines) or informal (e.g., answers to live questions). This being said, a minority of stakeholders at EMRO, WCOs, MoHs and external agencies perceived WHO's development and dissemination of guidelines to have been too slow. For instance, it was highlighted that guidance sometimes came later than when it needed to be implemented by MoHs, meaning that it was used for confirmation rather than instruction, or that guidance from other health agencies was used instead. Two causes were highlighted for guidelines with lengthy development times. On one hand, HQ's preference for fully risk-assessed, evidence-based guidance was noted and stakeholders accepted that this naturally took time. On the other hand, internal, communications-related processes were highlighted as a source of delays. This included review and approval processes for publications (which were often the same for urgent guidance as for any other WHO online publication), as well as time taken to translate guidance to local languages. Stakeholders mentioned that particularly with the latter, there were opportunities for improvements.

Cross-cutting recommendations

*Note: some of the greatest opportunities to address challenges in Health operations and technical expertise relate to the performance of other functions (in particular, **Finance, administration and resource mobilisation, and Operations support, logistics (OSL) and procurement**). Relevant recommendations have been included in those sections.*

To build on successes:

1. **Capitalise on the momentum from the COVID-19 response by turning temporarily scaled-up capacity in Member States into more permanent capacity, agendas, and networks (e.g., develop EMRO and WCO critical care training into longer-term certifications, maintain newly built country laboratory capacities and PHEOCs, and institutionalise IPC and RCCE units set up in MoHs).**

WHO led activities in responding to COVID-19 that helped establish formal capacity in some functions and platforms for the first time. Prior to COVID-19, such functions and platforms were not established or lower priority for Member States.

EMRO and WCOs have the opportunity to build on momentum by sustaining these COVID-19 initiatives into the future to maintain a higher level of preparedness for future and ongoing emergencies. Examples include:

- i. **Formalising capacities:** Across all functions, including Laboratory Diagnostics and IPC, WHO could sustain efforts made during the pandemic by conducting regular trainings and quality assessments.

In Case Management and Clinical Operations, EMRO and WCOs could develop critical care/ICU training into longer-term training with national certificates. EMRO could scale up innovative operational solutions developed for the pandemic, such as solar-powered oxygen systems in areas with unreliable electricity (as was already done successfully in some instances). Similarly, EMRO and WCOs could also develop isolation units, particularly in resource limited countries. (Note that these isolation units are currently under assessment for potential conversion to permanent ICUs in emergency treatment centres).

Recognising that efforts to strengthen PHEOCs in the Region are underway, EMRO could continue providing technical support to Member States to reach the goal of ensuring that 90% of PHEOCs are functional, as part of the five-year bi-regional strategic plan with the WHO Regional Office for Africa (AFRO).

- ii. **Formalising agendas, units and programmes:** EMRO and WCOs supported several MoHs in establishing their first IPC units, PHEOCs and RCCE programmes. These units and programmes could be made permanent at MoHs, with the benefit of improving the prevention of and preparedness for future emergencies, and helping WHO maintain continued access to high-level decision-makers.
- iii. **Formalising networks:** WHO could make networks established for the COVID-19 response permanent. For example, EMRO could maintain and formalise communications platforms set up to exchange best practices between technical experts in laboratory

diagnostics and case management from across the Region, and within the regional RCCE Interagency Working Group (IAWG).⁶¹

To capture the above achievements, EMRO and WCOs could also conduct a mapping exercise of units and capacities established during the COVID-19 response. EMRO and WCOs could then conduct a follow-up exercise at a later stage to monitor if units and capacities are continuing to function, and if any support is needed from WHO.

2. Track Member State technical and operational needs on a continuing basis, and tailor provision of WCO skills profiles and operational capacity accordingly (e.g., offering additional operational support to countries with weaker health systems).

The support provided by WCOs varied from providing technical guidance to filling operational gaps by meeting the wide range of resource and capacity needs. WCOs can continue to provide support that is tailored to the technical and operational needs of Member States, in line with GPW 13⁶², and with the alignment of respective MoHs. As the needs and expectations of Member States can change, this practice could be executed on an ongoing basis and throughout an emergency response. For example, in countries with weaker health systems, WCOs could ensure that they have sufficient resources and skillsets to conduct more operational activities. In countries with more mature health systems, WCOs could continue to liaise with MoHs on appropriate forms of support (e.g., technical guidance or facilitation of cross-country collaboration) and conduct gaps assessments.

3. Prioritise investments in preparedness activities and capacities across all Member States (e.g., support for National Action Plans for Health Security), and increase donor advocacy for the funding of preparedness measures.

EMRO and WCOs could continue to conduct preparedness activities alongside Member State counterparts, particularly during non-emergency times, and in line with WHO's strategy for the planning, execution and monitoring of Nation Action Plans for Health Security in Member States.⁶³ This could include:

- i. **Continuation of existing preparedness activities:** WCOs could continue to collaborate with Member States on pandemic preparedness plans, readiness assessments, and establishment of multi-disease response infrastructure.
- ii. **Resource mobilisation:** EMRO and WCOs could also emphasise the importance of preparedness to donors, potentially enabling more resources to be mobilised specifically for preparedness.

To address challenges:

4. Address structural gaps in technical expertise and operational capacity at both EMRO and WCOs by (i) performing a capacity gap analysis across Health operations and technical expertise sub-functions – covering current and likely future gaps, and (ii) developing and implementing a strategic plan to close capacity gaps.

- i. **Perform a capacity gap analysis:** EMRO and WCOs could perform a gap analysis to understand current available capacity across functions and skillsets, and map this against: (i) technical and operational capacity that WHE currently requires and lacks; (ii) technical

⁶¹ For more details, refer to Regional guiding framework for risk communication and community engagement for the COVID-19 response in the Eastern Mediterranean Region/Middle East and North Africa: December 2020, by WHO EMRO, IFRC and UNICEF.

⁶² Thirteenth General Programme of Work 2019-2023, WHO, 2019.

⁶³ World Health Organization strategy (2022-2026) for National Action Plan for Health Security, WHO, 2022.

and operational capacity that WHE expects to require in the future and (iii) a probability-adjusted estimate of potential future surge capacity needs.

- ii. **Develop and implement a strategic plan to close capacity gaps:** EMRO and WCOs could then develop and implement a strategic roadmap to close identified capacity gaps. This plan could identify current barriers to increasing capacity, and define next steps to overcome them. Focus areas could include: (i) identifying challenges in attracting talent (both short- and long-term), and developing appropriate recruitment strategies and targets; (ii) identifying bottlenecks in HR processes and streamlining accordingly. (Note: for more information on further streamlining recruitment processes to scale up capacity in an emergency, see *Finance, administration and resource mobilisation*).
5. **Assess potential ways to (i) send early alerts and information to countries by releasing pre-guidance, and (ii) reduce the time taken to release emergency technical guidance by addressing administrative delays (e.g., publication approvals processes and translation capacity).**

EMRO and WCOs could assess potential options to speed up the release of time-sensitive technical guidance during emergency responses. Two types of solutions could be:

- i. **Releasing pre-guidance:** As a global norms provider, WHO will continue to require robust and risk-assessed evidence for technical guidance, which is naturally time-consuming. This being said, WHO could explore sending early alerts and information to countries by releasing increased pre-guidance. For example, WHO could consider giving MoHs and partners advance notice of its priorities for policy development, or could consider releasing interim memos based on expert opinion.
- ii. **Addressing administrative delays:** WHO could also assess ways of reducing the time taken to release emergency technical guidance by addressing administrative delays. This could include expediting approval processes for emergency publications, and investing in surge capacity for translation of guidance to local languages.

Health operations and technical expertise sub-functions

Note: the sub-sections below supplement the findings and recommendations listed in the main section above. In particular, recommendations in the main section apply to multiple sub-functions, whereas recommendations below are specific to individual sub-functions.

*Similarly, some of the greatest opportunities to address challenges in the sub-functions below relate to the performance of other functions (in particular, **Finance, administration and resource mobilisation, and Operations support, logistics (OSL) and procurement**). Relevant recommendations have been included in those sections.*

Laboratory Diagnostics

Context

The Laboratory Diagnostics sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- In the countries with the strongest health system capacities, the main forms of support were technical guidance and creation of networks of experts. For instance, EMRO held weekly meetings with National Influenza Centres (NICs) in the Region through which experts shared best practices.
- In the countries with the weakest health system capacities, WCOs helped to establish physical and human diagnostics and genomic sequencing capacities, sometimes from scratch. For example, WHO set up Somalia's first three laboratories for COVID-19 diagnostics.⁶⁴
- In other countries, support was a mix of procurement of medical supplies (e.g., testing kits) and training on various aspects of COVID-19 testing.

These activities were delivered in the context of several external challenges, including:

- High variation of country capacities, necessitating delivery of differing types of support activities (as detailed above).
- Lack of regional suppliers of testing kits and other medical supplies, leading to reliance on international suppliers with longer delivery times.
- Limited availability of commercial flights, preventing delivery of supplies from WHO's Dubai Hub at times.
- Refusal of couriers to deliver supplies to countries without company representation, particularly countries with economic sanctions.⁶⁵

The Laboratory diagnostics sub-function was led by two to three staff members at EMRO. Several WCOs independently led programmes in this area, particularly in physical capacity building.

Findings

Successes

The Laboratory diagnostics sub-function was quick to scale up molecular (RT-PCR) testing and genome sequencing capacities in the Region. In January 2020, only four countries in the Region had the capacity to test for COVID-19. The shutdown of commercial flights during the early pandemic

⁶⁴ Responding to COVID-19 in Somalia: Progress Report; 6 months of resilience and strength, WHO, 2020.

⁶⁵ Countries in the Region with economic sanctions are Afghanistan, Iran, Iraq, Lebanon, Libya, Somalia, Syrian Arab Republic and Yemen.

meant that countries in the Region, which mostly relied upon couriers to bring samples to global testing centres, lacked the capacity to test and trace for COVID-19. By mid-February that same year, however, WHO had worked with donors and partners to mobilise and transport diagnostic kits to 20 countries, including those without reverse transcription-polymerase chain reaction (RT-PCR) testing capabilities.⁶⁶ The pillar attributed WHO's quick ability to scale activities to two important factors: firstly, EMRO's direct communication with national laboratories/NICs rather than going through WCOs, which usually did not have laboratory focal points, as intermediaries. Secondly, the availability, advocacy and strong commitment of EMRO's senior management in supporting the pillar's activities. As such, all 22 Member States had laboratories that could provide COVID-19 PCR testing in 2021 and by late 2022, 21 Member States could carry out domestic COVID-19 genome sequencing with WHO's support.

WHO provided integrated technical and operational capacity building support for Laboratory diagnostics in multiple countries, notably those with limited existing capacity at the onset of the pandemic, thereby increasing the availability of testing services. EMRO and WCOs provided technical guidance on diagnostic testing across the Region. Further, in countries with low diagnostic and/or genomic testing capacity, WHO also recruited and trained virologists, established physical testing premises, and procured medical equipment and supplies. Several stakeholders indicated that this integration of technical and operational support improved the quality, speed and total capacity of diagnostic services in most countries. For instance, Somalia had no PCR testing capacity at the onset of the pandemic, and so local hospitals were forced to send samples to Nairobi for analysis. By establishing and equipping three laboratories, WHO increased the speed, availability and affordability of testing services in Somalia.⁶⁷ In another Member State, a WCO stakeholder explained that only a total of 86 COVID-19 cases were genome-sequenced between January 2020 and April 2021. However, between October 2021 – when WHO procured six genomic sequencing machines – and January 2022, approximately 17,000 cases were genome-sequenced. For many countries with weaker health system capacities, this represented a new capability and a step towards a more self-reliant health system.

Laboratory capacity built by WHO for the COVID-19 pandemic has improved Member State diagnostic capacity in other outbreaks. EMRO stakeholders noted that before the pandemic, governments typically viewed Laboratory Diagnostics as a low priority area of work. Consequently, few countries built capacity for laboratory diagnostics and sequencing at the national level, choosing instead to rely on overseas laboratories. The trainings conducted and physical infrastructure set up by WHO for COVID-19 diagnostics has enabled several countries, including some FCV countries, to detect and sequence other diseases as well (e.g., mpox).

Challenges

EMRO and WCOs' operational support to Member States for Laboratory diagnostics was often delayed by internal and external procurement bottlenecks. Procurement bottlenecks affected the speed of provision of laboratory supplies, physical infrastructure and genomic sequencing machines, as well as other forms of timely operational support to Member States. Many causes of delays were outside of WHO's control, including supplier shortages, restrictions on commercial flights and the impacts of economic sanctions in some places. However, several internal bottlenecks were also highlighted, including the length of required approval processes, lack of application of emergency SOPs and a limited delegation of authorities from EMRO to WCOs (see **Operations Support, Logistics (OSL) and procurement** section for more detail on each). The delays impacted WCOs' credibility with

⁶⁶ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁶⁷ Looking back at 2020, which changed everything we do in Somalia: WHO's response to COVID-19 in Somalia: a year of resilience, impact and innovation, WHO EMRO, 2021.

MoHs in their respective Member States, with some MoH stakeholders perceiving WHO to be less capable of rapidly delivering operational support than other partner agencies.

Infection Prevention and Control (IPC)

Context

The Infection Prevention and Control (IPC) sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Disseminated WHO guidance to regional and country-level partners, often with accompanying documents to explain and contextualise guidelines.
- Assisted MoHs in developing national IPC guidelines, and supported 11 countries – including Afghanistan, Iraq, Libya, the occupied Palestinian territory and Tunisia – in establishing their first ever IPC national guidelines.⁶⁸
- Conducted a series of training courses, engaging around 7,000 HCWs from nine countries.⁶⁹
- Answered live questions on IPC, including via WhatsApp groups with over 600 national focal points and frontline HCWs.⁷⁰

These activities were conducted in the context of several external challenges, including:

- Lack of pre-existing national IPC guidelines, frameworks or leads in approximately half of the Region's 22 countries, and lack of IPC experts to field questions in several countries.
- Fast-changing global guidelines and local contexts concerning IPC, necessitating consistent revision of advice given to Member States.
- Long-term timeframes needed for behavioural change, meaning that many IPC guidelines were not recognised or implemented by country populations.

The IPC sub-function was led by staff at EMRO, who delivered both regional and country-level activities. Since the start of the pandemic, the sub-function has comprised one permanent staff member, supported by 2-3 consultants.

Findings

Successes

EMRO's IPC pillar tailored its support to suit those Member States with limited expertise in IPC. It focused on building immediate technical capacity for the purposes of the pandemic response but also longer-term capacities. Many Member States lacked preparedness and personnel dedicated to IPC at the onset of the pandemic. In turn, EMRO provided flexible forms of support to Member States, beyond technical guidance on COVID-19 protocols alone. For instance, EMRO provided broader forms of capacity building to Member States, such as helping MoHs to establish IPC units and programmes of work. Stakeholders at EMRO cited this tailored approach as a success of the IPC function, noting that several MoHs established permanent IPC teams following WHO's capacity building and advice.

⁶⁸ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁶⁹ EMRO IPC Training Activities in Response to COVID-19 (Jan 2020-Oct 2022), WHO EMRO, 2022.

⁷⁰ Ibid.

Challenges

EMRO's IPC pillar lacked access to high-level decision-makers in some MoHs, limiting the scope of its impact. Approximately half of the Region's countries did not have national IPC leads at the start of the pandemic. In these cases, EMRO's IPC pillar did not have access to a high-level policymaker to liaise with. As a result, the pillar had to work with lower levels of health systems in some countries, including health facility employees and doctors themselves – often via large WhatsApp group chats. While this gave EMRO staff better visibility on how their guidance was being used, it limited the scope of the team's overall impact.

EMRO's ability to provide technical guidance to Member States in IPC was limited by a shortage of human capacity at WHO. EMRO's IPC pillar had one permanent staff member throughout the pandemic, supported by two to three consultants at different periods. WCOs also had IPC focal points, though these focal points (i) tended to have less in-depth expertise on IPC compared to EMRO leads, and (ii) often split their capacity across IPC and several other sub-functions. Reasons cited for this lack of capacity included: (i) a lack of pre-existing IPC expertise within WHE and across EMRO more broadly (ii) a shortage of IPC expertise in the Region as a whole, and (iii) difficulties in attracting talent from other regions, particularly to work in FCV countries. This shortage of capacity (combined with the need to often work directly with HCWs) limited the scope of support that WHO could offer to Member States, with the lack of IPC-dedicated staff at EMRO making it difficult to respond to all Member State requests. See *Finance, administration and resource mobilisation* section for further detail.

International Health Regulations (IHR) and Social Measures

Context

The International Health Regulations (IHR) and Social Measures sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Supported policymaking and the development of guidelines for
 - International travel and points of entry (PoE) – e.g., EMRO and WCOs provided guidance and supported risk assessments on the reopening of borders (based on the evolving epidemiological situation) and facilitated cross-border collaboration agreements.
 - Mass gathering events – e.g., EMRO conducted risk assessments on specific events in individual countries to inform attendance and risk mitigation measures, and produced risk communication messages, accordingly. EMRO's guidance on mass gathering events were also adopted by other regions.
 - Risk-based approaches to PHSM – e.g., EMRO held information sessions for Member States.
- Established IHR communities of practice to facilitate information sharing on all the above topics.
- Conducted intra-action reviews and deep-dive discussions with Member States on the implementation of IHR and PHSM, as well as after-action reviews for mass gatherings. Provided recommendations, as well as monitored and supported their implementation.

- Monitored the application of PHSM in Member States, e.g., through weekly reports on travel measures and a regional dashboard tracking PHSM.⁷¹
- Assisted Member States with the development of plans and SOPs for establishing PHEOCs to enhance the coordination of and preparedness for mass gathering events.
- Carried out simulation exercises to assess Member States' levels of multi-sectoral coordination and technical capacities of PoE and mass gatherings. In accordance with the IHR.

These activities were conducted in the context of several external challenges, including:

- Mass gatherings in the Region being some of the world's largest and most diverse, attracting participants from multiple countries (e.g., Hajj, Arbaeen, World Cup 2022 and Expo 2020). This includes frequent smaller-scale religious gatherings (e.g., Friday prayers) and other political (both planned and unplanned) mass gatherings.
- Fast-changing global guidelines and local contexts concerning international borders and travel restrictions, necessitating consistent revision of advice given to Member States.

The IHR and social measures sub-function was led by a team of 5-10 staff members and consultants at EMRO. WCO focal points also contributed to the sub-function, though their capacity was usually split across multiple sub-functions.

Findings

Successes

EMRO led the creation of technical guidance and preparedness and response plans for region-specific mass gathering events and PoE, which were adopted by HQ and other Regions. EMRO's IHR and Social Measures pillar led the creation of guidelines on topics such as religious events (Ramadan, Eid al-Fitr, Eid al-Adha, Ashura and Nawroz), the reopening of borders, schools and workplaces, and repatriation. Member States adapted and incorporated EMRO's guidance into their national plans. In all of these topics, guidance developed by EMRO formed the basis for guidance used by HQ as well as other ROs. Stakeholders indicated that the pillar's ability to produce guidance which had utility beyond the Region was built on its collaborative approach and EMRO's strong coordination mechanisms with HQ and other ROs (e.g. via WHO's mass gathering cell). The pillar worked closely with WCOs, HQ, other ROs, governments of Member States, Islamic advisory councils and other partners, and was willing to share learnings and create alignment across these partners.

Challenges

EMRO and WCOs' ability to provide timely and widely-disseminated technical guidance in IHR and social measures was limited by a lack of technical experts. According to stakeholders, even where funding was available for further human resources, finding and attracting experts in IHR and social measures at EMRO - and WCO - levels was difficult due to a lack of experts in these areas. As a result, the sub-function often advertised roles multiple times without filling them. WCOs were particularly under-resourced in this area, meaning that the IHR and social measures sub-function was often under the remit of a focal point who had responsibilities in several areas of the COVID-19 response. This meant that WHO's capacity to produce and share guidance was often strained, particularly at the country-level, and that focal points were too stretched to stay on top of constantly-evolving regional guidance and to keep country stakeholders (such as MoHs and partner agencies) updated.

⁷¹ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

Risk Communication and Community Engagement (RCCE)

Context

The Risk Communication and Community Engagement (RCCE) sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Built RCCE capacities in Member States through training and development of COVID-19 RCCE response plans. RCCE was also represented in comprehensive review missions in 14 countries.⁷²
- Provided targeted support to MoHs in developing their COVID-19 vaccination demand generation strategies, and providing guidance and technical support to implement activities to generate acceptance and confidence in COVID-19 vaccines, especially with priority groups.
- Integrated social and behavioural data as part of broader public health decision-making by conducting routine and discrete collection of social and behavioural data. This included country-specific research activities, biweekly social listening reports, and a regional, time-series Knowledge, Attitudes and Practices survey that gathered feedback from more than 27,000 respondents.⁷³
- Supported targeted community engagement activities for COVID-19 response across the Region, including working with CSOs to support community-based planning for COVID-19, COVID-19 vaccination health education and other response activities, especially in FCV settings.
- Convened and coordinated partner agencies – e.g., In 2021 WHO established, in partnership with the International Federation of Red Cross and Red Crescent Societies (IFRC) and the United Nations Children’s Fund (UNICEF), the EMRO/Middle East and North Africa IAWG for RCCE to coordinate country support, joint response initiatives and leverage partner networks and capacity for COVID-19 and COVID-19 vaccination efforts.⁷⁴

These activities were conducted in the context of several external challenges, including:

- Misinformation and disinformation shared within communities and via social media, as well as information overload – all of which contribution to erroneous perceptions of COVID-19 risks, particularly in terms of vaccine hesitancy.
- Limited collection and use of social/behavioural science insights and community feedback by several Member States – often due to lack of health leadership buy-in on the importance of these in informing decision-making.
- Lack of existing human capacity in health systems for RCCE (e.g., MoHs without RCCE units) and lack of resources to support RCCE (e.g., social media monitoring systems, community engagement workers).
- Low public acceptance of evidence-backed COVID-19 messages due to social, political and economic reasons.

⁷² COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

⁷³ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁷⁴ Regional guiding framework for risk communication and community engagement for the COVID-19 response in the Eastern Mediterranean Region/Middle East and North Africa: December 2020, by WHO EMRO, IFRC and UNICEF

The RCCE sub-function was primarily run by a small team of staff members and consultants at EMRO, of which many were brought in as surge support during the pandemic. Capacity in WCOs varied: Some had focal points who were dedicated to several other sub-functions alongside RCCE, and most focal points had no significant prior experience or training in RCCE. At country level, many activities were also delivered in collaboration with MoHs and partner agencies (e.g., UNICEF and IFRC).

Findings

Successes

In some Member States, WCOs improved their community engagement by delivering health information and services through locally accepted CSOs and CHWs. In countries with weak primary healthcare capacities and/or populations which were inaccessible to MoHs, WCOs trained and resourced CSOs and CHWs with existing community links. This enabled WHO to engage communities otherwise outside of the reach of health systems and ensure broader health coverage. WCO Somalia, for instance, trained, deployed and paid the salaries of an initial 3,372 CHWs across 51 districts.⁷⁵ These CHWs carried out household visits, relaying information about COVID-19 risks and measures, and conducting case management and reporting. WHO also supported CSOs to share information on vaccinations and administered doses in areas of outside of the reach and control of the federal MoH of one Member State. In another Member State, it was noted that community health centres – typically responsible for community engagement, surveillance and case management – closed during initial lockdowns. Hence, by delivering these services, CHWs filled a critical gap in health service coverage.

RCCE materials were most helpful when adapted to accessible formats and languages. EMRO and WCOs produced RCCE materials which were often adapted to local needs. Examples included translation of materials into Arabic and other local languages, and production of audio/video materials accessible to populations with lower literacy levels. These innovative adaptations of RCCE materials increased their resonance with local communities, EMRO and WCO stakeholders observed. Conversely, in one Member States with a high variation of locally-spoken languages and levels of literacy (and with limited RCCE capacities at the corresponding WCO), some external stakeholders indicated that WHO's RCCE materials could have reached and resonated with more communities if their formats and languages had been adapted further.

Challenges

A shortage of dedicated, trained RCCE staff in many WCOs and MoHs, coupled with the lack of RCCE programmes and/or initiatives, were the main constraints facing EMRO's provision of RCCE support. The majority of WCOs had no dedicated staff with RCCE-specific backgrounds or expert training. As such, the role of RCCE was generally delegated within WCOs to alternate staff, or short-term consultants with high turnover. Where there was insufficient WHO technical capacity, UNICEF led RCCE activities for MoHs, with WHO providing technical guidance. The RCCE division in UNICEF also outnumbered WHO's greatly – e.g., in one Member State, WHO had one staff member overseeing RCCE matters, whereas UNICEF had 25. EMRO stakeholders acknowledged that UNICEF had greater on-the-ground human capacity to engage in implement RCCE activities, and UN stakeholders saw this collaboration to have been the right strategic choice to play on comparative advantages and expertise of UNICEF and WHO. However, EMRO stakeholders emphasised that UNICEF, unlike WHO, lacks specialisation in health emergency management and whole-of-system medical expertise. Hence, with more human capacity, WHO could have contributed to RCCE activities that were better tailored to health emergency needs in Member States.

RCCE could have been better integrated across all pillars of the regional IMST. EMRO's RCCE sub-pillar did at times collaborate with other IMST pillars (e.g., the COVID-19 Vaccines pillar). However,

⁷⁵ Responding to COVID-19 in Somalia: Progress Report; 6 months of resilience and strength, WHO, 2020.

some EMRO stakeholders indicated that there was scope for RCCE to have been better-integrated across regional COVID-19 response pillars. For example, the incorporation of RCCE had as a cross-cutting function of the regional IMST structure, could have resulted in an earlier and broader integration of RCCE into areas such as care pathways, case management, surveillance and health systems strengthening, enabling better outcomes across all. By way of contrast, one stakeholder suggested that this was less of a challenge at WCO-level, where RCCE focal points were often shared across numerous technical areas and thus had more inevitable linkages across COVID-19 response activities.

Sub-function-specific recommendations

To build on successes:

- 1. Engage and build capacity of CSOs and CHWs in communities with hard-to-reach populations or weak primary healthcare capabilities.**

As part of emergency preparedness, EMRO and WCOs could proactively identify and train networks of CSOs and CHWs in topics such as basic health service delivery (e.g., first aid skills), reporting and information sharing. EMRO and WCOs could also support community preparedness planning for high-risk public health threats. This will help to improve coverage during emergencies, particularly in communities typically outside of the access of MoHs due to security or infrastructural reasons.

To address challenges:

- 2. Expand emergency RCCE capacities at EMRO and, in particular, at WCOs.**

EMRO and WCOs could increase their human capacity for RCCE support to Member States, particularly in light of continued challenges relating to misinformation. This could facilitate improved engagement with mass populations, smaller communities, healthcare facilities and private sector partners, as well as capitalise on opportunities to heighten community engagement in localised public health emergency management. Increased capacity can also be dedicated to adapting RCCE materials to locally accessible languages and formats. RCCE continues to constitute a critical component of the WHE programme, thus EMRO and WCOs could prioritise the hiring of RCCE experts with emergency experience.

- 3. Improve the integration of RCCE across regional emergency response activities (e.g., by repositioning RCCE as a cross-cutting function in future EMRO IMSTs).**

EMRO could increase the speed and breadth with which RCCE is integrated across health emergency response activities. For example, EMRO could reposition RCCE as a cross-cutting function in future EMRO IMSTs to encourage the embedding of RCCE across pillars.

Case Management and Clinical Operations

Context

The Case Management and Clinical Operations sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Developed and disseminated clinical management guidelines, including national guidelines for all 22 EMR countries.

- Conducted critical care/ICU training which reached over 50,000 HCWs directly or through cascade training.⁷⁶ Trainings were both online and in-person, and varied from general, introductory courses to context-specific programmes (such as oxygen and fire safety training).
- Provided a combination of technical and operational support to scale up medical oxygen capacities, including but not limited to:
 - Identification and recruitment of 15 national biomedical engineers serving nine of the Region's most resource-limited and emergency-prone countries.
 - Support to 16 countries in procuring oxygen generating plants, biomedical supplies and equipment throughout 2020 to 2022.⁷⁷
 - Development of an online national oxygen capacity mapping platform, with active participation of 16 Member States in the Region.
 - A range of other forms of support to Member States to ensure the sustainable implementation of the above (including estimating oxygen demand, developing long-term oxygen scale-up plans, training HCWs, reporting on equipment requirements, and developing strategies for the long-term operations of equipment).
- Supported clinical research in the Region, including supporting nine countries in conducting WHO Solidarity PLUS trials to identify optimal COVID-19 therapeutics.⁷⁸
- Developed longer-term programmes for countries to institutionalise case management capacities. This included a twinning programme between Oman and Yemen, as well as nationally authorised training programmes with certificates in critical care in Yemen and other countries.⁷⁹

These activities were conducted in the context of several external challenges, including:

- Limited resources for critical care/ICUs (e.g., isolation capacity, medical supplies and trained HCWs) in countries with weaker health systems.
- Payment issues for HCWs working in COVID-19 hospitals and ICUs, leading to staff absence.
- Limited existing knowledge of critical care amongst HCWs, leading to lack of compliance with treatment protocol, as well as misuse of medicines and equipment.
- Lack of engagement from Member States, limiting the function's access to decision makers and clinical data.
- Difficulties in tracking the application of improved critical care/ICU practices in referral hospitals.

Throughout 2020, the Case Management and Clinical Operations sub-function comprised one staff member, based in EMRO. Since then, the sub-function has gradually expanded to a total of six members at EMRO. Some of these EMRO pillar members have at different points undertaken long-term postings at WCOs, where they have acted as embedded consultants, filling a capacity gap in expertise. Additionally, EMRO hired a number of case management national consultants, as well as national biomedical engineers for individual Member States (as described above).

⁷⁶ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

⁷⁷ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁷⁸ Ibid.

⁷⁹ COVID-19 IMST Case Management and Clinical Operations Pillar, WHO EMRO, 2022.

Findings

Successes

EMRO's and WCOs' operational support for case management and clinical operations in countries with weaker health systems filled gaps in Member States' COVID-19 responses. As well as providing technical support, WHO's Case Management and Clinical Operations sub-function incorporated operational support in Member States with weaker health systems. For instance, EMRO and WCO Pakistan jointly trained over 5,000 healthcare workers, and led the procurement of almost 30,000 beds and over 1,500 ventilators.⁸⁰ This provision of operational support often filled gaps in Member State COVID-19 responses. In another Member State where WHO had set up physical isolation centres, an MoH stakeholder commented that this met a critical need in the country's COVID-19 response. The stakeholder considered this operational support to be the most useful service delivered by WHO to the Member State.

WHO's provision of oxygen, as well as trainings on and tracking of its usage, played a large role in reducing the severity of COVID-19 cases, especially in FCV countries. Although the Case Management and Clinical Operations pillar focused on the area of critical care and ventilation initially, the pillar adjusted its operational strategy to increase coverage of oxygen therapy as well. This was in response to relatively recent data (at that time) and lessons from other WHO regions showing the effectiveness of oxygen therapy in reducing the need for patients to receive ventilation and in improving the likelihood of survival. As described in the context section above, EMRO recruited 15 national biomedical engineers to guide the scale up of medical oxygen in nine FCV countries. According to an EMRO stakeholder, this was recognised by MoHs as one of the most effective forms of operational support provided by WHO during the pandemic response. On this front, WHO demonstrated its flexibility, openness to feedback and responsiveness towards new data and evidence. Several stakeholders also pointed to WHO's innovative response in Somalia. At the onset of the pandemic, Somalia lacked access to oxygen, which meant that theoretical training on oxygen use was rarely implementable. Hence, EMRO and WCO Somalia established three pressure swing absorption oxygen plants and developed solar-powered oxygen systems in hospitals with unreliable access to electricity.⁸¹ In contrast, in some FCV countries, WHO provided ventilators without taking into consideration the lack of consistent access to electricity, meaning that the ventilators provided were sometimes non-functional.

By deploying staff on-the-ground in Member States, EMRO was able to adapt its case management and clinical operations support to evolving Member State priorities. EMRO's Case Management and Clinical Operations pillar conducted regular country missions and embedded regional consultants in WCOs, contributing towards the pillar's strong field presence in Member States. Hence, EMRO staff had close and consistent visibility of healthcare conditions at facilities across the Region, as well as networks of MoH and facility-level contacts.⁸² One benefit of this on-the-ground presence was that EMRO was able to adapt its support to Member States in alignment with fast-evolving priorities and challenges. For instance, following incidents of explosions of oxygen cannisters at the hands of case management nurses in one Member State, EMRO's Case Management and Clinical Operations pillar incorporated fire safety into their training. Moreover, the pillar found that the closer working

⁸⁰ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, January–July 2020, WHO EMRO, 2020.

⁸¹ Looking back at 2020, which changed everything we do in Somalia: WHO's response to COVID-19 in Somalia: a year of resilience, impact and innovation, WHO EMRO, 2021.

⁸² Note: EMRO stakeholders indicated that while the deployment of staff on-the-ground was a success, it was not always possible to replicate this in all countries due to limited human capacity.

proximity with WCO staff resulted in more efficient collaborations and communications, and hence, a stronger emergency response.

Challenges

EMRO's Case Management and Clinical Operations pillar was not able to rapidly increase its human capacity at the start of the pandemic, which somewhat hampered its ability to fully meet a large amount of Member State demands. EMRO's Case Management and Clinical Operations pillar now comprises six team members. This said, the scale-up of the team to was too slow and had one member of staff for most of the first year of the pandemic. According to this stakeholder, this was largely because EMRO has not institutionalised Case Management and Clinical Operations an independent, permanent team in its Emergencies Programme, meaning that there were few EMRO staff members with expertise in this area prior to the pandemic. This lack of human resources somewhat limited EMRO's ability to meet massive demand for case management training and technical guidance from Member States during the pandemic.

Sub-function-specific recommendations

To build on successes:

1. Institutionalise Case Management and Clinical Operations as a permanent function of EMRO's WHE.

Case Management and Clinical Operations could be established as an independent and permanent function of WHE, e.g., through a dedicated officer or team. This would help to meet demand from Member States for technical and operational support in case management during emergencies. Stakeholders at EMRO note that this demand is still high and includes a large number of outbreaks besides COVID-19. Equally, demand remains high for longer-term capacity building programmes, including transitioning COVID-19 isolation units to permanent emergency treatment centres.

COVID-19 Vaccine

Context

The COVID-19 Vaccine sub-function at EMRO and WCOs conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Provided technical advice and support to Member States, e.g.:
 - Reviewed all of the Region's national deployment and vaccination plans;
 - Advised on elements of implementation - e.g., supporting strategies to train vaccinators, ensuring vaccine safety and maintaining surveillance of adverse effects in Djibouti);⁸³
 - Supported National Regulatory Authorities in all 22 countries on approval of new vaccines;
 - Conducted Comprehensive Post Introduction Evaluations (CPIEs);
 - Developed an online COVID-19 vaccine introduction toolkit with resources for country readiness and delivery of vaccines.
- Provided operational assistance to Member states, e.g.:
 - Supported three Member States in establishing vaccination production facilities;
 - Supported campaigns on the integration of COVID-19 and routine vaccinations;

⁸³ 2021 Annual Report, WHO's Response to COVID-19, WHO, 2022.

- Deployed senior consultants to priority countries to provide further technical assistance.
- Advised and coordinated partners, e.g.:
 - EMRO established and coordinated the Regional Working Group for the COVID-19 Vaccines Global Access (COVAX), which met every week during 2021 and every fortnight during 2022;
 - EMRO supported Member States to access vaccines by providing information on supply, utilisation and stock of vaccines to the COVAX allocation group, informing their decision-making on equitable allocation.
- Created communications materials, engaged CSOs and engaged community/faith-based leaders to (i) build vaccine demand and (ii) improve community access to vaccines in collaboration with RCCE.

These activities were conducted in the context of several external challenges, including:

- Uncertainty on vaccine supply, causing an inability to accurately forecast and efficiently allocate doses to Member States, particularly in the earlier stages of vaccine availability.
- Short shelf-life of vaccine doses, placing more emphasis on the speed of vaccine rollout (often more difficult in countries with weaker health systems).
- Lack of funds and operational capacity in some Member States to store, distribute and administer vaccines.
- Misinformation leading to vaccine hesitancy.
- Limited data sharing from some Member States contributed to difficulties in planning the allocation of vaccines accurately.
- Lack of familiarity with GAVI and the COVAX facility amongst some Member States, necessitating awareness-raising and advocacy by EMRO.
- Challenges above were particularly acute in the Region's FCV countries. (Note that the median full vaccine coverage rate in FCV countries was 19% compared to 63% in non-FCV countries, as of November 2022).

The COVID-19 vaccine sub-function was formalised in 2021, led by eight regional staff members and supported by focal points and immunisation officers at WCOs.

Findings

Successes

WHO's technical support to national regulatory authorities accelerated the approval process of new vaccines. EMRO and WCOs provided technical advice on new vaccines to national regulatory authorities in all Member States; WHO was the only partner agency to play this role. Several stakeholders observed that WHO's support contributed towards the unprecedented speed of approval of COVID-19 vaccines. The regulatory approval process in all countries in the Region took less than 4-5 months, allowing all countries to begin vaccinations by April 2021. This said, stakeholders also attributed this speed of approvals to the exceptional political will for COVID-19 vaccines compared to other vaccines, which meant that less time was required for advocacy.

Challenges

Though all EMR Member States had access to vaccines, some low-resource Member States lacked operational capacity to store, distribute and/or administer vaccines, limiting overall vaccination

coverage. With support from WHO, the COVAX facility and/or bilateral relations, all EMR countries had access to COVID-19 vaccine doses. However, access to vaccine kits did not always translate to high vaccination coverage as some countries lacked operational funds, physical infrastructure and human capacity for vaccine administration. The shortage of cold and ultra-cold chain facilities resulted in difficulties in storing and distributing vaccines, although this improved over the course of the pandemic and with additional support from UNICEF. One EMRO stakeholder expressed that in hindsight, WHO could have better anticipated the need for operational funds to support the roll-out of vaccines. Another EMRO stakeholder indicated that EMRO's logistics team had limited visibility on procurement, which could have been used to improve WHO's logistics planning support to Member States (see **Operations Support, Logistics (OSL) and procurement** section for more detail).

Essential Health Services and Systems

Context

The Essential Health Services and Systems sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Adapted global essential health services and systems guidance documents to the regional context.
- Generated evidence on the state of essential health services and systems during the pandemic, such as pulse surveys covering 21 of the Region's Member States.⁸⁴
- Provided training to HCWs on maintaining essential health services and systems during the pandemic response – e.g., EMRO and WCOs trained over 2,000 HCWs, mainly in FCV countries, on maintaining sexual reproductive, maternal, new-born, child and adolescent health services during the pandemic response.⁸⁵
- Provided operational support to the maintenance of essential health services and systems – e.g., WCO Sudan developed telemedicine products to enable continued access to services for non-communicable diseases, attracting more than 70,000 subscribers as of October 2020.⁸⁶

These activities were conducted in the context of several external challenges, including:

- Long-term weaknesses in health system capacities in the Region, including in physical infrastructure, human resources and access to medical supplies.
- Lack of availability or sharing of data, particularly in relation to vulnerable populations such as migrants and refugees.
- Lack of prioritisation of long-term health issues in donor funding, compared to immediate emergency response functions.

Essential Health Services and Systems was introduced as a pillar of EMRO's IMST six months into the COVID-19 response, in recognition of the extended nature of the pandemic and the unprecedented disruptions it caused to health systems.

⁸⁴ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

⁸⁵ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁸⁶ Responding to the COVID-19 pandemic: WHO's action in countries, territories and areas, 2020, WHO, 2021.

The Essential Health Services and Systems sub-function was led by a team of 10–15 at EMRO. WCOs typically had Essential Health Services and Systems focal points and supported specific in-country programmes.

Findings

Successes

Some WCOs effectively supported countries to continue their delivery of essential health services during the pandemic. EMRO and WCOs produced technical guidance on the continuation of essential health services during the pandemic, and in some cases, helped countries to adapt service delivery models. These activities helped to reduce disruptions to essential health services in several countries. For example, WCO Sudan trained over 600 staff in malnutrition and in reproductive, maternal, neonatal, child, adolescent and ageing health to deliver essential services safely during the pandemic.⁸⁷ WCO Sudan also helped to develop telemedicine solutions to enable continued access to services for non-communicable diseases, such as the mDiabetes application which had over 70,000 subscribers as of October 2020.⁸⁸

Challenges

The Essential Health Services and Systems pillar was added to the IMST at a later stage in the response but is a key consideration in any large-scale emergency. The need for an Essential Health Services and Systems sub-function was not apparent at the outset of the response given COVID-19's unprecedented nature. Additionally, the EMR hosts countries with weaker health systems where health emergencies are often likely to overwhelm capacity, and indirectly impact other elements of the health system. Essential Health Services and Systems should therefore have been incorporated into the IMST at the outset, or at least earlier during the pandemic, both to ensure access during lockdowns and provision of services.

A stakeholder highlighted shortages of human capacity as a constraint on EMRO and WCOs' ability to support Member States in essential health services and systems. According to this stakeholder, a lack of human capacity in the Essential Health Services and Systems sub-function – particularly in WCOs – was a primary constraint in the provision of essential health services support to Member States. It was indicated that human capacity challenges were due to a lack of provision of resources to the Essential Health Services and Systems function relative to other emergency programmes.

Sub-function-specific recommendations

To build on successes:

- 1. Maintain the continuation of essential health services as a priority in future health emergencies at EMRO and WCOs.**

EMRO and WCOs could include continuation of essential health services as an element of preparedness for and responses to emergencies that threaten to overwhelm health systems. For example, as part of preparedness activities with Member States, EMRO and WCOs could create 'continuity' plans for essential health services during health emergencies, analogous to WHO's business continuity plans. Within WHO, any IMTs/IMSTs could have representation of essential health services, irrespective of the size of the emergency.

⁸⁷ Responding to the COVID-19 pandemic: WHO's action in countries, territories and areas, 2020, WHO, 2021.

⁸⁸ Ibid.

Research and Knowledge Management

Context

The Research and Knowledge Management sub-function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- Consolidated evidence on the evolution of the COVID-19 pandemic for internal dissemination, e.g.:
 - EMRO's Research and Knowledge Management pillar summarised and contextualised emerging evidence, and shared insights on IMST calls.
 - EMRO's Research and Knowledge Management pillar summarised and shared the latest evidence to staff during the first year of the pandemic, particularly through the development of a knowledge management portal.
 - EMRO, WCOs and MoHs collaborated to conduct 15 case studies on use of evidence in the COVID-19 response across 13 Member States.
- Supported Member States in generating evidence (and building capacity to lead future research) on the evolution of the COVID-19 pandemic, e.g.:
 - EMRO and WCOs supported 17 seroepidemiology surveys in 13 countries.⁸⁹
 - EMRO and WCOs supported Kuwait, Morocco, Qatar and the United Arab Emirates in conducting large-scale vaccine effectiveness studies,⁹⁰ providing guidance and review of research processes.
 - EMRO provided two rounds of small research grants, finalising and funding 27 proposals to date.
- Supported Member States and other regional IMST pillars in forming policies building on emerging evidence, e.g.:
 - EMRO's Research and Knowledge Management pillar conducted a review of national protocols for COVID-19 management in ten Member States (partly in collaboration with EMRO's Case Management of Clinical Operations pillar).

Research and Knowledge Management was included as a pillar of EMRO's IMST because COVID-19 was a novel disease with a nascent and fast-changing evidence base. The inclusion of this pillar was unique to the Region and to the COVID-19 pandemic.

The Research and knowledge management sub-function was led by a team of 21 staff members at EMRO (some of whom were also involved in other sub-functions, such as IPC). WCOs supported specific in-country activities.

Findings

Successes

The Research and knowledge management sub-function supported the generation of evidence on the COVID-19 virus, enabling timely and locally informed decision-making in Member States. EMRO and WCOs supported Member States in producing original research in a number of technical areas, as listed in the context section above. Stakeholders at EMRO, WCOs and some MoHs noted that these activities enabled timely and locally informed decision making in Member States. The

⁸⁹ COVID-19 pandemic response in the Eastern Mediterranean Region: 2020 progress report of the Incident Management Support Team, WHO EMRO, 2021.

⁹⁰ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

example of Jordan was consistently cited as a success, where the Ministry of Health used local evidence from WHO-supported seroprevalence studies to model pandemic scenarios and determine PHSM.⁹¹ Stakeholders at EMRO indicated that, similarly, seroprevalence research evidence had a direct impact on policies in three other countries, while supporting decision-making more broadly in many others.

EMRO's Research and Knowledge Management pillar consolidated and shared emerging evidence on the evolution of the COVID-19 virus, informing timely decision-making at WHO. Within EMRO, the Research and Knowledge Management pillar summarised, contextualised and disseminated emerging evidence on the COVID-19 virus during daily IMST calls. The pillar also developed a virtual knowledge management portal which consolidated and presented research from the Region and beyond. These activities enabled timely and better-informed decision making within EMRO. Stakeholders at EMRO commented that the sharing of research findings in IMST calls helped technical leads to stay abreast of the latest evidence on the COVID-19 virus, helping them to offer up-to-date guidance to decision-makers in countries.

A number of WCOs took pragmatic approaches in research and documentation, enabling research outputs to feed into their programming. For example, one WCO set up a working group, referred to as a think tank, which brought together public health experts locally and from the diaspora to model COVID-19 spread and input into best practices for the country's COVID-19 response. Other WCOs, especially in high-income countries, invested resources to document best practices and lessons learned to serve as a knowledge hub for others. These approaches to research and documentation enabled WCOs to efficiently collate and integrate emerging research into their programming. In some cases, these approaches also had the benefit of strengthening relations between the WCOs and other bodies in the COVID-19 response, such as public health experts.

Sub-function-specific recommendations

To build on successes:

- 1. Include a Research and Knowledge Management pillar in future regional IMSTs in health emergencies where there is little or fast-changing evidence around diseases.**

Compared to other pandemic viruses, COVID-19 was relatively unknown and therefore required timely generation and sharing of evidence. Where similar situations arise in future emergency responses, EMRO could include a Research and Knowledge Management pillar in regional IMSTs to provide support similar to that of the COVID-19 response. In health emergencies where there is more understanding of diseases – or in emergency responses where the main challenges relate to operations rather than knowledge production – a Research and Knowledge Management IMST pillar may provide different functions. For example, such a pillar could instead support partner agencies and Member States in enhancing use of evidence in emergency responses, or in conducting impact evaluations of emergency response work.

⁹¹ Bellizzi S, Alsawalha L, Sheikh Ali S, Sharkas G, Muthu N, Ghazo M, Hayajneh W, Profili MC, Obeidat NM. A three-phase population based sero-epidemiological study: Assessing the trend in prevalence of SARS-CoV-2 during COVID-19 pandemic in Jordan. *One Health*. 2021 Jul 10;13:100292.

Partner coordination and engagement

Context

WHO's Partner coordination and engagement emergency function aims to coordinate health and intersectoral partners, and to raise and respond to concerns from these partners during a health emergency. To meet these aims during the COVID-19 response in the EMR, WHO conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- **Information sharing:** WHO provided regular updates on pandemic developments to country-level partners, particularly MoHs, UN agencies and CSOs. Examples included weekly briefing meetings for the UNCT, led by WCOs, and written Regional Situational Reports produced by EMRO and disseminated to WCOs at the beginning of the COVID-19 response.
- **Activity coordination:** WHO participated in and often led coordination mechanisms, aiming to foster collaboration and avoid duplication of partner activities at country-level. In nine countries with humanitarian health responses, WHO was the Lead Agency for the Health Cluster,⁹² thus responsible for gathering and disseminating information, coordinating partner activities, and advocating for humanitarian health action.⁹³ In several other countries, WCOs established equivalent coordination mechanisms to provide similar forms of overarching, country-level partner coordination. Other examples of more area-specific coordination mechanisms included weekly meetings led by WCOs to coordinate activities in individual functions of country responses (e.g., surveillance), and the Pro-Health platform for interagency coordination of COVID-19 procurement, established by WCO Iran (Islamic Republic of).
- **Technical and operational partnerships:** WHO worked with partner UN agencies, national institutes and other bodies to co-deliver activities in the COVID-19 response - e.g., the RCCE pillar of the regional IMST trained and provided operational support to a range of national CSOs on community engagement and health service delivery, and the IMST Laboratory Diagnostics pillar worked with NICs to develop testing capacity.
- **Relationship-building:** Through regular engagement, WHO built and strengthened relationships with governments, donors, partner agencies, CSOs, CHW networks and community/faith-based leaders. Relationship-building was not a standalone function of WHO's pandemic response but was nonetheless an enabler of the above activities.

The following section expands on the successes and challenges in two main areas: partner coordination and partner engagement.

⁹² The Global Health Cluster is a coordination mechanism for partner agencies in humanitarian health emergencies, led by WHO. Health Clusters support collective action at global and country levels to ensure more effective, efficient and predictable humanitarian health action. For more information, see Health Cluster Guide, A Practical Handbook, by WHO and Health Cluster.

⁹³ Global Health Cluster, About us, Global Health Cluster, Webpage. Accessed at: <https://healthcluster.who.int/about-us> on 13 December 2022.

Findings

Partner coordination

Successes

WHO's partner coordination mechanisms enabled WHO, partner agencies and MoHs to deliver activities that were better-informed, more efficient, and more collaborative. EMRO and WCOs led formal partner coordination mechanisms at regional, national and sub-national levels. WCO Egypt, for example, co-led a range of regular interagency coordination mechanisms under the joint UN Country Preparedness and Response Plan.⁹⁴ At EMRO, the Laboratory Diagnostics pillar set up meetings and chat groups connecting NICs from across the Region. Stakeholders at UN partner agencies consistently cited WHO's coordination mechanisms, particularly those at country-level, as a useful source of technical advice which directly informed their own programming. These coordination mechanisms enabled more collaborative and efficient activities. For example, building on consistent engagement, WCO Somalia used the World Food Programme's (WFP's) humanitarian flights to airlift supplies especially during periods of flight restrictions.⁹⁵ This operational collaboration enabled supplies to reach the Somalia more quickly than through WHO's logistical channels alone. EMRO's Laboratory Diagnostics pillar also highlighted that regular communication helped to (i) strengthen cross-country collaboration between experts, and (ii) enable countries with stronger capabilities to coach those with newly established laboratories. Though coordination was largely cited as a strength of EMRO and WCOs' COVID-19 responses, it is worth noting that a small number of stakeholders suggested that such mechanisms could have coordinated with the private sector more. Likewise, it was also suggested that there are further opportunities for EMRO to facilitate more cross-country collaborations and/or regional initiatives in areas including (but not limited to) resource mobilisation, the sharing of best practices and procurement.

In countries where Health Clusters met frequently and coordinated across functions of the COVID-19 response, partner activities were better-coordinated. During the COVID-19 response, WHO led Health Clusters in nine Member States in the Region, as well as similar coordination structures for COVID-19 in other Member States where there were no active Health Clusters. According to external stakeholders, some Health Clusters were more active than others. Multiple stakeholders, including some from partner agencies, observed that Health Clusters and similar mechanisms that met frequently were helpful in providing technical guidance to partners, streamlining partner activities and providing overarching coordination across domains of the COVID-19 response.

Challenges

In some Member States, external stakeholders expected WHO to be more proactive in bringing partners together and coordinating partner activities. In some Member States, Health Clusters did not meet frequently to coordinate across pillars. Instead, WHO led separate coordination meetings in individual pillars of country responses (e.g., Laboratory Diagnostics and RCCE). Stakeholders in a Member State with a less active Health Cluster observed more duplication of activities across pillars, and a lack of consistency across pillars in terms of frequency of meetings and level of partner activity coordination. Furthermore, MoH stakeholders observed a lack of alignment between the balance of partner activities across pillars (e.g., more activity in surveillance) and the needs of the MoH (e.g., more acute need for partner support in case management).

EMRO's Partnership and Coordination pillar often lacked visibility of partnerships across IMST pillars, and thus could not offer central planning or strategic coordination of partnerships. At EMRO,

⁹⁴ Egypt COVID-19 Response and Recovery Interventions of the United Nations in Egypt, UN Egypt, 2020.

⁹⁵ Looking back at 2020, which changed everything we do in Somalia: WHO's response to COVID-19 in Somalia: a year of resilience, impact and innovation, WHO EMRO, 2021.

individual IMST pillars coordinated partnerships in their technical areas independently, rather than through the Partnership and Coordination pillar. Members of these pillars explained that decentralisation of partnerships meant that technical experts could directly manage partner relations, and that this enabled more efficient and trusting partnerships. However, pillar leads did not report to the Partnership and Coordination pillar of the IMST, meaning that the pillar had limited visibility of EMRO's regional partnerships and coordination mechanisms. This inhibited the ability of the Partnership and Coordination pillar to track partnerships and to centrally plan regional partnerships. Some EMRO stakeholders indicated that this lack of central planning meant that EMRO collaborated with partner agencies less often and less systematically than WCOs did. Improving the Partnership and Coordination function's cross-pillar visibility would have allowed EMRO to better identify potential synergies or gaps.

Partner engagement

Successes

WCOs that had strong engagement with governments and donors prior to the pandemic benefitted from strong buy-in and working relationships with these bodies during the COVID-19 response. Some WCOs conducted regular knowledge-sharing and emergency preparedness activities with governments prior to the COVID-19 pandemic, building trust and credibility with MoHs. This trust and credibility built up in non-emergency contexts was often cited as a primary driver of WHO being included in high-level policy taskforces during emergency responses and as a trusted advisor of governments. This meant that WCOs had established ways of working with MoHs, access to high-level decision makers and prompt lines of communication entering the pandemic. Similarly, WCOs with pre-existing donor relationships were more easily able to mobilise resources for their pandemic response activities. For example, one WCO leveraged an existing donor relationship to raise funding to help build testing and isolation capacity in the country. Conversely, an EMRO stakeholder observed that WCOs with fewer pre-existing donor relationships tended to face more difficulty in mobilising funding for their COVID-19 responses. These tended to be countries with better-resourced health systems, and with fewer health and humanitarian emergencies outside of the COVID-19 pandemic.

Relationships with locally-trusted CSOs allowed WCOs to access hard-to-reach communities. Some WCOs in FCV settings built relationships with local CSOs during the pandemic response, and supported the technical and operational capacity of these CSOs to implement joint response activities. In locations where MoHs had limited accessibility (due to security-related or infrastructural challenges), WCOs partnered with locally-trusted CSOs to deliver health services to hard-to-reach populations. WCO Syrian Arab Republic, for example, worked with a network of local CSOs to distribute and administer vaccines to communities in north-western provinces typically inaccessible to the Federal MoH.⁹⁶

Recommendations

Partner coordination

To build on successes:

1. **Ensure that all Health Clusters conduct frequent meetings and provide overarching coordination of country health emergency responses, in alignment with MoH needs.**

⁹⁶ Providing COVID-19 vaccination in northwest Syria amongst war, displacement and hesitancy, Médecins Sans Frontières, Webpage. Accessed at: <https://www.msf.ie/article/providing-covid-19-vaccination-northwest-syria-amongst-war-displacement-and-hesitancy> on 29 December 2022.

Though it may help for individual functions (such as Surveillance and Laboratory Diagnostics) to coordinate partners in their respective areas, Health Clusters could meet frequently to provide overarching coordination of these functions. This will help to align the overall balance of partner activities with the priorities of MoHs and to reduce duplication of activities.

- 2. Establish or strengthen equivalent formal coordination mechanisms (similar to that of Health Clusters) in countries without Health Clusters, and ensure that they also execute best practices in partner coordination.**

In countries without Health Clusters, WCOs can continue to ensure that there are equivalent formal coordination mechanisms during an emergency response. WCOs could co-lead these mechanisms with MoHs and establish the aforementioned best practices, including adapting policies and procedures from the Health Cluster system.

- 3. Retain regional- and country-level partner coordination mechanisms established during COVID-19 for other emergencies, as well as in non-emergency times.**

EMRO and WCOs could retain partner coordination mechanisms that may have benefits beyond the COVID-19 response. Suggestions include interagency coordination meetings and platforms to track partner procurement. Some UN stakeholders also suggested that their agencies could be drawn on further to co-lead such coordination mechanisms where they may have more capacity or expertise than WHO, e.g. logistics, procurement and RCCE.

To address challenges:

- 4. Increase central oversight and coordination of partnerships within future IMSTs to facilitate more strategic partner coordination and collaboration at the regional level.**

Future regional IMSTs could have a cross-pillar partnerships strategy which proactively maps stakeholders and identifies potential synergies and gaps across the Region, whilst still enabling technical teams to lead their own technical and operational partnerships. A team which has more cross-pillar visibility than the Partnership and Coordination pillar, such as the Coordination and Documentation Cell, could be well-positioned to coordinate and support this strategy. Such a team could also support a cross-pillar partnerships strategy by playing a project management office (PMO) role (i.e., tracking and reporting on partnerships).

Partner engagement

To build on successes:

- 5. Proactively invest in relationship-building between EMRO/WCOs and governments/donors during non-emergency times and create guidance documents to codify and share best practices in relationship-building.**

To facilitate buy-in and access to resources during emergencies, EMRO and WCOs could map strategic state and donor partnerships in emergency responses, and regularly engage governments and donors outside of emergencies. This could be achieved through practices such as knowledge-sharing, co-creation of health-related programmes and emergency preparedness activities. To support pillars and WCOs in doing this, EMRO and WCOs could collaborate in creating guidance documents describing the necessary ecosystem of relationships required to support strong health emergency responses, codifying best practice on how to cultivate these during non-emergency times. Such guidance could outline different options for coordination mechanisms in humanitarian (where the Health Cluster system is the default) and non-humanitarian settings.

6. Develop country-level relations with trusted CSOs, community/faith-based leaders and networks of CHWs that have access to hard-to-reach communities.

WCOs can continue to proactively build relations with CSOs, community/faith-based leaders and networks of CHWs in areas that are difficult to access. This could include supporting the capacities of CSOs and CHWs in information sharing and delivery of essential health services, enabling joint implementation of emergency response activities. In hard-to-reach communities, CSOs can enable higher levels of community engagement and acceptance than other entities delivering health services, thereby helping to improve access to and coverage of health services during emergency responses. These relationships should be built with government visibility and buy-in, including through increased engagement with local governments.

Operations Support, Logistics (OSL), and procurement

Context

WHO's OSL and procurement functions aimed to provide the operational platform to deliver effectively on WHO's operational plans during an emergency response. While distinct WHO teams deliver OSL and procurement, this review considers both in tandem as one broad function given the interdependencies between them. Overall, this function's objective was to manage and coordinate the overall flow of goods across the supply chain to ensure the timely and efficient provision of COVID-19 supplies to Member States and/or WCOs. In the Region, the function conducted the following types of activities (*note: examples are illustrative and not exhaustive*):

- **OSL:** Provided technical expertise and capacity to meet the logistical needs of WHO's operations (e.g., stockpile management, inventory management, warehousing, and shipping).⁹⁷
 - Delivered an average of about \$50 million a year in 2020 and 2021 (more than 5,000 tonnes of supplies) to 129 countries via the Dubai Logistics Hub.⁹⁸ This is a significant increase from when EMRO managed a stockpile of around US\$19 million in 2017.⁹⁹
 - Consolidated and dispatched COVID-19 supplies mainly through the Dubai Hub, which contributed towards approximately 75% of all PPE being distributed during the first three months of the pandemic.
 - Established the COVID-19 Supply Chain Portal and Partners Platform for Member States and partners to request critical supplies to be coordinated centrally and to provide a hub for aggregation.¹⁰⁰
 - Created the Dubai Hub dashboard to track supply chain information and generate templates with visualisations for Member States.¹⁰¹
- **Procurement:** Purchased, sourced, and tracked inventories of necessary COVID-19 supplies.
 - Procured US\$200 million worth of COVID-19 supplies such as PPE, laboratory diagnostic kits and biomedical products.¹⁰²

These activities were performed in the context of several external challenges, including:

- Global supply chain disruptions affecting transportation, costs of goods, etc.
- Heightened demand for emergency supplies, resulting in high levels of competition, trade restrictions and protectionist policies.
- Lengthy customs clearance processes and delays at ports of entry.
- Eight countries in the Region facing at least some form of sanctions - these countries have separate procedures and requirements for procurement during an emergency.¹⁰³

⁹⁷ WHO Emergency Supply Chain Design Global OSL Update – Pre-Read, WHE, 2021.

⁹⁸ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

⁹⁹ Emergency Supply Chain Development Project, Executive Briefing, KYU Associés, Commissioned by WHO, 2020.

¹⁰⁰ COVID-19 Supply Portal Frequently Asked Questions, WHO, 2020.

¹⁰¹ iMMAP Support to the World Health Organization (WHO) Dubai, iMMAP, 2020.

¹⁰² Assessment of the Covid-19 Supply Chain System (CSCS) Summary Report, The Yellow House, Commissioned by WHO, 2021.

¹⁰³ Afghanistan, Iran, Iraq, Lebanon, Libya, Somalia, Syrian Arab Republic and Yemen.

Findings

OSL

Successes

Despite initially being a regional resource, the Dubai Hub's services evolved to serve global emergency needs, solidifying best practices in health emergency logistics. In 2021, the Dubai Hub had expanded to deliver a total of 545 orders globally in that year (237 of which were COVID-19-related), which is more than the prior 333 orders across 2015 to 2019 combined.¹⁰⁴ The COVID-19 pandemic increased the visibility of the Dubai Hub, which prompted other Regions, notably the WHO Regional Office for South-East Asia (SEARO), the WHO Regional Office for Europe (EURO) and AFRO, to use the Dubai Hub for a large proportion of their emergency stockpiles as well.¹⁰⁵ In 2022, the elevated use of the Dubai Hub has continued, despite a sharp fall in COVID-19 orders. The Dubai Hub's stockpiles have been dispatched for operations beyond COVID-19 – e.g., supplying trauma kits, essential medicines, and surgical equipment for the Beirut blast in Lebanon, earthquake in Afghanistan,¹⁰⁶ ongoing complex emergencies in Libya,¹⁰⁷ and the health response in Ukraine.¹⁰⁸ WHO stakeholders have called for further investment into and expansion of the Dubai Hub which was critical support from EMRO for WCOs.

The Dubai Hub improved WCOs' access to COVID-19 supplies amidst global supply shortages through stockpiles of pre-positioned COVID-19 supplies and centralised logistics. COVID-19 was the most complex global health emergency WHO has responded to, impacting all Member States. In other emergencies, WHO was more able to reallocate capacity and resources between WCOs, since not all WCOs were simultaneously impacted. Hence, one of WHO's most significant challenges during COVID-19 was the procurement of COVID-19 supplies, even though funds from WHO were available. Reasons cited include unprecedented demand, fierce global competition, shutdowns of commercial flights and protectionist measures imposed by overseas Member States. In the context of long procurement times, the Dubai Hub's pre-positioned medical supplies, along with its packaging and shipping services, gave EMRO's pillars and WCOs direct access to critical COVID-19 items and enabled WHO to respond more rapidly. An EMRO stakeholder highlighted this to be a significant improvement in WHO's logistics capabilities given that stockpiling has been traditionally overlooked in WHO.

WHO often partnered with UN agencies on logistics and distribution networks, which was essential to strengthening WHO's supply chain capabilities. The Dubai Hub and multiple WCOs made use of WFP's logistical capabilities especially. This included loading COVID-19 supplies on WFP

¹⁰⁴ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress report of the Incident Management Support Team, 2021, WHO EMRO, 2022.

¹⁰⁵ The WHO Regional Office for the Western Pacific (WIPRO) operates two regional hubs. See WHO Emergency Supply Chain Design Global OSL Update – Pre-Read, by WHE, for more.

¹⁰⁶ New shipment of WHO health supplies for Afghanistan earthquake response delivered to Kabul from Dubai hub, WHO EMRO, Webpage. Accessed at: <https://www.emro.who.int/media/news/new-shipment-of-who-health-supplies-for-afghanistan-earthquake-response-delivered-to-kabul-from-dubai-hub.html> on 13 December 2022.

¹⁰⁷ WHO, Annual Report of the Regional Director 2020: The work of the WHO in the Eastern Mediterranean Region 2023.

¹⁰⁸ Getting emergency medical supplies to where they are needed most: interview with Olexander Babanin on the logistics of WHO support to Ukraine, WHO, Webpage. Accessed at: <https://www.who.int/europe/news/item/09-05-2022-getting-emergency-medical-supplies-to-where-they-are-needed-most--interview-with-olexander-babanin-on-the-logistics-of-who-support-to-ukraine> on 20 December 2022.

humanitarian cargo flights, and making use of WFP's distribution networks, which resulted in cost savings and wider distributions of supplies. WHO's collaboration with UNICEF in establishing and strengthening cold-chain capacities in countries was also positively highlighted by WCO, UNCT and MoH stakeholders in some countries. However, some UNCTs mentioned that the coordination was overly ad hoc, and that WHO didn't make best use of the capabilities of the rest of the UNCT. They suggested that especially in countries that require an operational response, WHO could be even more proactive in collaborating with the rest of the UNCT on logistics (e.g., for distribution). Collaborations could have also included greater cooperation with regional bodies (e.g., the Africa Centres for Disease Control and Prevention) and other international organisations beyond the UN system.

Enhanced end-to-end visibility of procurement requests allowed WHO to better allocate supplies and provide partners and Member States with more reliable updates. The Dubai Hub dashboard allowed staff to monitor data such as the quantity and completion rate of procurement orders in each country. WCOs were better prepared in responding to governments' queries about progress in procurement by using information from the dashboard, which contributed towards greater credibility of, and accountability from WHO. Platforms to aggregate country-level requests for COVID-19 supplies such as the Partners Platform and the COVID-19 Supply Chain Portal enabled HQ and EMRO teams to monitor the overall demand for supplies and allocate available stock to countries based on need. However, some WCOs expressed frustrations with the COVID-19 Supply Chain Portal as from their perspective, they were not able to access additional supplies, as it served more as a tool for aggregation rather than for supply requests, and delays were often significant in an emergency context.

WHO has begun to upgrade its OSL systems to switch away from its longstanding reliance on manual and offline software which was a challenge during the pandemic response. Prior to the pandemic, the OSL team collated requests and tracked its fulfilment using systems that were less fit-for-purpose. The large scale of COVID-19 brought to light the importance of having efficient information management systems to improve visibility across the supply chain and user experience. Further examples of WHO investing in its internal technological infrastructure include the development of the COVID-19 Supply Chain Portal and the Dubai Hub dashboard for WHO staff and partners (as mentioned above). An EMRO stakeholder indicated that the Partners Platform helped aggregate orders but still didn't provide sufficient visibility for EMRO, highlighting WHO's shortcomings in its systems. WHO has taken feedback received on these initiatives into consideration and is planning to release the Business Management System (BMS) in 2023 to automate and integrate supply chain processes - an update from the current Global Management System (GSM), WHO's enterprise resource planning (ERP) system.

Challenges

A lack of OSL staff capacity hindered WHO's ability to offer logistical support to Member States. A study conducted in 2017 concluded that EMRO, and WHO as whole, required a significant increase in full-time personnel for the proper functioning of WHO's overall OSL capabilities.¹⁰⁹ EMRO interviewees were generally aligned that OSL teams at the regional and country level have historically had insufficient number of staff to carry out the volume of demands sent their way, even though this critical gap was highlighted in previous reviews. In many cases, OSL activities have been subsumed into the roles of operations officers that already have to cover multiple aspects of WHO's response (e.g., human resources, finance, and budgeting). During COVID-19, this shortage was a challenge. With limited to no OSL capacity at the country-level, WCOs relied on the EMRO OSL team which was already shorthanded and largely involved in running the Hub at an unprecedented scale. As a result,

¹⁰⁹ Emergency Supply Chain Development Project, Executive Briefing, KYU Associés, Commissioned by WHO, 2020.

EMRO faced constraints in providing technical advice to WCOs, especially regarding logistics planning, distribution plans and management of cold chain facilities.

Funding and investments for OSL capabilities did not increase in line with WHO's COVID-19 procurement volumes. EMRO's OSL team did not receive sufficient funding to scale staff capacity and the Dubai Hub's operations, especially early in the pandemic¹¹⁰ and against the backdrop of serving a significant proportion of WHO's global logistical needs. According to an EMRO stakeholder, there was a misperception that EMRO's logistics activities did not require much funding as HQ procured many large COVID-19 orders, resulting in limited resource mobilisation for requisite logistics support.

Delays in customs clearance were consistent bottlenecks in OSL processes. WHO faced challenges in securing regulatory approval for COVID-19 supplies to pass through customs at ports of entry in several Member States.¹¹¹ WCOs have highlighted the need for proactive improvements such as fast-tracked clearance agreements. On the other hand, one EMRO stakeholder called for WHO's senior management to engage with government officials in health and/or finance ministries to secure approvals for goods to be cleared during emergencies.

Unstandardised data-logging methods made it challenging for WHO to monitor and track the distribution and usage of vaccines. Different logistics tracking systems used by WCOs and governments resulted in inconsistent methods in data-logging. WHO was not always able to harmonise or easily reconcile the various tracking systems across the Region, including how vaccine data such as product code and shelf-life was collected. This affected WHO's ability to track the utilisation of medical goods supplied.

Procurement

Successes

Some WCOs led coordination platforms within the UNCT for procurement, which maximised the use of UN resources. Some governments often sent requests for the same COVID-19 supplies to different UN agencies and NGOs. Frequent communication and alignment with partners allowed WHO to identify areas of collaboration and complementarity across the supply chain, resulting in cost savings, reduced competition and quicker delivery timelines. The Pro-Health platform used in Iran (Islamic Republic of) is a best practice example. WCO Iran (Islamic Republic of) established Pro-Health for the government, UN agencies and NGOs to update procurement requests, pipelines and available funding for the COVID-19 response.¹¹² In other Member States, UN stakeholders were receptive towards the idea of setting up a similar platform to improve the efficiency of the health clusters' procurement activities. Additionally, in some Member States, external stakeholders expected more from WCOs in taking initiative to coordinate on procurement (see *Partner coordination and engagement* section for more information).

EMRO and WCOs diversified WHO's supply base in the face of disrupted global supply chains. Due to high levels of buyer competition, and export restrictions, EMRO and WCOs faced difficulties in obtaining COVID-19 supplies from traditional suppliers and in some cases, an overstretched Dubai Hub. EMRO's and some WCOs' switch to procuring from local suppliers in the Region and Asia was critical in ensuring the continuous flow of goods to Member States.

¹¹⁰ COVID-19 Pandemic Response in the Eastern Mediterranean Region, Progress Report of the Incident Management Support Team, January - July 2020, WHO EMRO, 2020.

¹¹¹ Responding to the COVID-19 pandemic: WHO's actions in countries, territories and areas, WHO, 2020.

¹¹² COVID-19 emergency response in Islamic Republic of Iran, WHO, Webpage. Accessed at: <https://www.emro.who.int/iran/priority-areas/covid-19-emergency-response.html> on 13 December 2022.

Challenges

Procurement planning sometimes did not take sufficient logistical considerations into account, contributing to the underutilisation of supplies delivered in some cases. WHO's procurement processes were often conducted with limited input from the OSL team. This limited opportunities for logistics validation to take place. Stakeholders perceived the lack of engagement at the procurement planning stage as a significant roadblock, driven by a perception that WHO's procurement and OSL teams often work in siloes. At the country level, an EMRO stakeholder mentioned that WCOs managed their own budgets and procurement activities, and could have benefitted from consultation with EMRO's OSL team. There were instances where logistical risks were not always identified and mitigated, such as a lack of storage or transport infrastructure, resulting in mismatches between the volumes of procurement and the WCOs'/Member States' underlying need and capacity to distribute. In some instances, there was an underutilisation of valuable supplies, or even wastage. For instance, ventilators that WHO helped procure in one country did not match the requisite infrastructure within health systems and were unusable without significant adjustments.

There were some instances when WHO's emergency principles and SOPs were difficult to apply, likely where processes have been designed with a strong risk management lens. With the context of shipping trade restrictions during COVID-19, emergency SOPs allowed greater flexibility in procuring directly from local suppliers, contrary to non-emergency times. However, some WCO and pillar stakeholders highlighted that multi-layered procurement request approval processes in WHO exacerbated delays. Despite the health emergency, some procurement orders had to receive technical clearance from the GSC and/or EMRO – a process that sometimes took months. One of the stakeholders cited the reason to be a lack of familiarity with the emergency SOPs. Other WCO staff described having to justify emergency procurement requests at length, despite trying to follow WHO's "no-regrets policy".

Recommendations

OSL

To build on successes:

1. **Build on the successes of the Dubai Hub by expanding its operational capacity and by formalising its engagement with WHO's procurement teams at all levels (HQ, EMRO and WCOs) and with partner agencies with strong logistics capabilities.**

For the Dubai Hub's services to continue sustainably, or even expand, WHO could allocate more funds to support its operations and expand the Hub's staffing. A procurement team that sits within WHE could be incorporated to the Dubai Hub to improve visibility of procurement orders and plan logistical needs within the Dubai Hub accordingly. During COVID-19, the Dubai Hub benefitted from collaborating with other UN partners, such as WFP, and could formalise these working relationships for future health emergencies.

2. **Continue to upgrade WHO's OSL database and tracking systems. *Note: this recommendation is based on the reliance on manual systems used during COVID-19, and notes that ERP and warehouse management software improvements are underway.***

WHO could continue investing in upgrading internal logistics databases and supply chain tracking systems for both non-emergency and emergency purposes. Increased automation and integration could improve user friendliness, reduce human error and save the amount of time users spend on both submitting and navigating requests.

3. **Investigate opportunities to build systematic OSL partnerships with UN agencies at both the regional and country level, beyond ad hoc approaches, to draw on comparative advantages.**

In tandem, consider feasibility of building internal WHO supply chain capabilities and capacities versus outsourcing/relying on partnerships.

Operational elements of health emergencies are not WHO's responsibility alone, and could benefit from a coordinated approach among UNCTs and other partners. WHO could systematise logistics partnerships that were best practices during COVID-19 such as using WFP's humanitarian flights and UNICEF's procurement capabilities. The Pro-Health mechanism is an example of a low-investment tool that WHO can scale up in other Member States to boost coordination of procurement activities across partners and ministries.

To address challenges:

- 4. Assess WCO and EMRO staff capacity and expertise gaps in supply chain management and logistics, and hire relevant expertise at country and regional levels.**

For the OSL team to meet the logistical needs of Member States, WHO could increase OSL capacity in WCOs. During non-emergency times, supplies are typically distributed by MoHs in Member States. However, a stakeholder highlighted that for emergencies, products have to be distributed in the field, sometimes reaching beneficiaries directly. Hence, WHO could benefit from contextual, on-the-ground knowledge. Ideally, WHO could aim to have a logistician and supply chain manager in each WCO or for clusters of WCOs. WCO officers could work closely with EMRO's OSL team and communicate more frequently with country offices of logistical partners. At the regional level, EMRO is already expanding OSL staff capacity but could build on this momentum beyond the pandemic.

- 5. Advocate for Member States to further expedite customs clearance procedures during emergencies and facilitate batch approvals, especially.**

HQ's and EMRO's senior management could engage in advocacy efforts to ensure that WCOs obtain fast-tracked customs clearance during emergencies. In some cases, this involves speaking to other ministries (besides MoH) with oversight of customs processes. In addition, WHO could build trust with Member States by committing to having the proper paperwork and quality assurance checks in place. This advocacy should be proactive during non-emergency times to improve emergency protocols in place.

Procurement

To build on successes:

- 6. Expand and diversify WHO's approved supplier base and product catalogue ahead of future emergencies with input from WCOs on what is most helpful.**

WHO could continue seeking new suppliers from a wider geographical area and expand its product catalogue to speed up ad hoc requests during an emergency. Additionally, HQ and EMRO could offer expertise to new suppliers in the Region. For example, by communicating quality standards and items that are in high demand. In terms of ensuring the quality of goods supplied by new manufacturers, EMRO could formulate a regional strategy to ensure that supplier validation takes place during non-emergency times, which would require a requisite increase in Business Operations (BOS) capacity. WHO could also regularly maintain and update lists of approved suppliers at regional and country to shorten lead time in procurement. As a best practice example, some WCO stakeholders identified UNICEF's product catalogue as having an extensive range of products that were readily available and fit-for-purpose.

To address challenges:

- 7. Conduct a process review of emergency procurement bottlenecks at HQ, EMRO and WCOs to reduce delays in provision of supplies to Member States. The process review should also**

take into account how well existing emergency procurement procedures and relevant SOPs are followed.

HQ, EMRO and WCOs could conduct an assessment of procurement processes to identify key bottlenecks faced by pillars and WCOs during COVID-19, and then take steps to improve procurement processes based on the results. As EMRO stakeholders have highlighted, existing procurement and supply chain reviews may have already covered such bottlenecks in which case such recommendations should be implemented. Where possible, WHO could streamline aspects of the procurement process for an emergency context. WHO could also ensure that emergency SOPs and the “no-regrets policy” are applied more consistently, while ensuring that risk management processes are also optimised (e.g., by conducting training in WCOs and for non-WHE staff on emergency procurement practices).

8. Ensure regional OSL and Procurement teams collaborate closely with equivalent country-level teams.

Close engagement between procurement and OSL teams at WCOs and EMRO could provide the latter with greater visibility of overall demand for emergency supplies throughout the Region. This provides HQ and EMRO with greater opportunity to centralise procurement activities and pool resources from several WCOs, even those from other regions.

9. Establish formal mechanisms within procurement planning processes to engage OSL teams for logistical considerations. This could include OSL colleagues formally or informally inputting into WCO and EMRO procurement plans.

WCOs’ and EMRO’s technical departments could engage closely with OSL teams in their procurement planning processes to ensure that these plans account for logistical needs and can better prepare logistics resources. In cases where EMRO’s OSL team is unable to access procurement plans of WCOs directly, additional close coordination with GSC could provide useful insights on the logistical support needed for procurement requests submitted – while coordination has recently improved, the system might benefit from more formalisation.

Finance, administration and resource mobilisation

Context

This emergency function aimed to provide finance, HR, administrative and resource mobilisation support, amongst other forms of support, to enable the smooth operation of all other emergency response functions.¹¹³ Activities in this function during the COVID-19 response included the following (*note: examples are illustrative and not exhaustive*):

- **Finance and budgets management:** WHO planned and allocated funds, and also monitored and reported on financial implementation. Conventional funding flows managed included:
 - Direct funding from donors to HQ, EMRO and WCOs;
 - Distribution of flexible funds from HQ to ROs, and from EMRO to WCOs;
 - Financial support from EMRO and WCOs to MoHs and implementing partners for specific pandemic response activities (e.g., per diems to training participants).

In addition, the “no-regrets policy” gave WCOs the impetus to rapidly access funds to scale-up human capacity and operational support during acute emergencies, even if it was later realised that less resources were required. For example, WCOs are entitled to immediately access funds from WHO’s Contingency Fund for Emergencies (CFE) for acute emergencies (that were not COVID-19-related). One example of such an emergency during the COVID-19 outbreak was the 2022 flood response in Pakistan.

- **Human resources and surge:** WHO planned for, recruited, and reported on surge capacity, especially for scaling up technical expertise. For example, EMRO HR teams provided clearances to WCOs during the process of hiring surge capacity for the pandemic response.
- **Resource mobilisation:** WHO mobilised funds from donors to implement its COVID-19 response activities. Forms of engagement included:
 - Soft engagement, e.g., regular conversations with donors;
 - Programmatic engagement, e.g., monitoring, reporting and preparation of proposals;
 - Promotional engagement (for resource mobilisation as well as wider public relations), e.g., sharing communications materials on the achievements and needs of WCOs.

In some cases, EMRO provided training and support to WCOs to conduct these activities. Funds were mostly raised at the global level, though EMRO and WCOs supported fundraising efforts.

The above functions were performed in the context of numerous external challenges, some of which include:

- Unprecedented scale of emergency funding flowing into and out of WHO at its different levels, creating complexities in managing funding.
- Lack of full visibility of fund mobilisation at country-level (e.g., to MoHs).
- Unprecedented need to scale up human resources.

¹¹³ Emergency Response Framework (ERF), 2nd edition, WHO, 2017.

- Lack of availability of technical experts in Member States in some technical areas (e.g., IPC) and geographies (e.g., FCV settings).
- Travel restrictions, impacting staff mobility across Member States and the ability to attract human capacity from beyond the Region.

Findings

Finance and budgets management

Successes

EMRO had good visibility of funding flows to WCOs which was an enabler of efficient funding allocation. EMRO's Programme Management team had access to data describing funding flows into WCOs from WHO and other sources, including allocations, implementation and expiry dates. Full visibility over funding flows in each WCO enabled EMRO to conduct more efficient resource allocation between WCOs. This was because, with visibility of donor funding to different WCOs, EMRO was able to direct flexible regional funds to countries with bigger funding gaps, particularly countries with less direct donor funding.

WCOs that used flexible funding mechanisms under the "no-regrets policy" (and emergency SOPs and policies) benefited from faster access to resources in acute emergencies. As is detailed in the above **Context** section, the "no-regrets policy" gave WCOs authority to use flexible funding mechanisms for rapid procurement and hiring during acute emergencies, albeit for non-COVID-19 emergencies. Stakeholders at EMRO and WCOs who were able to make use of the "no-regrets policy" cited the mechanism as an enabler of effective emergency responses. This included some WRs, who highlighted the CFE as a source of adaptable and timely access to funds, and some WCO procurement teams, who cited the policy as an enabler of more rapid procurement.

Challenges

Further visibility between EMRO and WCOs could have helped to improve utilisation of funds by WCOs and allocation of funds across WCOs. On one hand, stakeholders at some WCOs noted that they did not have full visibility of when EMRO would allocate flexible funds to them, how large these funds would be, and how allocation decisions were made. This meant that these WCOs could not plan to utilise funds received from EMRO as efficiently as possible. On the other hand, stakeholders at EMRO highlighted that whilst they did have access to data describing funding flows into WCOs, they did not have access to information on funding flows to MoHs or partner agencies in Member States. This meant that when EMRO received additional flexible funding, it did not have a full picture of funding gaps in Member States, and therefore could not guarantee that it was optimally distributing funds to WCOs with the greatest needs.

WHO's budgeting cycles were cited as being too infrequent for the fast-changing needs of Member States during a pandemic, which could lead to higher amounts of unspent funds at country-level. WHO's budgeting and funding allocations take place every two years but were conducted annually for the COVID-19 response. Some stakeholders at EMRO and WCOs found these funding cycles to be too infrequent for the purposes of WCO pandemic responses. WCOs often struggled to plan for resource needs at yearly intervals given the unpredictability of the COVID-19 pandemic, and given uneven peaks of funding needs across each year. One stakeholder also suggested that annual funding cycles led to higher levels of unspent funds because WCOs would tend towards requesting more resources than they could utilise, by way of wanting to cover the uncertainty of the next 12 months.

HQ and some WCOs held unused funds as contingency funding, which sometimes led to wasted resources. According to stakeholders, HQ and some WCOs held unused contingency funds, and ultimately returned some of these funds to donors. One stakeholder cited instances of HQ holding

surplus funds for several months, and only disbursing these to EMRO and WCOs less than a month before these funds expired. The need for HQ and WCOs to retain contingency funds was acknowledged, along with the unpredictability of funding needs as priorities changed during the COVID-19 responses. However, it was also suggested that HQ and some WCOs could have made better use of unimplemented funds by reallocating them to other areas of need. In particular, stakeholders suggested that HQ and WCOs could have offered their unused donor funds to other WCOs or partners with more advance notice before these funds expired.

In some cases, bureaucratic processes at WHO prevented the application of the “no-regrets policy” (and emergency SOPs) in practice. Many stakeholders, particularly from WCOs, indicated that WHO’s bureaucratic practices were not always conducive to the implementation of the “no-regrets policy”. This was particularly the case when administrative teams did not expedite approval processes in line with emergency SOPs. In one example cited by a stakeholder, a WCO had funds to rapidly hire a staff member for operational support but was delayed for two months whilst awaiting regional and global approvals.

EMRO and WCOs may have been able to start donor-funded activities more promptly if they had access to advanced-funding mechanisms. One stakeholder highlighted that EMRO and WCOs often signed funding agreements with donors but, due to administrative processes, did not receive pending funds until two to three months later. In this case, EMRO and WCOs may have been able to begin these activities more promptly if they had access to advance funding mechanisms within WHO that they could have then replenished once they had received donor funds.¹¹⁴ This would have enabled quicker responses to Member State emergency needs.

Human resources and surge

Successes

In some instances, EMRO and WCOs were able to scale emergency teams when surge capacity was required. Several WCOs and pillars were able to swiftly scale up surge capacity during COVID-19. For instance, one WCO was typically able to find enough technical experts in-country to join their response effort at short notice. This was achieved by tapping into the local talent pool and hiring national staff, which required lower levels of internal approval. Access to financial resources and the ability to use them flexibly across different programmes also allowed another WCO to promptly recruit technical officers to support the emergency response. At EMRO, a stakeholder highlighted the UN Volunteers (UNVs) system as an enabler of rapid scale-up of human capacity, particularly when (i) UNVs filled roles that required less specialist experience,¹¹⁵ and (ii) teams within WHO were willing to share UNVs with other teams in response to times of exceptional need.

Challenges

WHO’s lengthy, multi-stage hiring processes were a key constraint in WCOs’ and pillars’ ability to scale up surge capacity and provide support to Member States. Several WCOs and EMRO pillar leads mentioned that it was challenging to increase staff capacity rapidly, particularly during the pandemic’s early stages. Though stakeholders acknowledged the challenges posed by exceptional demand for new hires during the COVID-19 pandemic, many also cited internal barriers to scaling up capacity.

¹¹⁴ WCOs did have access to advance mechanism such as the CFE through the “no-regrets policy”. However, these mechanisms are only accessible to WCOs at beginning of acute emergencies, and so were not accessible to most WCOs for the majority of their pandemic responses.

¹¹⁵ Note: though one EMRO stakeholder highlighted the hiring of UNVs as a helpful way to fill capacity gaps, another EMRO stakeholder this was not always helpful, particularly in situations when (i) UNVs conducted work that was not aligned with their level of experience, or (ii) UNVs (and consultants) ultimately carried out routine work that was expected to be done by fixed-term staff.

These barriers included a lack of funds and, most commonly, reliance on lengthy HR approval processes with inconsistent application of emergency SOPs. At EMRO and WCOs, stakeholders had to go through multiple stages of approval at regional and global levels to recruit new hires. This meant that recruitment of surge staff took several months even where funding and potential candidates were readily available. This hindered WHO's ability to provide sufficiently quick support to countries. For example, EMRO's Case Management and Clinical Operations pillar had one member of staff for most of the first year of the pandemic, and was therefore not able to expand to meet increasing countries' demand for epidemiologists.

EMRO and especially WCOs had comparative shortages in technical staff, limiting their ability to deliver support to Member States; a lack of staff mobility between WHO offices was often cited as a cause. During the COVID-19 response, there were some cases of successful redeployment of staff from HQ and EMRO to EMRO and WCOs respectively. For example, EMRO's Case Management and Clinical Operations pillar deployed some staff members as long-term, embedded consultants at WCOs, which was highly appreciated by both WCOs and MoHs. This being said, some stakeholders at EMRO and WCOs expressed that they expected more movement (based on relative needs) of human resources across WHO offices. This included the redeployment of experienced technical staff from HQ to EMRO, and – in particular – from EMRO to WCOs, in the form of short-term missions as well as longer-term assignments. Another driver of expertise shortages was the difficulty in attracting highly skilled staff to FCV Member States. A WCO stakeholder indicated that, unlike UN partner agencies, WHO does not apply a defined staff rotation policy for individuals in FCV Member States. The stakeholder suggested that the uncertain duration of the posting could deter potential staff recruits from applying to WHO postings in an FCV context.

Resource mobilisation

Successes

WCOs that invested in building relationships with donors prior to the pandemic benefitted from strong buy-in and working relationships with these donors during the COVID-19 response. As is further detailed in the *Partner coordination and engagement* section, WCOs with pre-existing donor relationships were often more easily able to mobilise resources for their pandemic response activities. Contrastingly, WCOs with fewer pre-existing donor relationships faced more difficulty in mobilising funding for their COVID-19 responses.

Consistent engagement with donors during the implementation of activities led to improved relations and, as a result, greater funding. Some WCOs mentioned examples of regular and varied forms of donor engagement. For instance, one WCO held weekly meetings with donors where achievements, challenges and risks, as well as proposals, were discussed. Another WCO invited donors to the field to showcase the implementation of funded activities. One stakeholder from a prominent regional donor also indicated that the most helpful WCOs were those that provided timely and informative updates, particularly when performance problems arose. These forms of regular and transparent engagement, especially when carried out consistently in the long term, helped to build donors' trust and confidence in WHO, which, in turn, translated into greater monetary support. Several examples illustrate this point: one WCO cited regular engagement as the primary enabler of one donor agency extending their activities with the WCO and increasing funding from USD \$10 million to USD \$20 million. Similarly building on regular and transparent donor engagement, WCO Egypt increased its emergency funding from approximately \$0.5m biannually pre-pandemic to approximately \$12m per year during the pandemic response, including a \$9m agreement with

USAID.¹¹⁶ Being open about potential challenges, and showing donors a clear and specific action plan with commitment from MoH, contributed to a WCO's ability to attract large donors, an EMRO stakeholder also observed.

Where it was available, non-earmarked donor funding was helpful to EMRO and WCOs in adapting to evolving priorities in the COVID-19 response. EMRO and WCOs generally received three types of donor funds: earmarked funding, which was only allowed to be spent on the performance of specific activities in specific locations; semi-flexible funding, which EMRO or WCOs were allowed to spend funds in a general thematic or geographic area; and, fully flexible funding, which EMRO or WCOs could spend as they deemed fit. Stakeholders at EMRO and WCOs, as well as an MoH stakeholder, emphasised the utility of semi- and fully-flexible donor funds in the COVID-19 response. Flexible funding enabled them to reallocate funds to activities that emerged as being important in the COVID-19 response, but may not have been previously budgeted for or agreed with donors. From a regional perspective, flexible funding permitted reallocation of funds across WCOs as different funding gaps arose and closed.

Challenges

The lack of dedicated resource mobilisation personnel inhibited EMRO's and many WCOs' ability to mobilise donor funds. The majority of the Region's WCOs did not have an external relations officer during the COVID-19 response, whether dedicated to resource mobilisation or otherwise. One WCO stakeholder suggested that, without an external relations officer, their office had limited ability to produce communications for resource mobilisation and to manage public relations. The stakeholder perceived that this weakened WHO's branding with donors and other partners in their Member State. EMRO also had less human capacity dedicated to external relations in the COVID-19 response than other regional offices, such as AFRO. According to an EMRO stakeholder, this meant that WHO was less capable of strategically targeting donors, managing donor contributions, and communicating EMRO's vision and needs to donors – tasks that require specialist skills. The stakeholder suggested that this hindered long-term relationship-building with donors, thereby impacting funding received from donors during and beyond the COVID-19 response.

WCOs had limited access to flexible donor funding. In 2020/21, fully flexible funding accounted for 11% of total donor funding to WCOs, compared to 71% of donor funds which were earmarked for specific COVID-19 activities, and 18% which were semi-flexible.¹¹⁷ This limited the opportunity for EMRO and WCOs to benefit from the advantages of flexible funding (as detailed in the **Successes** directly above). One regional stakeholder indicated that one of the difficulties in obtaining flexible funding was that many donors typically prefer to fund more tightly defined and monitored activities – particularly when donors had less long-term well-established relationships with WHO.

Recommendations

Finance and budgets management

To build on successes:

- 1. Ensure mutual visibility between EMRO and WCOs (on funding availability, allocation plans and WCO budgets) to enable optimal resource allocation across the region.**

¹¹⁶ USAID announces \$9 mln contribution to support Egypt's COVID-19 response Ahram Online, Webpage. Accessed at: <https://english.ahram.org.eg/NewsContent/1/1236/473670/Egypt/Health/USAID-announces--mln-contribution-to-support-Egypt.aspx> on 3 January 2023.

¹¹⁷ Resource Mobilization for COVID-19 and Beyond, WHO EMRO, 2021.

To enable more efficient resource planning at the country-level, HQ, EMRO and WCOs could increase visibility across offices on funding in two ways.

Firstly, WCOs could support EMRO by providing visibility over country-level funding needs and availabilities with as much granularity as possible (i.e., timing, volume, focus and source of funds). Where feasible, WCOs could also provide updates to EMRO about overall funds entering Member States via donor funds to MoHs and partner agencies. This could provide EMRO with a more complete picture of country-level funding gaps, and thereby improve the allocative efficiency of EMRO's funding decisions.

Secondly, EMRO could provide more visibility to WCOs over decision-making on regional funds. To do this, EMRO could provide WCOs with further insights into the principles of funding allocation at EMRO level and could share regular updates to all WCOs about the overall status of funding into the Region, and the status of funding allocation decision-making. This would boost WCOs' abilities to plan activities with more precision, given that they would have greater certainty over potential funding from EMRO. (Note: EMRO may not be able to provide visibility on all of the above elements of decision-making, given that EMRO may also have limited visibility over funding decisions at HQ level).

To address challenges:

- 2. Shorten emergency-budgeting cycles at HQ and EMRO, or allow for frequent budget revision cycles, to enable more accurate resource planning and allocation.**

HQ and EMRO could conduct shorter budgeting cycles or have regular check-ins on progress (e.g., quarterly or semi-annual), particularly for Regions/Member States prone to health emergencies. This could contribute to more accurate resource planning at WCOs, and could help to enable funding allocations that are better matched with peaks and troughs of Member State needs. Moreover, this could lessen the incentive for WCOs to request larger budgets than immediately needed due to long budgeting cycles, and thereby reduce the likelihood of offices holding unspent, expired funds.

- 3. Review processes for risk management concerning contingency funding held at HQ, EMRO and WCOs.**

WHO could review its processes for risk management relating to contingency funding held at its different offices during emergencies. The objective would be to proactively manage the status of unspent funds throughout each year, and ensure that funds likely to remain unspent are instead reallocated to other high priority activities. This could be via an oversight committee, or a specific policy rolled out to WCOs.

- 4. Ensure the consistent application of the “no-regrets policy” and emergency SOPs at EMRO and WCOs by increasing familiarity and usage, through support and training especially for emergency administrative functions.**

EMRO and WCOs could map the administrative processes that WCOs undertook when applying the “no-regrets policy” and other emergency SOPs, in the pandemic response (e.g., requesting funding from the CFE and recruiting additional staff). EMRO and WCOs could then identify process elements that enabled or impeded the application of the policy, update and streamline processes in guidance documents, and disseminate these with WCOs and administrative teams.

- 5. Assess potential for further advance-funding mechanisms available to EMRO and WCOs when donor funds for emergencies have been committed but not released.**

WHO could assess the potential for additional advance mechanisms for EMRO and WCOs to boost access to funding in emergencies. This is based on the success of existing mechanisms

used in acute emergencies. This may include the introduction of a new credit facility, or the expansion of the CFE. These mechanisms could enable EMRO and WCOs to immediately implement activities in situations in which donor funds have been guaranteed but not yet received. This said, any such mechanisms would need to be complemented with robust risk management policies.

Human resources and surge

To address challenges:

6. **Improve surge recruitment capabilities during emergencies by (i) adapting emergency HR recruitment processes (ii) bolstering emergency HR teams at HQ and EMRO, (iii) continuing to build surge rosters at EMRO and WCOs in advance of future emergencies, and (iv) consistently applying emergency SOPs at EMRO and WCOs.**

EMRO and WCOs could adapt HR functions and processes to enable more efficient scaling of technical and operational capacity during emergencies. To achieve this, WHO could:

Adapt HR emergency recruitment processes: To enable quicker recruitment during emergencies, EMRO could explore delegating further HR authorities to WRs during emergency responses. This could also include increasing awareness of and adherence to existing WHO emergency HR processes – e.g., through training on the application of HR processes.

Bolster emergency HR teams at HQ and EMRO: Global and regional HR teams could themselves be scaled up during emergencies (akin to surge capacity in technical teams) to have more staff available to process surge-related HR requests. This would allow technical and operational teams to more quickly scale up during emergencies and thereby meet more Member State demands for support.

Continue to build surge rosters at EMRO and WCOs: EMRO and WCOs could continue to build rosters of surge staff for emergency responses. For instance, EMRO and WCOs could contract technical experts as on-call consultants and deploy these staff members during emergencies. In particular, this could be done in countries prone to repeated emergencies, and technical areas in which WHO struggled to recruit staff during the COVID-19 pandemic response (e.g., IPC and RCCE).

Ensure consistent application of emergency SOPs at EMRO and WCOs: As is detailed above (see *Finance, budgets and grant management* recommendations), EMRO and WCOs can increase familiarity and usage of emergency SOPs through support and training.

7. **Map distribution of technical staff in emergencies across HQ, EMRO and WCOs, and potentially redeploy accordingly.**

WHO could investigate comparative shortages in technical staff by reviewing the distribution of experts across HQ, EMRO and WCOs, how this maps to their comparative remits in emergency responses, and areas where there may be a need to build capabilities in the long-term. Based on the outcome of this analysis, WHO could then consider encouraging reallocation of technical experts to areas with relative shortages. (An in-depth capacity gap assessment and strategy is proposed elsewhere in the report, as a longer-term solution to this challenge).

Resource mobilisation

To address challenges:

- 8. Invest in resource mobilisation and planning personnel at EMRO and at WCOs with greatest funding needs.**

To improve resource mobilisation capabilities, WHO could invest in permanent, dedicated and experienced resource mobilisation and planning personnel for EMRO and WCOs. These personnel could support development of resource mobilisation plans, mapping of donors, external relations-building, production of external communications materials, ongoing provision of performance updates to donors, monitoring and reporting, grant management and other forms of donor engagement. Such personnel could also share best practice between offices across the Region and beyond (e.g., HQ and other ROs). Country-level resource mobilisation and planning officers could cover multiple WCOs, though Member States with greater funding needs may require officers dedicated to their Member States alone. Where it may not be possible to recruit such personnel, EMRO and WCOs could provide training in relevant areas. For example, external-facing staff (such as leaders) could be trained on external relations topics, such as strategic positioning and how best to develop long-term relationships with existing donors.

These investments would contribute to more better resource planning, trusting relationships with existing donors, better exposure to prospective donors and improved public relations. In turn, EMRO and WCOs would be more likely to mobilise increased funds, and better placed to agree more flexible types of donor funding.

Gender, Equity and Human Rights (GEHR)

Context

This section of the review assesses the incorporation of Gender, Equity and Human Rights (GEHR) concerns in the COVID-19 responses of EMRO and WCOs. Specifically, the review considers how systematically GEHR considerations have been embedded in strategy and implementation, as well as some of the successes and challenges of measures taken to incorporate GEHR concerns during the pandemic response. Finally, recommendations are put forward on how EMRO and WCOs could systematically and successfully account for GEHR concerns in the ongoing and future health emergencies.

The incorporation of GEHR concerns in the pandemic response was led by GEHR-related staff outside of WHE. WHO's ERF does not dedicate a specific emergency function to GEHR beyond the specific topic of protection from sexual exploitation, abuse and harassment (PRSEAH). Hence, GEHR-related responsibilities were not formally assigned to any pillars in EMRO's IMST structure. Instead, GEHR focal points at EMRO led independent activities to incorporate GEHR considerations, such as gender-based violence (GBV), PRSEAH, and sexual and reproductive health and rights (SRHR), in the COVID-19 response. Each WCO had one to three GEHR focal points.

During the COVID-19 response, GEHR focal points provided the following forms of support to Member States and other WHO staff (*note: examples are illustrative and not exhaustive*):

- **Research:** Conducted original evidence generation on GEHR-related impacts of COVID-19 – e.g., some WCOs conducted surveys on the use of GBV services during lockdowns.
- **Technical guidance:** Developed tools, reports and other forms of technical guidance, often in collaboration with counterparts from other UN agencies – e.g., GEHR leads across agencies collaborated to produce guidance on tackling gender-related barriers to equitable COVID-19 vaccine deployment. Additionally, GBV leads generated technical guidance on the provision of in-person and remote health services to GBV survivors.
- **Capacity building:** Built capacity of WHO colleagues and external stakeholders, including MoHs, to integrate GEHR concerns (e.g., GBV) in their pandemic responses – e.g., EMRO helped to draft and review gender- and equity-related elements of Member State strategic response plans.
- **Advocacy:** Produced communication materials and delivered presentations to sensitise partners and MoHs to GEHR concerns in the COVID-19 response – e.g., EMRO produced specific GEHR information products that were published online and collaborated with other UN agencies to create flyers to raise awareness on violence against women during the COVID-19 pandemic.

The above functions were performed in the context of numerous external challenges, some of which include:

- Limited donor funding for activities related to GEHR in emergencies.
- Social and cultural sensitivity of some GEHR topics (e.g., human rights).
- Variable levels of political will for GEHR initiatives.
- Lack of availability of transparent data and information on some vulnerable populations (e.g., health coverage of migrant communities).

Findings

Successes:

EMRO and WCOs helped to recommend and successfully advocate for the implementation of some GEHR-related policies at MoHs and partner agencies. Alongside partner agencies, EMRO produced policy briefings setting priorities for the embedment of GEHR considerations during COVID-19. These included policy briefings on the impacts of COVID-19 on gender and GBV, as well as the “Build Back Fairer” report providing evidence and recommendations relating to health inequities.¹¹⁸ EMRO and WCOs then successfully advocated for the implementation of some GEHR-related policy priorities. For example, WHO staff produced evidence on the impacts of COVID-19 on GBV and its protection mechanisms in countries such as Iraq.¹¹⁹ According to a stakeholder, this informed the inclusion of GBV-related protection systems (such as hotlines and hospital services) in WHO’s list of essential health services to be maintained during Member State pandemic responses.¹²⁰

Challenges:

EMRO and WCOs lacked a formal strategy or approach to integrate GEHR issues into emergency responses. As a result, GEHR concerns were not systematically embedded into WHO’s COVID-19 response. Entering the pandemic, EMRO and WCOs lacked formalised approaches for the embedding of GEHR concerns in emergency responses (beyond PRSEAH, where stakeholders noted that progress has been made). This meant that GEHR lenses (including elements of vulnerability such as age, ethnicity and disability) were not mainstreamed across WHO’s programming and that the EMRO SPRP did not address GEHR factors comprehensively. For instance, GEHR considerations were not assessed in country review missions. As a result of this lack of strategy, the GEHR-related activities that did occur were largely ad hoc and inconsistent. For example, some WCOs led campaigns on women’s mental health during the pandemic, but these did not take place across all Member States.

EMRO and WCOs did not have personnel dedicated to GEHR for the pandemic response, thereby hindering the incorporation of GEHR concerns. EMRO’s IMST did not have any roles dedicated to GEHR concerns, and there were no GEHR-focused personnel in the WHE team during the pandemic response. Though pre-existing GEHR staff did contribute to COVID-19-related activities, stakeholders indicated that they did so on top of routine responsibilities and in the context of already-limited capacity.¹²¹ According to stakeholders, this shortage of capacity limited the speed and volume of GEHR-related guidance produced by EMRO and WCOs. The lack of dedicated GEHR personnel in EMRO’s IMST also meant that GEHR concerns were not being incorporated across functions (e.g., through data disaggregation, see *Information Management and Surveillance* for further detail).

Recommendations

To address challenges:

1. **Formalise the incorporation of GEHR considerations as one of WHO’s responsibilities during emergencies, including in the ERF, and support the dissemination and uptake of new policies at EMRO and WCOs.**

¹¹⁸ Build Back Fairer: Achieving Health Equity in the Eastern Mediterranean Region. Report of the Social Commission on Social Determinants of Health in the Eastern Mediterranean Region, WHO EMRO, 2021.

¹¹⁹ Responding to uptick in GBV in the context of the COVID-19 pandemic, WHO Health Cluster, 2020.

¹²⁰ Note: one EMRO stakeholder indicated that, despite this, GBV was rarely highlighted during EMRO discussions about maintaining essential health services during the COVID-19 pandemic.

¹²¹ Note: non-WHE technical leads in other emergency functions also tended to deliver COVID-19 activities on top of routine responsibilities and in the context of already-limited capacity.

WHO could include the application of GEHR lenses as a formal responsibility, with associated performance indicators, in guidance documents such as the ERF and IMST ToRs. To support the adoption of these lenses GEHR leads could develop localised guidance on GEHR lenses in alignment with the GPW 13's strategy on health equity, gender equality and human rights.¹²² EMRO and WCOs could then create clear and contextualised distribution and orientation plans for the above guidance and provide associated capacity building activities for emergency programme staff. Senior leadership could also advocate for the importance of incorporating GEHR concerns across emergency response functions.

2. Create dedicated GEHR emergency roles in WHE and in future IM(S)Ts.

Within WHE, EMRO could create roles dedicated to GEHR-related guidance and activities. EMRO and WCOs could also include GEHR-dedicated roles in emergency response coordination mechanisms, such as regional and country IM(S)Ts. Where capacity permits, EMRO and WCOs can separate GEHR roles by domain (e.g., separating gender, equity, rights, PRSEAH, GBV roles, etc.) to ensure that all aspects of GEHR receive due coverage during emergency responses. Nevertheless, personnel in these roles can maintain consistent visibility and communication to share learnings, coordinate, and collaborate on relevant activities.

¹²² For more information, see page 35 of Thirteenth General Programme of Work 2019-2023, by WHO.

IV. CONCLUDING REMARKS

WHO played a critical role in supporting Member States' health systems across the EMR. WHO delivered a wide range of support including the provision of technical guidance, expertise and operational support, as well as financial resources. It did this whilst managing significant adjustments to its internal workings so as to balance the strength of its COVID-19 response against the integrity of its ongoing programming. Internal adjustments included providing senior and dedicated leadership, setting up a well-functioning IMST, boosting cross-departmental collaboration, and establishing and relying on relationships with Member States, partners and other external stakeholders. In the review team's engagements with governments, UN agencies and other partners, stakeholders consistently considered WHO as a trusted partner in responding to COVID-19. This was not only in regard to the support provided to health systems, but also WHO's solicited input into senior and cross-government policy task forces.

The response to COVID-19 required WHO's full range of emergency response capabilities. The review highlighted many areas of the response that were successful and effective – but frequently identified a lack of capacity, within both technical and operational areas, as a barrier to providing a more comprehensive response. Health emergencies, especially one as extensive as the COVID-19 pandemic, will consistently require expertise and operational support that WHO is uniquely positioned to provide. The report found that those skills are often in short supply across the Region and in Member States. Despite this lack of capacity in certain areas, WHO successfully found ways to deliver much of its role. This said, growing the skillset and overall capacity of the emergencies team at EMRO and WCOs, especially, would greatly benefit future response efforts.

The findings and recommendations presented in this report are intended to feed into WHO's continued improvements in responding to health emergencies and build upon the advancements made and capacities built by WHO and Member States during COVID-19. The recommendations in this review aim to balance feasibility of implementation with the potential impact of improving WHO's ability to respond to health emergencies. In addition to these recommendations, the findings provide insights that intend to showcase best practices and highlight key points of feedback from a range of stakeholders. While the review focused on the response to COVID-19, the recommendations are intended to feed into WHO's broader health emergency response capabilities.

The review team would once more like to thank WHO colleagues and external partners for their contributions and efforts. The team will remain available for follow-up discussions on the review and would welcome discussion and questions.

ANNEXES

Annex 1: Table of recommendations

Summary of recommendations by function
Leadership and internal coordination
<p>Leadership</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Ensure the presence, visibility and availability of senior EMRO and WCO leadership to spearhead future responses, especially through prompt response times, visibility in team-wide meetings and engagement of national leadership and partner agencies. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 2. Map WCO leadership skills requirements to Member State contexts and increase emergency and operational leadership capacity where needed, particularly in countries with protracted humanitarian crises and/or high risks of emergencies. There are several options to increase capacity including: (i) adjusting the WR appointment process, (ii) providing requisite training and (iii) supplementing WCO leadership teams with additional capacity to purposely fill gaps in expertise or experience (e.g., through more consistent recruitment of deputy WRs with complementary skillsets across more Member States). 3. Review (and potentially increase) the delegation of decision-making authority to WCOs in emergency contexts to speed up critical operational decisions (particularly in terms of approvals for surge recruitment and emergency procurement). <p>Internal Coordination</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 4. Maintain the collaborative working style achieved through successful cross-departmental working within EMRO's IMST by continuing to communicate regularly in wider forums and encouraging multi-department programmes (including beyond emergencies).
Information Management and Surveillance
<p>Surveillance</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Expand the use of adaptable and innovative data collection methods to increase data availability at regional- and country-levels (e.g., collection through social media scraping and community-based surveillance programmes). <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 2. Enhance collaboration across EMRO departments to roll out and fully implement the regional strategy for Integrated Disease Surveillance (IDS). 3. Assess where gaps in skills and infrastructure (e.g., internet connectivity and communication devices) are preventing Member States from utilising WHO systems (e.g., DHIS2), particularly in low-income settings, and provide training and resources from across WHO to fill these gaps. 4. Encourage governments to share health data by proactively demonstrating how Member States can use data to improve their emergency responses. 5. Draw upon the capacities of country-level partners to collect disaggregated data which might be otherwise challenging to access (e.g., by using the on-the-ground presence of NGOs). <p>Data analytics and forecasting</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 6. Build and strengthen working relationships with research working groups and academic institutions to generate advanced data insights.

<p>Monitoring and evaluation (M&E)</p> <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 7. Track internal-facing indicators within WHO's emergency response M&E framework to better determine progress of WHO activities and improve monitoring and learning. 8. Strengthen Member States' commitments to establish M&E best practices and share data with WHO, as well as expand EMRO's and WCOs' M&E capacity.
<p>Health operations and technical expertise</p> <p>Cross-cutting recommendations</p> <p><i>Note: Some of the greatest opportunities to improve health operations and technical expertise relate to the performance of other functions (in particular Finance, Administration and other enabling functions, and Operations support, logistics and procurement). Relevant recommendations have been included in those sections.</i></p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Capitalise on momentum from the COVID-19 response by turning temporarily scaled-up capacity in Member States into more permanent capacity, agendas, and networks (e.g., develop EMRO and WCO critical care training into longer-term certifications, maintain newly-built country laboratory capacities and Public Health Emergency Operating Centres (PHEOCs), and institutionalise IPC and RCCE units set up in MoHs). 2. Track Member State technical and operational needs on a continuing basis, and tailor provision of WCO skills profiles and operational capacity accordingly (e.g., offering additional operational support to countries with weaker health systems). 3. Prioritise investments in preparedness activities and capacities across all Member States (e.g., support for National Action Plans for Health Security), and increase donor advocacy for the funding of preparedness measures. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 4. Address structural gaps in technical expertise and operational capacity at both EMRO and WCOs by (i) performing a capacity gap analysis across Health operations and technical expertise sub-functions – covering current and likely future gaps, and (ii) developing and implementing a strategic plan to close capacity gaps. 5. Assess potential ways to (i) send early alerts and information to countries by releasing pre-guidance, and (ii) reduce the time taken to release emergency technical guidance by addressing administrative delays (e.g., publication approvals processes and translation capacity). <p>Risk Communication and Community Engagement (RCCE)</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 6. Engage and build capacity of Civil Society Organisations (CSOs) and Community Health Workers (CHWs) in communities with hard-to-reach populations or weak primary healthcare capabilities. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 7. Expand emergency RCCE capacities at EMRO and, in particular, at WCOs. 8. Improve the integration of RCCE across regional emergency response activities (e.g., by repositioning RCCE as a cross-cutting function in future EMRO IMSTs). <p>Case Management and Clinical Operations</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 9. Institutionalise Case Management and Clinical Operations as a permanent function of EMRO's WHE. <p>Essential Health Services and Systems</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 10. Maintain the continuation of essential health services as a priority in future health emergencies at EMRO and WCOs. <p>Research and Knowledge Management</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 11. Include a Research and Knowledge Management pillar in future regional IMSTs in health emergencies where there is little or fast-changing evidence around diseases.

Partner coordination and engagement
<p>Partner coordination</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Ensure that all Health Clusters conduct frequent meetings and provide overarching coordination of country health emergency responses, in alignment with MoH needs. 2. Establish or strengthen equivalent formal coordination mechanisms (similar to that of Health Clusters) in countries without Health Clusters and ensure that they also execute best practices in partner coordination. 3. Retain regional- and country-level partner coordination mechanisms established during COVID-19 for other emergencies, as well as in non-emergency times. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 4. Increase central oversight and coordination of partnerships within future IMSTs to facilitate more strategic partner coordination and collaboration at the regional level. <p>Partner engagement</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 5. Proactively invest in relationship-building between EMRO/WCOs and governments/donors during non-emergency times and create guidance documents to codify and share best practices in relationship-building. 6. Develop country-level relations with trusted CSOs, community/faith-based leaders and networks of CHWs that have access to hard-to-reach communities.
Operations Support, Logistics (OSL) and procurement
<p>OSL</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Build on the successes of the Dubai Hub by expanding its operational capacity and by formalising its engagement with WHO's procurement teams at all levels (HQ, EMRO and WCOs) and with partner agencies with strong logistics capabilities. 2. Continue to upgrade WHO's OSL database and tracking systems. <i>Note: this recommendation is based on the reliance on manual systems used during COVID-19, and notes that ERP and warehouse management software improvements are underway.</i> 3. Investigate opportunities to build systematic OSL partnerships with UN agencies at both the regional and country level, beyond ad hoc approaches, to draw on comparative advantages. In tandem, consider feasibility of building internal WHO supply chain capabilities and capacities versus outsourcing/relying on partnerships. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 4. Assess WCO and EMRO staff capacity and expertise gaps in supply chain management and logistics and hire relevant expertise at country and regional levels. 5. Advocate for Member States to further expedite customs clearance procedures during emergencies and facilitate batch approvals, especially. <p>Procurement</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 6. Expand and diversify WHO's approved supplier base and product catalogue ahead of future emergencies with input from WCOs on what is most helpful. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 7. Conduct a process review of emergency procurement bottlenecks at HQ, EMRO and WCOs to reduce delays in provision of supplies to Member States. The process review should also take into account how well existing emergency procurement procedures and relevant SOPs are followed. 8. Ensure regional OSL and Procurement teams collaborate closely with equivalent country-level teams. 9. Establish formal mechanisms within procurement planning processes to engage OSL teams for logistical considerations. This could include OSL colleagues formally or informally inputting into WCO and EMRO procurement plans.

Finance, administration and resource mobilisation
<p>Finance and budgets management</p> <p><i>To build on successes:</i></p> <ol style="list-style-type: none"> 1. Ensure mutual visibility between EMRO and WCOs (on funding availability, allocation plans and WCO budgets) to enable optimal resource allocation across the region. <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 2. Shorten emergency-budgeting cycles at HQ and EMRO, or allow for frequent budget revision cycles, to enable more accurate resource planning and allocation. 3. Review processes for risk management concerning contingency funding held at HQ, EMRO and WCOs. 4. Ensure the consistent application of the “no-regrets policy” and emergency SOPs at EMRO and WCOs by increasing familiarity and usage, through support and training especially for emergency administrative functions. 5. Assess potential for further advance-funding mechanisms available to EMRO and WCOs when donor funds for emergencies have been committed but not released. <p>Human resources and surge</p> <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 6. Improve surge recruitment capabilities during emergencies by (i) adapting emergency HR recruitment processes (ii) bolstering emergency HR teams at HQ and EMRO, (iii) continuing to build surge rosters at EMRO and WCOs in advance of future emergencies, and (iv) consistently applying emergency SOPs at EMRO and WCOs. 7. Map distribution of technical staff in emergencies across HQ, EMRO and WCOs, and potentially redeploy accordingly. <p>Resource mobilisation</p> <p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 8. Invest in resource mobilisation and planning personnel at EMRO and at WCOs with greatest funding needs.
Gender, equity and human rights (GEHR)
<p><i>To address challenges:</i></p> <ol style="list-style-type: none"> 1. Formalise the incorporation of GEHR considerations as one of WHO’s responsibilities during emergencies, including in the Emergency Response Framework (ERF), and support the dissemination and uptake of new policies at EMRO and WCOs. 2. Create dedicated GEHR emergency roles in WHE and in future IM(S)Ts. 3. Formalise expectations of Member States to embed GEHR considerations in emergency responses (e.g., through resolutions and/or emergency-specific guidelines).

Annex 2: Interviewee list¹²³

WHE HQ	
Name	Role
Michael Ryan	Executive Director
Abdirahman Mahamud	Global Incident Manager for COVID-19 IMST/Senior Health Emergency Officer
Maria Van Kerkhove	COVID-19 Technical Lead and Emerging Diseases and Zoonoses Unit Lead
Paul Molinaro	Chief, Operations Support and Logistics
Monica Nygard	Manager, Health Emergency Operations
Francis Grenier	Management Officer

WHO EMRO		
Name	Role	IMST Pillar/Functions
Ahmed Al-Mandhari	Regional Director	Leadership
Rana Hajjeh	Director, Programme Management	Strategic Management and Coordination
Richard Brennan	Regional Emergency Director	Regional Emergency Director & Incident Manager
Abdinasir Abubakar	Acting WR Lebanon and Programme Area Manager, Infectious Hazard Prevention and Preparedness	Former Incident Manager
Christoph Hamelmann	Chef de Cabinet	N/A
Nelly Bertrand	Programme Area Manager, Programme Management Office	Programme Management
Chiori Kodama	Pillar Lead and Workstream Lead, Infectious Hazard Prevention and Preparedness	Case Management and Clinical Operations
Gary Greg Kuniyoshi	Consultant, Infectious Hazard Prevention and Preparedness	
Victoria Bélorgeot	Consultant	Coordination and Documentation Cell
Inas Hamam	Pillar Lead and Communications Officer	Communications (Internal and External)
Yvan Hutin	Director, Department of Universal Health Coverage, Communicable Diseases	COVID-19 Vaccine
Eltayeb Elfakki	Medical Officer, Vaccination in Emergencies	
Mohammed Osama Mere	Life Course Immunization Lead	
Quamrul Hasan	Unit Head, Immunization, Vaccine preventable diseases and Polio Transition	

¹²³ The interviewee list captures publicly available titles of WHO staff and partners. The review team obtained guidance from WHO in verifying these.

Awad Mataria	Pillar Lead and Director, Universal Health Coverage/Health Systems	Essential Health Services and Systems
Pierre Nabeth	Pillar Lead and Unit Lead, Health Emergency Information and Risk Assessment	Information Management and Surveillance
Ahmed Osman	Technical Officer	
Aura Corpuz	Team Lead, Public Health Intelligence	
Basma Abdelgawad	Epidemiologist	
Hanem Wahid Ibrahim Mohamed Basha	Senior GIS Specialist	
Mahmoud Hassan	Epidemiologist	
Mahmoud Sadek	Medical Epidemiologist	
Osman Mohammed Elmahal	Team Lead, Health Emergency Information and Risk Assessment	
Walaa Ismail	Epidemiologist	
Maha Talaat	Pillar Lead and Regional Advisor, Antimicrobial Resistance and Infection Prevention and Control	Infection Prevention and Control
Iman Heweidly	Consultant	
Moustafa Ramadan	Consultant	
Dalia Samhoury	Pillar Lead and Programme Manager, Emergency Preparedness and International Health Regulations	International Health Regulations and Social Measures
Amal Barakat	Pillar Lead and Technical Officer, Infectious Hazard Preparedness Unit	Laboratory Diagnostics
Anna Rita Ronzoni	Technical Officer, Gender-based Violence	N/A
Asmus Hammerich	Director, Non-communicable Diseases and Mental Health	
Hamid Jafari	Director, Polio Eradication	
Hemant Shukla	Team Lead, Country Support Team for Polio	
Jamal Nasher	Coordinator, Sustainable Development Goals and Gender, Equity and Human Rights	
Matilda Byström	Technical Officer, Non-communicable Diseases Prevention and Management	
Mira Kristina Ihalainen	Director, Communications, Resource Mobilization and Partnership	
Nagui Salama	Programme Officer	
Qaiser Pasha	Senior Corporate Partnerships Manager	
Sussan Bassiri	Director, Business Operations	

Thamer Al-Hilfi	Technical Officer	
Wasiq Khan	Team Lead	
Robert Blanchard	Pillar Lead and Operations Manager	Operations Support and Logistics
Sami Raci	Logistician, Field Operations	
Arash Rashidian	Pillar Lead and Director, Science, Information and Dissemination	Research and Knowledge Management
Misbah Sheikh	Senior Manager, External Relations Division	Resource Mobilisation
Amgad Elkholy	Medical Epidemiologist	Risk Communications and Community Engagement
Rose Aynsley	Technical Officer, Risk Communications and Community Engagement	

WCOs		
Name	Role	WCO
Alaa Abouzeid	Team Lead, Emergencies	Afghanistan
Tasnim Atatrah	WHO Representative	Bahrain (Kingdom of)
Nadia Al-Aali	COVID-19 Focal Point	
Omar Abouelata	COVID-19 Focal Point	Egypt
Syed Jaffar Hussein	WHO Representative	Iran (Islamic Republic of)
Mikiko Senga	COVID-19 Focal Point	
Sayed Mohsen Hosseini Boroujeni	COVID-19 Focal Point	
Jamela Al-Raiby	WHO Representative	Jordan
Amanda Rafidi	Senior Procurement Assistant	
Bashar Elias	Administrative Assistant	
Chinara Aidyalieva	COVID-19 Focal Point	
Lora Alsawalha	COVID-19 Focal Point	
Saverio Bellizzi	COVID-19 Focal Point	
Batoul Dawi	COVID-19 Focal Point	Kuwait
Ugochukwu Ikpeazu	Resource Mobilisation Officer	
Palitha Mahipala	WHO Representative	Pakistan
Khaled Nada	COVID-19 Focal Point	Saudi Arabia (Kingdom of)
Mamunur Malik	WHO Representative	Somalia
Solomon Abera	COVID-19 Focal Point	
Ni'ma Saeed Abid	WHO Representative	Sudan
Amira Fadil Adam	Communicable Diseases Officer	
Mohammed Altaf Daoud	COVID-19 Focal Point	
Mohammed Yusuf Ahmed Musa	National Professional Officer	
Muhammad Ali Raja	Team Lead, Epidemiology	
Sara Omer Mekki Ahmed	Epidemiologist	

Iman Shankiti	Acting WHO Representative, Syria	Syrian Arab Republic
Hyam Bashour	Health System Officer	
Iskandar Hanna	COVID-19 Focal Point	
Mohammed Al-Emed	COVID-19 Focal Point	

External Stakeholders		
Name	Role and Organisation	Member State
Robin Nandy	Representative, UNICEF	Iran (Islamic Republic of)
Agnese Spiazzi	Head of UN Resident Coordinator's Office	Jordan
Dominik Bartsch	Acting UN Resident Coordinator; UNHCR	
Shairose Mawji	Deputy Representative, UNICEF	
Hamad Bastaki	Head of Communicable Disease Control Division, MoH	Kuwait
Hideko Hadzialic	Resident Representative, United Nations Development Programme (UNDP)	
Anas Abdulhafeez Khan	Assistant Deputy Minister, International Collaborations, MoH	Saudi Arabia (Kingdom of)
David Joy	Head of UN Resident Coordinator's Office	
Rakan Khalid Bin Dohaish	Director General, Global Centre for Mass Gatherings Medicine, MoH	
Abdifatah Ahmed	Executive Director, Somali National Institute of Health	Somalia
Eman Eljzoly	Surveillance Focal Point, IOM	Sudan
Mohammed Elata		
Kondwani Ng'oma	Health Manager, UNICEF	
Sherein Elmaki	Health Specialist, UNICEF	
Muntasir Osman	Director General, Health Emergencies/Epidemiology, MoH	
Ehab Kseba	Coordinator, UN Gender Working Group, United Nations Population Fund (UNFPA)	Syrian Arab Republic

Annex 3: Documents included in desk review

Strategic plans

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34. National Deployment & Vaccination Plans for COVID-19 Vaccines, Ministry of Health, Federal Government of Somalia, 2021 and 2022.
35. National Deployment and Vaccination Plan for COVID-19 vaccines in the Syrian Arab Republic. Ministry of Health, Syrian Arab Republic.
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37. National Emergency Response Plan for Coronavirus 2020, Ministry of Public Health, Islamic Republic of Afghanistan, 2020.
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