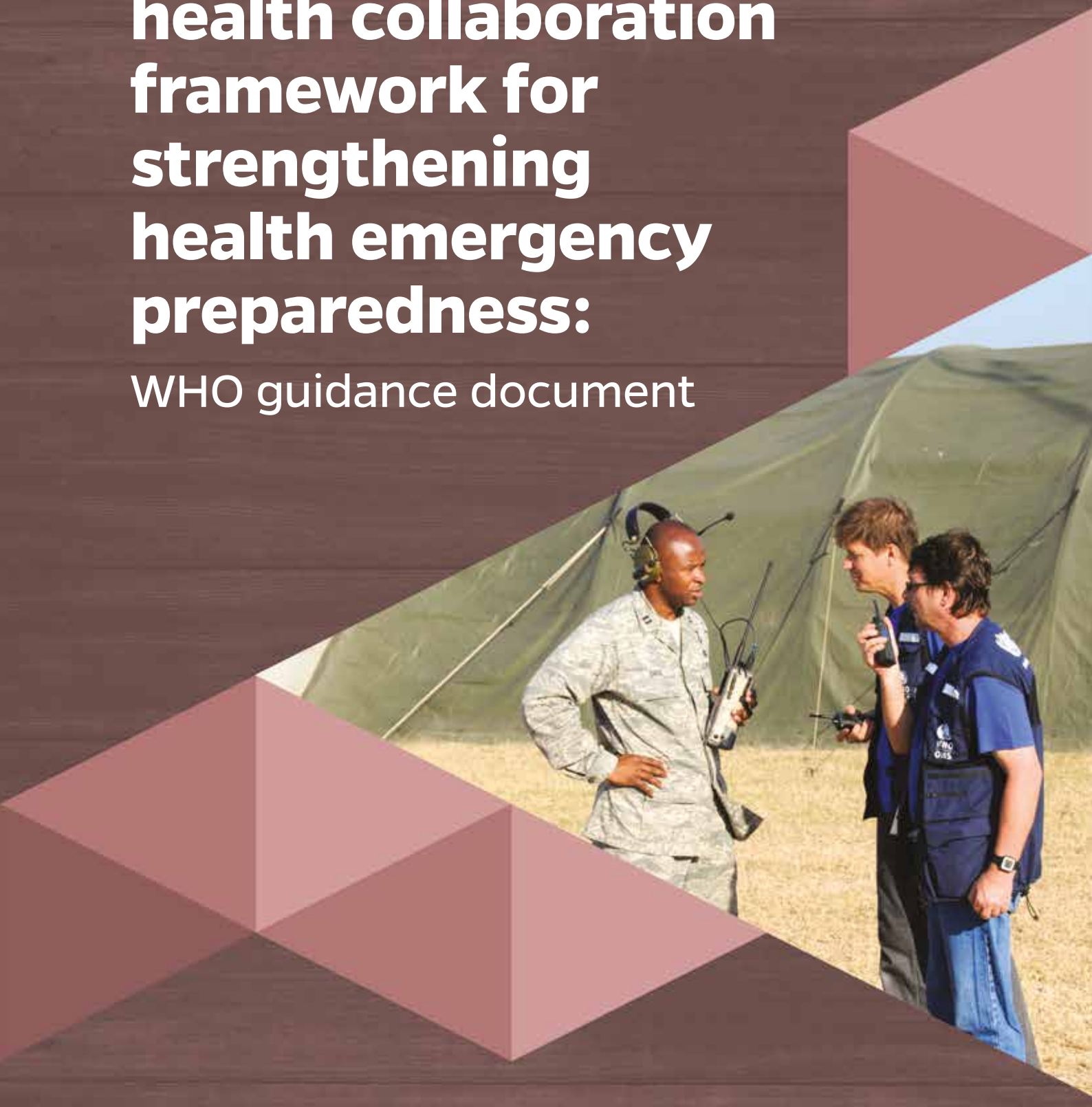
National civil–military health collaboration framework for strengthening health emergency preparedness:

WHO guidance document



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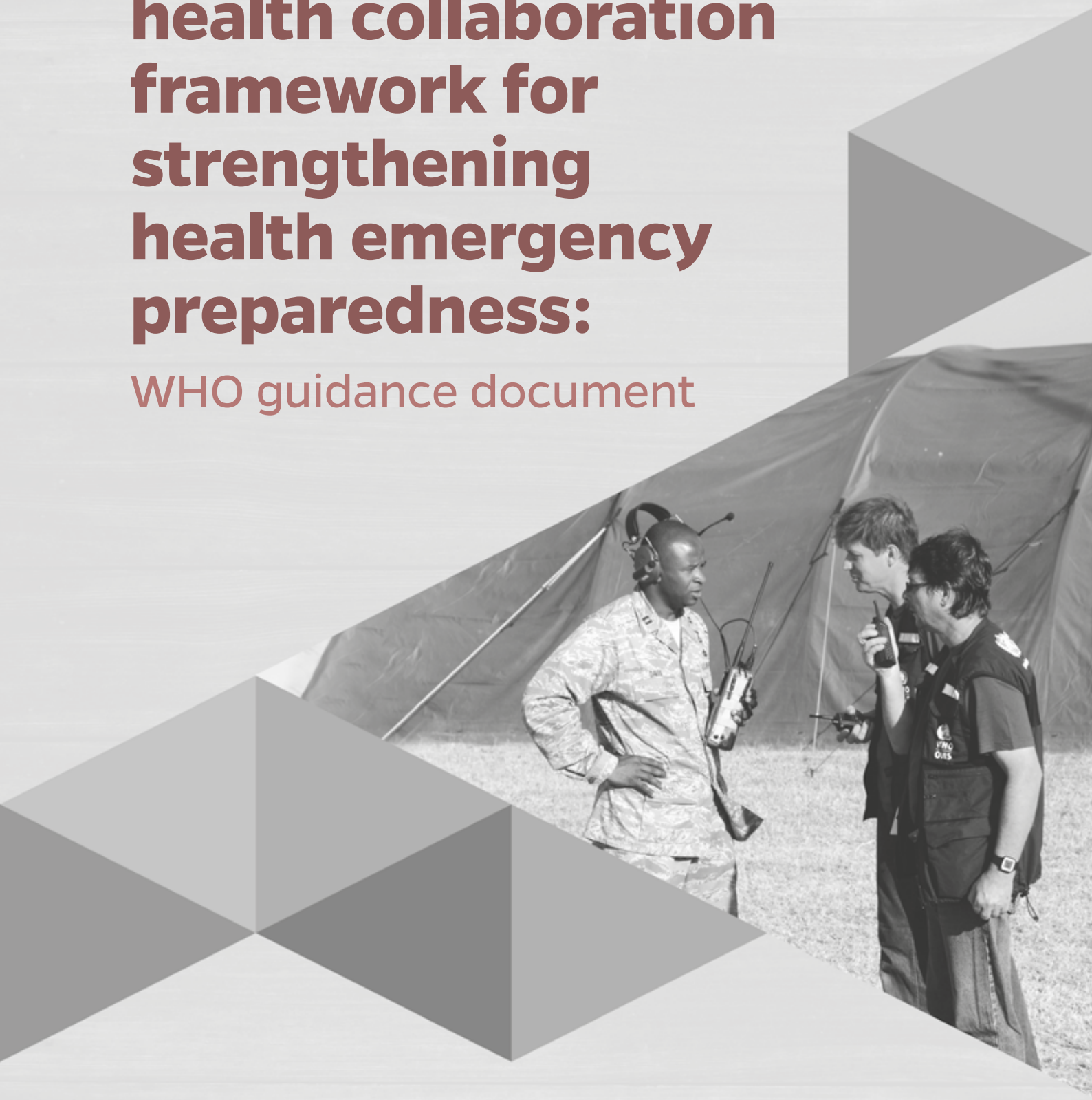

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Abbreviations

CBRN	chemical, biological, radiological and nuclear
EMT	emergency medical team
IHR	International Health Regulations
JEE	joint external evaluation
PHEOC	public health emergency operations centre
WHO	World Health Organization

Executive summary

The COVID-19 pandemic has proved a catalyst for many countries to explore ways of engaging military health services for national health emergency preparedness and response. In November 2020, World Health Assembly resolution WHA73.8 – "Strengthening preparedness for health emergencies: implementation of the International Health Regulations (2005)" – stressed the importance of adopting an all-hazards, multisectoral, coordinated approach to preparedness for health emergencies. The International Health Regulations (IHR) (2005) require States Parties and territories to prevent, detect, and respond to public health emergencies of international concern in a timely manner at all levels of government. Improving collaboration between the public health sector and military actors and services at the national and subnational levels represents an important aspect of the multisectoral approach endorsed under the IHR (2005) and other global frameworks, such as the Sendai Framework for Disaster Risk Reduction 2015–2030.

To ensure effective civil–military health collaboration that supports health emergency preparedness interventions required to combat existing or potential threats, and for longer-term health security capacity-building, it is critical to identify pathways for partnership well before a response to a health emergency is required. To this end, WHO together with Member States and partners developed the *National civil–military health collaboration framework for strengthening health emergency preparedness*. The aim of this framework is to provide the public health sector and military actors and services at the national level with guidance for establishing, advancing, and maintaining collaboration and coordination, with the focus on country core capacities required to effectively prevent, detect, respond to, recover from and build back better after health emergencies.

The framework identifies lessons learned from recent participation of military health services in responding to natural disasters, chemical, nuclear or radiological incidents, and disease outbreaks, including linkages to public health emergency operation centres and emergency medical teams. Key elements for effective civil–military health collaboration for the development of national core capacity to prevent, detect, respond to and recover from health emergencies are highlighted, including (a) establishing a strategic collaboration plan for health emergency preparedness; (b) acknowledging differences between the public health sector and military health services; (c) identifying technical areas for collaboration based on the national core capacities for health emergency preparedness; (d) institutionalizing civil–military health collaboration; and (e) jointly building and training for civil–military health emergency preparedness capacities.

1 Purpose of the national civil–military health collaboration framework

1.1 Scope and objectives

The aim of the *National civil–military health collaboration framework for strengthening health emergency preparedness* is to provide public health stakeholders and military actors and services with guidance to establish, advance, and maintain cross-sectoral collaboration and coordination for reinforcing essential public health functions for health emergency preparedness at the national and subnational levels, underpinned by a whole-of-society approach.

Member States, States Parties and territories, partners, donors, international and national organizations and other entities that work to reduce the risk of global health hazards can use this framework to develop national core capacities to prevent, mitigate, detect, prepare for, respond to and recover from health emergencies through engagement of and coordination between the public health sector and national military health services in the context of the implementation of the International Health Regulations (IHR) (2005) *(1)* and other global frameworks, such as the Bangkok Principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015–2030 *(2, 3)*.

The objectives of the document include:

- to support countries in identifying technical areas under the IHR (2005) to prevent, detect, respond to and recover from health emergencies that can be strengthened by national civil–military health collaboration;
- serve as a reference framework to guide collaboration between the public health sector and the military, specifically military health services at the national level, as part of health emergency preparedness and health security strengthening;
- facilitate the formal endorsement of civil–military health collaboration (for example through a memorandum of understanding or other formal agreement) for health emergency preparedness at the national (or subnational) level.

1.2 Target audience

The main target groups for this framework are:

- decision-makers and practitioners of public health, interdisciplinary policy-makers, and authorities and agencies responsible for preparing for and managing emergencies, incidents, or events that put the health of populations at risk;
- stakeholders of the military services and actors supporting health interventions, specifically those that participate in national and subnational action to prepare for and manage emergencies, incidents, or events that put the health of military personnel or the general population at risk;

- development partners, to ensure their health security assistance is consistent with ever-evolving needs that require cross-sectoral and multisectoral solutions, and to provide guidance to assist them in determination of the effectiveness of assistance in this regard;
- the World Health Organization (WHO) Secretariat, United Nations agencies, the International Committee on Military Medicine, and regional organizations, to enhance the promotion and support of cross-sectoral collaboration as part of a multisectoral, whole-of-society, all-hazards approach under the IHR (2005) and the Sendai Framework for Disaster Risk Reduction *(2)*;
- WHO regional and country offices, to enable them to identify, support and facilitate potential civil–military health collaboration that contributes to building national capacities that support the implementation of the IHR (2005).
- While security actors and services – for example, police, customs, immigration authorities and private security sectors – can play an important role in health emergencies, the focus of the framework is on collaboration between public health and military actors and services in the context of health emergencies.

1.3 Development process of this framework

Development of this framework was initiated following a meeting on "Managing future global public health risks by strengthening collaboration between civilian and military health services" (Jakarta, 24–26 October 2017) *(4)*, which brought together more than 160 public health and security representatives from 44 countries, international organizations, partners and donors. Guiding principles were agreed on how to strengthen collaboration between the security and civilian health sectors in line with the commitment made by members of the Group of 20 to strengthen global health security and accelerate the implementation of the IHR (2005) *(5)*.

This document is a product of systematic reviews of literature and existing standards of practice, expert consultations, and analysis of data and related applications for assessing and strengthening health emergency preparedness. In December 2018, the WHO Secretariat (Multisectoral Engagement for Health Security) convened a global technical consultation on national cross-sectoral collaboration between security and health sectors in Hong Kong Special Administrative Region, China *(6)*, in which expert participants from both the public health and military health sectors from Member States provided valuable feedback on the first draft.

1.4 Definitions

The following definitions are used in this document.

Military. Official national military actors or civil defence units involved in crisis preparedness and response. Non-State military groups or paramilitary organizations are outside the scope of this document *(7)*.

Military health services. The services within the military that manage health-related infrastructure, logistical functions, services and workforce for military personnel and the public. The military health services comprise military hospitals and clinics, military medical laboratories, pharmacy and veterinary services, logistical and medical equipment, and other services and supplies, including vehicles and personnel.

Civil–military health collaboration for emergency preparedness. The essential dialogue, coordination and interaction that routinely take place between civilian and military health actors with the aim of strengthening countries' capacities to prevent, detect and respond to health emergencies as common goals. Basic strategies range from coexistence (operations in the same areas with limited or no interaction) to cooperation (common goals and agreed strategies). Coordination is a shared responsibility facilitated by liaison and common training *(7)*.

Global health security. The activities required to minimize the danger and impact of acute public health events that endanger the collective health of populations living across geographical regions and international boundaries *(8)*.

Country capacities to support the implementation of the IHR (2005). The core capacities, as stipulated under Articles 5 and 13 and Annex 1 of the International Health Regulations (2005), to detect, notify and report events and to respond to public health risks and emergencies of national and international concern *(1)*.

Public health emergency preparedness. The knowledge, capacities and organizational systems developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impact of likely, imminent, emerging or current emergencies *(9)*.

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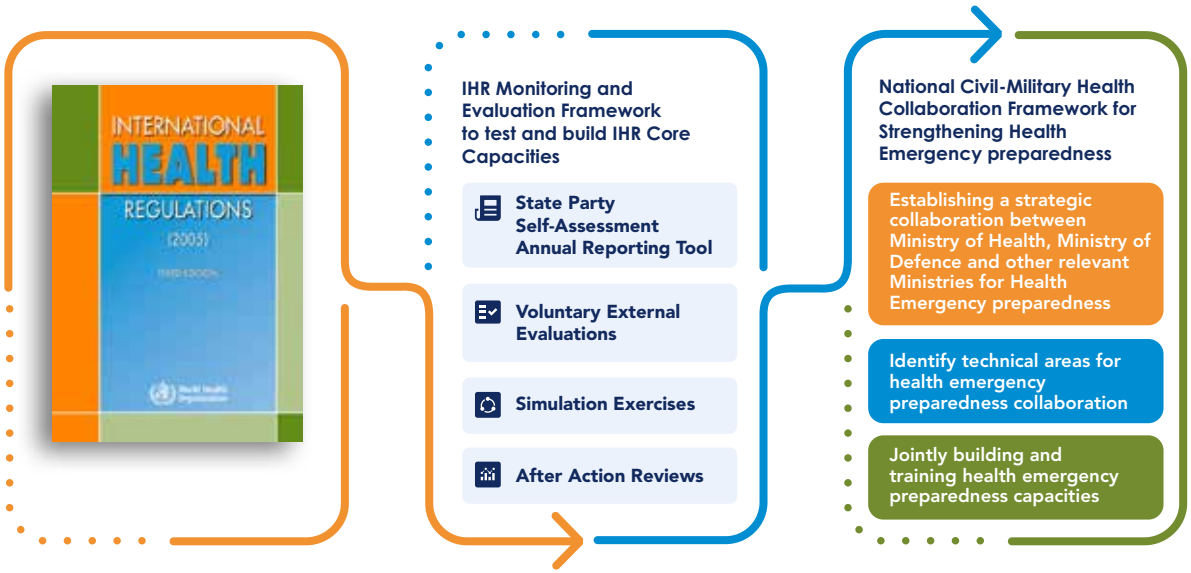

2 Introduction

2.1 Background

The role of military assistance in responding to natural and environmental disasters *(10)*, including incidents related to chemical, radioactive and nuclear accidents or deliberate events *(11)*, has been long established. While the military has historically not been regarded as a primary partner in responding to disease outbreaks, the engagement of the military in the response to the Ebola virus disease outbreak in West Africa in 2014–2016 and the Zika virus disease outbreak in 2016 illustrated some of the benefits of civil–military health collaboration in the context of an epidemic *(12)*.

Most recently, during the COVID-19 pandemic, the scale and complexity of the pandemic has reinforced that partnership and demonstrated that collaboration with other sectors beyond the health sector is essential when preparing for and responding to public health threats and risks *(13)*. National military assistance in countries during the COVID-19 pandemic has so far included supporting logistics and supply chain management; providing additional medical or other personnel as surge capacity; delivering part of the response, such as supporting contact tracing, testing or vaccination; and contributing to the security agenda by reinforcing border controls at points of entry. However, the optimal contribution of the military health services in responding to or preparing for disease outbreaks requires further assessment.

Under the WHO Thirteenth General Programme of Work 2019–2023, which includes the strategic priority to better protect 1 billion more people from health emergencies, emergency preparedness plays a crucial role in building and sustaining the national, regional and global capacities required to keep the world safe from health emergencies *(14)*. The IHR (2005) require the 196 signatory countries and territories to detect, assess, report, and respond to potential public health emergencies of international concern in a timely manner at all levels of government. Improving collaboration between public health and military health services has been identified by WHO as an area with the potential to realize substantial gains in health emergency preparedness, emphasizing the need to identify synergies for future collaboration *(15)*.

In May 2018, pursuant to the decision of the Seventy-first World Health Assembly on implementation of the IHR five-year global strategic plan to improve public health preparedness and response, 2018–2023, the WHO Secretariat affirmed the need for innovative multisectoral approaches to implementation of the IHR (2005) *(16).* In November 2020, World Health resolution WHA73.8 – "Strengthening preparedness for health emergencies: implementation of the International Health Regulations (2005)" – stressed the importance of adopting an all-hazards, multisectoral, coordinated approach in preparedness for health emergencies *(5, 17)*.

Emergency response benefits from building and strengthening alliances and partnerships between the public health sector and non-traditional health stakeholders, such as the military health services, well before the need for a response to a public health emergency arises. Thus, instead of aiming for multisectoral engagement only at the time when a response to a public health emergency is necessary, effective public health emergency management requires preparing together for a better response through multisectoral coordination for emergency preparedness and health security *(2, 18)*.

WHO recognizes that countries would benefit from guidance on how to involve military actors in supporting health interventions across the continuum from developing the capacities needed to implement prevention and preparedness to the response to and recovery from health emergencies. Stakeholders need not only to consider the country-specific context to choose the best form of engagement but also to identify the national capacities that can and should be complemented by the military health services. National military health services are often well equipped to play a supportive and complementary role in this endeavour.

2.2 Engagement of national military health services in responding to disease outbreaks

While there is a long-standing history of military involvement in humanitarian interventions related to natural disasters, the engagement of national militaries in preparing for and responding to disease outbreaks in the domestic context is relatively recent. Since 2009, all declared public health emergencies of international concern[1] have highlighted the importance of multisectoral collaboration beyond the health sector. While militaries might not immediately associate health epidemics or pandemics with their mandate (for various reasons, including legal, historical, political, cultural and socioeconomic factors specific to the country context), national military health services have a range of specialist resources that can be brought to bear in managing public health events, including disease outbreaks, and consensus on technical standards for health-related interventions and activities can be reached by all military *(19, 20)*.

Many examples exist of military health assistance that helped to mitigate and ease the impact of natural disasters such as earthquakes, cyclones, droughts, floods, and chemical, biological, radiological and nuclear (CBRN) emergencies. With the increase in the number and magnitude of health emergencies (such as the 2014–2015 Ebola outbreak in western Africa and the 2015–2016 Zika outbreak in Brazil), exemplary case studies of health-related activities delivered by the military during epidemics are gradually emerging. In particular, the Ebola outbreak in Guinea, Liberia and Sierra Leone illustrated that "civil–military collaboration proved necessary and helped the affected countries to contain the virus sooner and saved lives" *(21)*. Most of the research on civil–military collaboration in the context of disease outbreaks offers qualified support

[1] H1N1 influenza (2009), wild poliovirus (2014), Ebola (2014), Zika (2016), Ebola (2019) and COVID-19 (2020).

for greater collaboration between the two sectors, with the caveat that the need for comprehensive guidance on civil–military health-related interventions and activities remains *(21–32)*.

Even more prominently, the COVID-19 pandemic has shed light on the role that national military actors and services can play in public health emergencies, including disease outbreaks. Acknowledging their sheer lack of capacity to respond to the devastating impacts of the pandemic caused by the novel virus SARS-CoV-2, many countries have increasingly engaged the national military in support of the COVID-19 response. The efforts of the national military typically focus on the following activities: support for physical infrastructure, logistics and supply chain management; providing military health workforce surge capacity for civilian hospitals; isolation and quarantine and border control; testing and contact tracing and distribution of protective equipment; and managing cases *(33)*. According to the European Observatory of Health Systems and Policies, "governments used their militaries as a source of supplementary logistical, infrastructural, and medical capacity and as a source of infrastructure and in some cases policing duties for isolation and quarantine but did not broaden its role" *(33)*.

While the pandemic is still ongoing at the time of the publication of this document, more evidence and analysis on civil–military health collaboration in the context of the COVID-19 pandemic is expected to emerge.[2]

These lessons learned are likely to inform the future engagement of the military in responding to disease outbreaks, and specifically epidemics and pandemics. More broadly, this document explores the complementary role that national militaries can play in strengthening countries' recovery and longer-term emergency preparedness capacities.

2.3 The gap in national civil–military health collaboration for health emergency preparedness

The COVID-19 pandemic highlights the necessity to address all types of emergencies, including disasters *(3)*, and their interconnected determinants, many of which lie beyond the traditional public health sector and require linking with diverse stakeholders *(18).* Despite this knowledge, multisectoral collaboration, including with military health services, remains limited in emergency preparedness, focusing on logistics, infrastructure and protection measures but to a lesser degree on national core capacities for emergency preparedness.

Examples of limited linkages between public health and security authorities in emergency preparedness have been identified by analysis of national preparedness assessments, including through joint external evaluations (JEEs) of IHR (2005) capacities *(34)*. JEEs as part of the IHR Monitoring and Evaluation Framework *(35)* assess countries' capacities to prevent, detect and respond to public health risks, whether occurring naturally or due to deliberate or accidental

[2] At the time of publication of this document, WHO has collected country case studies on civil–military health collaboration in the response to COVID-19 across the WHO regions to be published as a compendium.

events, with a focus on 19 technical areas. The technical area "linking public health and security authorities" makes reference to human and animal health, law enforcement and defence personnel. Results from 85 JEEs assessing countries' coordination between the public health and security authorities show that globally, the capacity score of countries for linking public health and security authorities averages 58%, with some regions averaging considerably lower, for example the WHO African Region (42%) and the WHO South-East Asia Region (51%).

Based on the JEE results, the most common priority actions that have been recommended to countries include to (a) review or develop standard operating procedures to coordinate joint operations for emergencies with a security component (15%); (b) organize a simulation exercise to test the capacity to detect and to coordinate the response to emergencies with a security component (14%); (c) develop a memorandum of understanding or other protocol for coordination between the security sector and the health sector, animal health sector, and environment sector (14%); (d) organize multisectoral training on security aspects during emergencies (12%); and (e) establish mechanisms for communication and information sharing among stakeholders, including security authorities (12%). While the JEE indicator focuses on joint epidemiological and criminal investigations for CBRN incidents of deliberate origin and the ability to provide international assistance, the key recommendations indicate that there is room for improvement of coordinated and demonstrated links between the public health and security authorities, including civil–military health collaboration at the national level.

To ensure more functional collaboration in the long term, the routine and consistent identification of pathways for civil–military health collaboration is imperative and forward looking *(8)*. For this purpose, leveraging the experiences and resources from responding to health-related crises need to be considered to guide the involvement of military health services in capacity-building for health emergency preparedness. The historical, political, social and legal contexts, as well as the existing civil–military collaboration for responding to natural disasters or to CBRN emergencies, provide lessons that can be utilized to enhance cross-sectoral collaboration on health emergency preparedness. In addition, the role of public health emergency operations centres (PHEOCs) and emergency medical teams (EMTs) in connecting public health and military actors for health emergency management sheds further light on crucial aspects for strengthening health security preparedness. To this end, the table in Chapter 3 outlines relevant key elements, considerations and questions related to context, natural disaster management, CBRN events, PHEOCs and EMTs.

3 Key preliminary considerations

Table 3.1 outlines key aspects and linkages to related technical areas that countries need to take into consideration preceding civil–military health collaboration for capacity development that supports the implementation of the IHR (2005) at the national and subnational levels. In order to facilitate understanding of the optimal role that national military services can have in health emergency preparedness, a number of important considerations need to be taken into account.

Table 3.1 Key aspects and factors for civil–military health collaboration at national level

Key aspects	Factors to consider for civil–military health collaboration at national level
1. Historical, political, social and legal context	→ The historical, political, social and legal context of a country has an impact on the type of collaboration that will be possible between the public health sector and military health services for health emergency preparedness. → Based on this context, the public perception of military involvement in health-related activities may differ (positive, neutral or negative) in line with the reputation of the national military and previous roles and interventions of the military in the country *(8, 13)*. → Key factors include the history of conflicts in the country involving the national military, the national military's involvement in health-related interventions and humanitarian actions, international military presence in the country (foreign military, United Nations or regional peacekeepers), and the overall societal perception of these factors and their consequences. **Questions at the national or subnational level:** ↘ What is the public perception of the public health sector (competent, responsive, accessible, overwhelmed, weak) and national military (neutral entity, a source of reassurance, biased, a threat)? ↘ What are the reasons for the prevalent perception? Does the perception differ among regions and communities? Is this public perception routinely tested and public trust and awareness built? ↘ What is the public health sector's experience in collaborating with military health services and vice versa? ↘ What legal framework exists for civil–military collaboration for health emergency preparedness and response?

Key aspects	Factors to consider for civil–military health collaboration at national level
	↘ Which health-related activities and other interventions have in the past benefited from civil–military health collaboration? ↘ What potential impact does the historical, political and social context have on civil–military health collaboration for health emergency preparedness?
2. Health emergency versus national state of emergency	→ Public health emergencies can be elevated to a national state of emergency when they threaten the social, economic and security fabric of a country. In these circumstances, military involvement becomes more likely *(36)*. → Designating a public health emergency as a national security crisis draws attention to the significance of the public health event, generates access to additional resources and may necessitate, facilitate and increase military involvement. → Increased engagement of military health services may potentially result in reassurance of the public or a loss of trust towards the public health sector and the government, depending on the historical, political, cultural and social context (see key aspect 1) *(8)*. → The challenge may arise of how to respond to potential security concerns during a health emergency without introducing restrictive policies and actions that jeopardize public health priorities and humanitarian principles *(22)*. **Questions at the national or subnational level:** ↘ How is the military engagement in public health events activated? Are there established criteria or thresholds? ↘ Which synergies in planning for health emergencies and states of emergency exist in relation to military health services? What is the impact on the civil–military health collaboration and coordination in this case? How do the roles and responsibilities of military health services change in this case? Are there standard operating procedures already in place for this collaboration? And, if so, are the standard operating procedures being tested and updated regularly? ↘ What are the best practices and lessons learned for the civil–military health collaboration for health emergency preparedness, including during a national state of emergency?

Key aspects	Factors to consider for civil–military health collaboration at national level
3. National disaster management *(2, 3, 37)*	→ A national disaster management agency or authority is often the national government body that is responsible for coordinating disaster or emergency management policy and practice and overseeing the management and coordination of disaster risk management activities for large-scale emergencies and disasters due to most hazards. Other lead agencies and authorities may be assigned specific types of hazardous events, such as outbreaks or CBRN events. → Military organizations are often key resources in a national disaster management plan because of their human resources, logistical capacities and technical response abilities. The military engagement for public health purposes may either be arranged through the national disaster management agency or authority or may involve a separate coordination cell for health emergencies. **Questions at the national or subnational level:** ↘ What roles and responsibilities do military health services have in disaster management? ↘ How does the national disaster management agency or authority coordinate military health services engagement for responding to disasters and health emergencies? What are the processes to involve the military in health emergencies? ↘ What are the best practices and lessons learned from disaster (risk) management for the civil–military health collaboration for health emergency preparedness?
4. Public health emergency operations centre (PHEOC) *(38, 39)*	→ The PHEOC integrates traditional public health services into an emergency management model. Authorized by legislation or leading health agencies (such as the ministry of health or department or institute of public health), the PHEOC coordinates the information and resources for the response to health emergencies. It supports and is a component of the existing national disaster management agency or authority. PHEOCs can respond to a single national public health event (type A), enable the response to public health emergencies that require coordination with other sectors (type B), and support multiple national, regional or international responses simultaneously while coordinating the whole-of-government response (type C). → Military health services have been recognized as a crucial partner for PHEOCs due to the sector's key roles in national disaster management, providing key human resources, logistical capacities, and technical response abilities.

Key aspects	Factors to consider for civil–military health collaboration at national level
	→ Emergency response plans and public health concepts of operations typically describe how and when military health services may be engaged and coordinated through the PHEOC. Existing joint management arrangements in the PHEOC that build on a mutual understanding of each other's organizations, decision-making processes and limitations in order to create clear decision-making authority are key for the functioning collaboration. **Questions at the national or subnational level:** ↘ What is the coordination mechanism among the national disaster management agency or authority, the leading health authority, the PHEOC and military health services? What roles and responsibilities are defined for military health services in the PHEOC? ↘ How is a clear decision-making authority for civil–military health collaboration in the context of the PHEOC operation established (memorandum of understanding, standard operating procedures, civil–military cooperation plan)? ↘ What critical information is required and can be shared for preparedness for and response to health emergencies? ↘ What information-sharing mechanism exists or is required between the public health and the military health services? ↘ How do military health services contribute to the PHEOC's infrastructure, incident management system, training workshops and exercises? ↘ What are the best practices and lessons learned for the coordination mechanism between the public health sector and the military health services?
5. Emergency medical teams (EMTs) *(19, 20)*	→ EMTs assist countries to build capacity and strengthen national health systems by setting up and coordinating the deployment of quality-assured medical teams in health emergencies. The EMT is a group of health professionals providing direct clinical care to populations affected by disasters or disease outbreaks as surge capacity to support the local health system. WHO trains EMTs in various sectors, including the public health, military health, civil–military and nongovernmental sectors, and are of both national and international composition. EMTs are undergoing a process of classification in relation to guiding principles and core and technical standards under WHO guidance.

Key aspects	Factors to consider for civil–military health collaboration at national level
	→ EMTs that involve military health personnel – that is, comprising military health personnel or combined civil–military health personnel – provide a best-practice example for civil–military health collaboration and coordination mechanisms between public health and military health authorities. → In addition, EMTs can support health emergency preparedness efforts by strengthening relevant authorities to manage activation and coordination of national and international medical teams under the scope of PHEOCs and within the coordination mechanism of the public health sector. **Questions at the national or subnational level:** ↘ Does the country have national, classified EMTs or has it enrolled for an EMT classification that involves national military health personnel? What are the main activities of these EMTs in support of the national health system? ↘ How is coordination for these EMTs implemented (PHEOC, memorandum of understanding, standard operating procedures)? ↘ How do EMTs use field hospitals and military hospitals in public health events? ↘ What are the EMTs' best practices and lessons learned (for example, training and exercises) that can inform the capacity development of health emergencies?
6. Chemical, biological, radiological and nuclear (CBRN) emergencies *(12)*	→ CBRN emergencies can be natural, accidental or deliberate in nature and are addressed under the all-hazards approach of the IHR (2005). However, chemical agents or radiological material that affect health, as well as deliberately caused biological events and outbreaks, fundamentally transform the context in which the public health response and services must be delivered in order to ensure human safety and security. → CBRN events require the health sector to collaborate closely with the relevant technical agencies as well as with the security sector, including military health services, for a coordinated response at strategic and operational levels. → The military has CBRN-specific resources and logistical and technical capacities, which has a bearing on the civil–military health collaboration in the context of a CBRN event. For example, bioterrorism poses challenges for information sharing, as events in that category generally fall under the purview of the ministry of home affairs, police, counter-terrorism units, and the military.

Key aspects	Factors to consider for civil–military health collaboration at national level
	Questions at the national or subnational level: ↘ What is the country capacity level in the core areas of biosafety and biosecurity, including for CBRN events (as reflected in JEE scores)? ↘ What are the roles and responsibilities of the public health sector and military health services for CBRN events? ↘ How is critical information shared on CBRN emergencies? What information-sharing mechanisms exist or are required between the public health and military sectors (including military health services) for such emergencies? ↘ How is the coordination between the military and the authorities related to CBRN events ensured? Are national-level coordination platforms established? ↘ How can civil–military health collaboration improve preparedness and response capacities for CBRN emergencies?

4 Strengthening country capacities to support the implementation of the IHR (2005) through civil–military health collaboration

The contributions that military health stakeholders can make to strengthen country capacities related to the 13 IHR core capacities are outlined below. These are by no means exhaustive and need to be reflected upon in the country context *(40, 41)*.

Legislation and financing

Although the legislative element in civil–military health collaboration may not be specifically required under the State Party's legal system for implementation of provisions in the IHR (2005), new or modified legislation, regulations or other instruments may facilitate and ensure multisectoral and civil–military health coordination in a more efficient, effective or sustained manner. Implementing policies on civil–military health collaboration for emergency preparedness can serve to institutionalize and strengthen country capacity to prevent, detect, respond to and recover from emergencies. Furthermore, a dedicated military health budget allocated to activities on health emergency preparedness can expedite joint efforts and valuable coordination for capacity development.

IHR coordination and national focal point functions

While this core capacity places focus on the designation of an IHR national focal point as a national centre for IHR communications, the establishment of multisectoral IHR coordination mechanisms with all relevant sectors and stakeholders, including military health services, to generate information, products and tools that reflect examples of models of best practice and standards should also be emphasized. The military's expertise in breaking down policy into readily implementable standard operating procedures can serve and strengthen the operationalization of IHR coordination. The national focal point should streamline communications and ensure expedient exchange and delivery of information with and to the military health services.

Zoonotic events and the human–animal interface

While human health and animal health are often governed by different ministries at national level, the existence of the human health services and veterinary services as part of the national military allows for greater integration under the same leadership. This integration can foster partnerships at the human–animal interface and enhance multisectoral collaboration at national level, underpinned by a One Health approach. Military veterinary services can contribute with respect to their capacities related to the health and welfare of animals working in the military. Military veterinary laboratories are engaged in and undertake work relating to zoonotic diseases, diagnosis, investigation, epidemiological studies, physiological anomalies, nutrition for animals and other health events at the human–animal interface.

Food safety

Food safety is multisectoral in nature and the agencies and sectors responsible for detection of, investigation of and response to a food safety emergency vary across countries. Added value may arise from the military health sector's expertise in maintaining the safety of food supply lines and food defence systems, which address deliberate threats to food and carry out related foodborne outbreak investigations.

Laboratory

The laboratory function underpins the national capacities of surveillance, preparedness and response. It includes detection and investigation and contributes to effective response through laboratory analysis of samples in human health, veterinary and national military (human health and veterinary) laboratories. Cross-sectoral collaboration can contribute to establishing and maintaining mechanisms that ensure transportation of specimens to appropriate civil and military laboratories for reliable and timely laboratory testing; characterization of infectious agents and other hazards likely to cause public health emergencies; sharing of results; and establishment of best practices for biosafety and biosecurity. The diagnostic competence of military laboratories (including civilian laboratories belonging to defence ministries) related to pathogens that may be used as a biological threat (often including biosafety levels 3 and 4) strengthens the national laboratory capacities for health emergencies.

Deployable military laboratories can also play a part in surveillance, especially in remote areas where there is a shortage or absence of fixed civilian laboratories. Also, military laboratory technicians – who tend to be trained as generalists – can provide reinforcement to the civilian laboratory system. Military laboratory personnel also have experience in setting up laboratories and can thus provide advice and guidance on building new civilian laboratories when needed to manage an outbreak.

Surveillance

IHR (2005) require continuous surveillance and rapid detection of public health risks associated with CBRN events, as well as risk assessment, notification and response. Military health services can form part of the surveillance system, including through supporting the early warning function. The military's public health intelligence, which involves horizon scanning for any risks to the forces' health protection, can contribute to the early warning function. The military can monitor hard-to-reach and underserved areas for signals of impending health events and provide information for an informed decision-making process during public health events and emergencies, including deliberate events. In addition, military health services can contribute to public health efforts to contain an outbreak or epidemic, for example through testing, contact tracing, case reporting, and collecting, collating and analysing data.

Human resources

During emergencies, a surge in demand for health workforce is inevitable. Thus, strategies need to be in place to ensure that a multisectoral workforce is available, trained and deployed to enable prevention of,

preparedness for and response to potential events of international concern at all levels of health systems. The military can provide surge capacity to augment personnel in emergencies. There are various categories of military human resources that can support the public health sector: trained and accredited medical professionals (such as doctors, nurses, medics and EMTs), security experts and engineers, and additional untrained human resources that can support vital operations after having undergone basic training (such as contact tracing, support for burial management, and logistics). Military health personnel have expertise in health operations and logistics and conducting training in personal protective equipment and biosafety procedures, and can support the continuity of health services during emergencies. The military can also utilize its extensive training resources, which can be redirected to expanding the health workforce, such as basic health care assistants, testers and vaccinators.

National health emergency framework

This capacity focuses on the overall national health emergency framework and system for enabling countries to be prepared and operationally ready for response to any public health event, including emergencies, as per the requirements of the IHR (2005). The leading role in managing health emergencies is initially embedded in the health sector; with increasing magnitude this might shift to the national disaster management authority or higher governmental levels. The expertise of military health services in risk-based planning, robust emergency management structures, mobilization of resources and rapid deployment during an emergency is highly valuable for this national core capacity. This capacity is often utilized in the planning of medical logistics and stockpiles, medical countermeasures and decontamination, rapid deployment of existing field hospitals, and planning and building of new temporary hospitals, naval ships ashore and aeromedical evacuation capability.

Health service provision

Resilient national health systems, including universal health care and health service delivery, are essential for countries to prevent, detect, respond to and recover from public health events. Particularly in emergencies, health services should augment capacities for event-related case management in addition to the provision of routine health services, including maintaining essential services. The military health services can support health service provision through adapted modes of health delivery based on agreed technical standards (mobile or deployable) or transforming health facilities with the ability to deliver quality public health and clinical services, especially to remote or hard-to-reach communities and when local health facility capacity is overwhelmed. This is especially true to support immunization and other preventive measures. In addition, military hospitals and field hospitals can be an asset in meeting the increase in cases and patients during health emergencies.

The military includes a significant number of lower-level medical personnel (those without formal professional qualifications) who can be used to provide and staff facilities to care for less seriously affected infectious disease cases or to join civilian nursing teams

to assist in personal care, in both cases relieving professional health care staff to undertake the high-skilled roles. The military also includes exercise specialists who can contribute to expanding the rehabilitation capacity for infectious diseases that require post-recovery rehabilitation.

Risk communication

While the involvement of military health services in risk communication with the public is limited, there might be a role to play in the interaction with the public health sector. The military plays a major role in risk communication within its own military communities, which is critical to deploying service members to support civilian services in an effective way. Cross-sectoral engagement strategies for real-time exchange of information, advice and opinions between experts or officials can contribute to timely health emergency management.

Points of entry

Points of entry are an integral part of surveillance and response systems, and help support public health functions in a country. The military health services can play an active role at designated airports, ports and ground crossings for coordinated public health surveillance between points of entry and national health surveillance systems, enabled respectively by specialized air, naval and land military health and veterinary components.

In addition, the public health sector can draw on the expertise of specialists for aviation medicine and naval medicine that tend to be clustered within the military health services. While there is a critical need for a collaboration agreement that defines the specific roles of all relevant security services (such as police, customs, immigration and private security service providers), civil–military health collaboration can already ensure robust mechanisms at points of entry and contribute to a country's ability to prevent, detect and respond to health emergencies, especially in preventing the importation and further spread of infectious diseases.

The role of the military is often critical where there are extensive land and maritime borders and where the borders have no physical barrier, either to construct physical barriers to enforce the use of IHR-designated points of entry or to provide surveillance of those travellers who circumvent points of entry or who traditionally work on both sides of an international border.

Chemical events and radiation emergencies

Chemical and radiation emergencies may arise from accidents or deliberate events. Whilst the responsibility for responding to these will usually lie with the civilian services, the military has often developed expertise against the deliberate use of chemical weapons or damage from a nuclear device or power pack. Plans to manage such events should therefore involve both the civilian and military sectors. Many militaries have developed procedures for remote assessment of threats (such as specially protected vehicles or drones) that may supplement civilian capabilities. Specialized military personnel, equipment and procedures for use in chemical and nuclear environments, particularly in the

field environment, are valuable resources in this context. Whilst many civilian medical services have similar capabilities they are generally relatively small, and thus an integrated approach will usually be appropriate. Regardless of whether the event is an accident or a consequence of a deliberate release, there will inevitably be human health consequences, and as such coordination and collaboration between the public health sector and the many other actors (military, police, fire and rescue services, forensic services, sanitary services, local and national authorities) will be required.

5 Enabling national civil–military health collaboration for emergency preparedness

5.1 Establishing a strategic collaboration for health emergency preparedness

Legislative context for collaboration

- The value of cooperation between public health and military health officials is often only realized during the response to a health emergency. As militaries across countries and contexts have differing constitutional and legislative bases, as well as differing roles and competencies, collaboration may require distinct and individual approaches rather than adopting a "one size fits all" approach. This will in turn impact the joint effort that could be undertaken to strengthen emergency preparedness capacities. In some countries the military has a constitutional obligation to provide civil assistance, whereas other countries have constitutional limits on the use of the military in civil society settings, impeding opportunities for collaboration.

  In addition, the role of other security service providers and other central coordination agencies and bodies should be taken into account. In many jurisdictions, the military is called in to support other security agencies, such as the police or immigration authorities, as a last resort. These agencies serve as able intermediaries through which collaboration could be enhanced and implemented in a stepwise and progressive manner in keeping with the scale of the emergency.

- **Countries should review existing national legislation and other legal instruments to understand the extent to which the military health services may collaborate with the public health sector.**

High-level commitment required for strategic collaboration

- The strategic collaboration between the public health sector and military health services at the national level relies on high-level commitment and effective coordination of relevant stakeholders geared towards the common goal of strengthening the country's health security, following the national government's health priorities and plans. Ensuring buy-in from the highest levels of government will allow the most effective collaboration between the two sectors.

- **Countries should establish collaboration at the highest levels of government between the public health sector, military health services and oversight authorities, such as the national disaster management agency or authority, to facilitate functional cross-sectoral partnership.**

Multisectoral, whole-of-government approach enhances preparedness

- At the strategic level, the shared goal of enhancing national emergency preparedness enables the incorporation of advice from public health and military health stakeholders into high-level decision-making on health security. Engagement at the policy level is therefore essential in accurately informing preparedness efforts and developing good governance of health emergencies.

- **Countries should promote a multisectoral, whole-of-government approach to health emergency management, which includes involvement of military health stakeholders.**

5.2 Acknowledging differences between the public health and military health services

Taking stock of capacities in both sectors

- The baseline for a synergetic alignment of efforts for health emergency preparedness is established through mapping existing capacities for emergency preparedness. Often governments and sectors do not have an up-to-date overview of existing national capacities and activities. Taking stock provides both civilian and military health leaders with a clear understanding of workforce, facilities, supplies and activities that are available in their own sector relevant to health emergency preparedness and areas that require further strengthening. This includes health system elements that contribute to health security.

- **Countries should commit to a systematic approach to assessing civil–military health capacities for health emergency preparedness.**

Facilitating collaboration through health security mapping

- The multisectoral mapping exercise in both the public health sector and military health services aids in identifying areas where capacities are lacking, and where cross-sectoral engagement would be beneficial and could support current activities. This might also include information on quality assurance mechanisms to verify that resources are fit for the purpose envisaged. A process of regularly updating the overview of national capacities can also be instituted to capture changes, either at the national or subregional level. While capacities such as workforce, facilities and activities relevant to strengthening country health emergency preparedness might be helpful to take into account, the level of detail of the mapping exercise is at the discretion of each sector.

- **Countries should conduct a regular mapping exercise to facilitate overview of synergetic functions, capacities and activities at the national level.**

Building trust and developing an understanding of each other's organizational culture and capabilities

- There are differences between the public health and military health services in mandates, levels of authority (for example, in chains of command and hierarchal structure), organizational culture, terminologies, use and distribution of resources, operational standards, and capacity to share information, all of which can pose challenges to collaboration. The two sectors might have differing views of each other that need to be taken into consideration. As effective collaboration is underpinned by mutual understanding and trust, addressing each sector's perspectives will be helpful in formulating a balanced civil–military health collaboration. Ongoing collaboration between the two sectors, for example in dealing with natural disasters, can generate information on best practices and lessons learned that can help improve current practices, such as existing joint management arrangements in the PHEOC.

- **Countries should facilitate regular exchange between the public health and military health services to foster mutual understanding and trust.**

Sharing information increases mutual understanding

- Reinforcing mutual understanding, and mapping where coordination can add value, are practical techniques for building trust, which is an essential element of cross-sectoral collaboration for health emergency preparedness. In addition, there is benefit in clarifying the roles, technical requirements and limits of public health sector and military health services. Moreover, the means by which the public health and military health services can create synergies should be explored by identifying technical areas of collaboration.

- **Countries should develop cross-sectoral engagement strategies and techniques that acknowledge the public health and military health services' applicability at the national level.**

5.3 Identifying technical areas for health emergency preparedness collaboration

Identifying specific technical areas for collaboration

- The IHR (2005) core capacities, complemented by additional country capacities crucial to prepare for and respond to health emergencies, can form the basis for deciding on the technical areas for civil–military health collaboration, as these outline the necessary competencies to prevent, detect and respond to health emergencies at the national level. Emphasis should be placed on the technical areas that have been identified as lacking capacity (for example, through annual reporting by States Parties, JEEs or national assessments) and are related to the expertise of the military

health services (see Chapter 4), and where collaboration with the military health sector can yield strategic benefits for overall public health preparedness. The national context is decisive for the technical focus of civil–military health collaboration.

- **Countries should identify areas where capacity is lacking to prevent, detect, or respond to health emergencies in developing joint initiatives between the public health sector and military health services for improvement.**

Placing focus on emergency preparedness

- Military health assistance is often associated with proficiency in planning, communications, information management, logistics, transport, and security aspects during emergency response, as well as with technical areas such as points of entry and chemical and radiological events. In addition, technical areas such as surveillance, laboratory services, and national emergency framework are strong points of military health services. At the same time, and as seen in the 2014–2015 Ebola outbreak in western Africa and the COVID-19 pandemic, health service provision, human resources, responding to zoonotic events, and collaboration at the human–animal interface are areas that can benefit from greater cross-sectoral collaboration in response to the increasing significance attached to health emergency preparedness.

- **Countries should utilize the military health services' technical expertise relevant to public health functions related to health emergencies.**

5.4 Institutionalizing civil–military health collaboration for preparedness

Formalizing collaboration on health emergency preparedness

- Civil–military health collaboration for emergency preparedness needs to be institutionalized. Without establishing coordination mechanisms that clarify roles and responsibilities, military actors and services might find it difficult to cooperate with the civilian sector or vice versa, especially with personnel changes over time. The development of a clear and explicit joint framework of cooperation (including memoranda of understanding, collaboration protocols or agreements, and preparedness and contingency plans) for emergency preparedness between the public health sector and the military health services can be an effective means of engagement. Collaboration agreements should be built on existing ones rather than developing new frameworks, and can be formally integrated into national plans. Existing agreements previously established for collaboration during emergency response plans for natural disasters or other emergencies could be adapted or used to inform new arrangements for emergency preparedness plans, processes and activities in national contexts.

- **Countries should develop an agreement on cross-sectoral collaboration that**

outlines the technical and operational levels, including defining roles and responsibilities for capacity-building for health emergency preparedness.

Devising a collaboration framework at the national level

- The formalized collaboration framework would emphasize the value of civil–military health collaboration for emergency preparedness in providing complementary capacities, resources and operational experience. These agreements should include details on common values, competencies, concerns and areas where each sector can provide discrete competencies. These formal arrangements ensure the efficient and practical use of resources of the two sectors and avoid duplication of efforts. The collaboration framework should retain flexibility to accommodate unforeseen or changing and evolving contexts. WHO and partners can support countries in developing a context-specific national collaboration framework between the public health sector and the military health services and actors.

- **Countries can request WHO support in institutionalizing civil–military health collaboration for sustainable health emergency preparedness capacities.**

Developing joint activities for preparedness collaboration

- For the purpose of defining joint processes and activities, the public health and military health sectors can conduct a joint workshop to reach, through consensus, an agreement on how to formalize collaboration and develop a set of supportive activities for capacity development. The workshop will enable representatives from both sectors to focus and exchange views on how they might establish, maintain and, at a later stage, improve activities for health emergency preparedness at the national level. The workshop outcome will delineate the emphasis of the collaboration and a clear way forward.

- **Countries should develop a roadmap of joint health emergency preparedness activities that outlines stakeholders, timelines and indicators of the civil–military health collaboration.**

Implementing joint activities in line with health priorities

- Activities should be in line with the assessed needs of the affected population, follow the national government's health priorities and plans, and promote the view of civil–military health collaboration as a community of practice. Activities might include basic initiatives, such as instituting joint training programmes, joint teaching programmes, staff exchanges, and secondments, and generally establishing programmes to develop trust at the individual and sectoral levels as a cost-effective means of fostering cooperation. Joint activities that reinforce mutual understanding and trust include development of operational standards, simulation

exercises, joint or interoperable health information systems, resource-sharing partnerships, multisectoral working groups, and research, development and innovation projects on health emergency preparedness.

- **Countries should focus on health emergency preparedness activities that promote a community of practice between public health and military health practitioners.**

5.5 Jointly building capacities and training for health emergency preparedness

Leveraging the competitive advantage of cross-sectoral collaboration

- The agreed activities for strengthening health emergency preparedness need to be implemented in alignment with and support the country's level of capacity and national action plans for health security, and should follow the priorities set forth in the developed roadmap. These activities should be regularly conducted at national and local levels and include operational reviews.

  The competitive advantage of the cross-sectoral collaboration derives from the development, advancement and maintenance of operational standards, taking account of lessons learned from natural disasters and CBRN events and best practices established in the context of PHEOs and EMTs. Military expertise in designing and executing exercises and simulations should be harnessed to facilitate the practical assimilation of these operational standards. Monitoring and evaluating the activities will help to ensure progress in developing preparedness capacities at the national level.

- **Countries should regularly conduct simulation exercises and intra- and after-action reviews with a focus on civil–military health collaboration for emergency preparedness.**

Funding for joint emergency preparedness efforts

- Activities that involve the civilian and military health sectors can be cost effective, as joining the forces of two sectors can generate efficient and practical use of resources and expertise. It is advisable to agree in advance on funding to cover emergency preparedness efforts. This will help to address issues concerning competition for resources that might discourage cross-sectoral cooperation and diversion of funds from either health or defence budgets. These formal arrangements ensure the prudent use of sectoral funds. In addition, financing mechanisms can be established as sources of funding for civil–military health collaboration.

- **Countries should commit funds to developing health emergency preparedness capacities strengthened by civil–military health collaboration.**

6 Conclusion

The ongoing COVID-19 pandemic shows that gaps exist in multisectoral capacities across many nations. Furthermore, the pandemic has also demonstrated the critical role of non-health sectors in emergency preparedness and response. It is therefore important to re examine preparedness capacity assessment tools, approaches and mechanisms for assessment and reporting, as recommended by the report of the IHR Review Committee *(42)*.

This has been further underscored by the report of the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme *(43)*, which stated that cross-sectoral collaboration is vital and, based on the lessons learned during the COVID-19 pandemic, a multisectoral approach is key to future health emergency preparedness. World Health Assembly resolution 73.8 – "Strengthening preparedness for health emergencies: implementation of the International Health Regulations (2005)" – has further stressed the importance of adopting an all-hazards, multisectoral, coordinated approach in preparedness for health emergencies. The IHR (2005) require the 196 signatory States Parties and territories to prevent, detect, and respond to public health emergencies of international concern in a timely manner at all levels of government.

Successful civil–military health collaboration for health emergency preparedness is characterized by institutionalized coordination and systemic exchange. The process needs to consider the strengths and challenges of both the public health sector and the military health services to develop and advance capacities to prevent, detect and respond to public health emergencies. A formal agreement defining key objectives, core capacities and operational modalities is crucial for enabling cross-sectoral collaboration between the two sectors.

WHO, together with partners, can support countries in facilitating and implementing civil–military health collaboration and capacity development for better preventing, preparing for, responding to, and recovering from health emergencies.

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