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Australian Civil-Military Centre

Considerations for Civil-Military Interaction During Public Health Emergencies

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ACMC

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Data including policies and guidance can change on a near-daily basis and can become outdated quickly. It is recommended that this document be read in conjunction with regularly published materials.

It is acknowledged that different actors have different interpretations of various terms related to civil-military interaction. The terms in this document are drawn from civil-military interaction discourse and are generalised to optimise the document's relevance for different actors and contexts. A glossary of terms can be found later in this document.

This research was approved by the Departments of Defence and Veterans' Affairs Human Research Ethics Committee (approval no. 396-21). The opinions expressed therein are those of the author/s and do not necessarily reflect those of the Department of Defence.

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Cover Photo: Sam Boland.

Foreword

From natural disasters, to pandemics, to conflict – the contemporary trend appears to be towards more frequent, severe and complex crises that will continue to be beyond the capacity of any one Government agency or entity to manage alone. In these situations there will often be an imperative to utilise military assets where they offer capabilities — and a rapidly deployable workforce — beyond civilian first-responders. It is imperative that we learn from recent experiences to enhance cooperation in time of crisis. In my experience, military and civil agencies have incomplete understanding of each other's strengths and limitations and therefore do not always make natural bedfellows.

While the military can make an important contribution in dealing with public health emergencies, insights gained from recent crises indicate that their integration is not always straightforward or effective. There is always more we can do to better prepare for, respond to, and recover from health crises. Even during the COVID-19 pandemic, I witnessed military forces being employed at short notice into roles outside of their primary mission and without a full assessment of civilian gaps or needs.

This report resonates strongly with my own experiences, particularly with the UN in Rwanda and in leadership roles during the COVID-19 outbreak in Australia. It offers a comprehensive range of tips and insights to better align civilian and military practitioners. In particular, I like the lists of pros and cons for various approaches — as there will not always be a simple path to success — and the recommended likely best practice in each case. This is refreshingly pragmatic and practical.

I congratulate the Australian Civil-Military Centre — in conjunction with Brown University, Centre for Human Rights and Humanitarian Studies — for their work to develop Considerations for Civil-Military Interaction during Public Health Emergencies. I commend the clear and nuanced guidance as invaluable to those who will work together in response to the next, inevitable, community-wide health emergency.

Lieutenant General (Retired) J.J. Frewen AO DSC, Australian Army

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Executive summary

Background

Recent responses to public health emergencies including outbreaks, such as Ebola, Zika, and COVID-19, reflect how domestic and foreign militaries are routinely becoming involved in these responses. This is observed alongside the broader militarisation of domestic disaster response, and more generally, the use of military capabilities in non-traditional roles.

When considering engaging with or using military capabilities in these contexts, it is important to note the characteristics of public health emergencies which make them distinct. By outlining the nuance of civil-military interaction in public health emergencies, together with broader civil-military coordination considerations, this document enables readers to situate the entirety of a response and apply tailored decision making.

Aim and objectives

Accordingly, this document aims to facilitate safe, principled, and pragmatic civil-military interaction in public health emergencies and has the following objectives:

1. To provide readers with existing guidance, core concepts, principles, considerations, and risks that are relevant to civil-military interaction during public health emergencies; and
2. To outline the various activities that militaries might perform during responses to public health emergencies and corresponding insight into interacting with militaries during these activities to enable more concrete and practical dialogue between the civilian and military sectors during the preparedness/readiness, response, and recovery phases.

1. Introduction

1.1 Civil-Military Interaction during public health emergencies

This document advocates that public health emergencies, including outbreaks, can be considered a unique operational setting for the conduct of civil-military interaction. In these settings, interaction covers dialogue and actions between civilian, humanitarian and military actors to engage with each other in preparation for, and during, public health emergencies. In line with the International Health Regulations, a "public health emergency of international concern" is defined as an event which constitutes a public health risk through the international spread of disease and potentially requires a coordinated international response.

The characteristics of a public health emergency response has unique consequences for civil-military interaction.

1.1.1 Dynamic, unpredictable and protracted nature

Infectious pathogens have a protracted and unbounded nature that make the timescale and geography of any response indeterminable and dynamic. In practice, this has challenges for securing funding, and the allocation of resources and supplies because of the ambiguity and difficulty associated with a crisis of unknown scale and duration. This may cause states and actors to prioritise and divert resources either to or from public health emergencies based on other situations being faced, such as conflict.

Outbreaks are also invisible to affected populations in a way that sudden-onset natural hazards are not. Therefore, misinformation and rumours have the potential to quickly spread, making the sharing of timely and accurate information between civilian and military responders especially critical during these responses.

Further, affected communities can be vectors of the crisis at hand—to themselves and to responders, and vice-versa. This, in turn, can mean that some amount of enforcement of public health measures will be considered necessary by decision makers (e.g., quarantine). Some decision makers, affected communities, and involved actors may consider this to be coercion, especially when uniformed or armed personnel are used to enforce public health regulations.

1.1.2 Perceptions of affected communities

Affected communities may have expectations and perceptions of the use of military capabilities, both in terms of domestic and international involvement. While it is often expected that militaries will deploy domestically following a sudden-onset natural hazard, affected communities may not anticipate the same during a health-related crisis. Some affected communities may take comfort in military presence and support, and others may not, even in the same area/crisis. Some nations may determine that affected communities need assistance from the international community, and request support from foreign militaries. Affected communities may have varying perceptions of the competence of domestic and foreign military forces.

Formed military forces will often have rules on the use of force (called rules of engagement) which may assist to legitimise the employment of military capabilities. While these are often approved by civilian authorities, and militaries are likely to operate within these boundaries, there are examples of where this has not been the case. Clarifying the justification and limits for the use of force in these settings to both military and civilian actors is vital.

Infectious disease outbreaks are often associated with stigma that can impact the mental health and social well-being of infected patients, survivors, and their families. Where relevant, this stigma can extend to affected community members' role as local responders, or even to armed actors such as police, military, or paramilitary forces.

1.1.3 Gaps in legislation and policy

Many nations have legislation and policy on the activation and employment of military capabilities in response to domestic needs. Almost all cases include consideration of

sudden-onset natural hazards, however few explicitly or clearly include either for health emergencies. Therefore, it is important to clarify the legal mandate and framework under which domestic and foreign militaries are deploying, even if requested by state authorities.

1.1.4 Need for a joined-up or whole-of-nation approach

Given their complexity and wide societal effect, public health emergencies can require a multi-agency, joined-up response, where agencies and service provision are inter-linked. This can effect perception amongst affected communities, especially where they have experience with principles and standards, such as the Humanitarian Principles and Sphere Standards. This may also arise where different organisations perform non-traditional activities in a multisectoral response where these activities may be interlinked with those performed by an organisation not adhering to these principles and standards (including military).

Relatedly, in a joined-up approach, public health authorities will often require support with operational planning, coordination, and leadership. This includes being accustomed to interacting with other agencies, including the military, and being aware of the operational capability that personnel and forces may be able to provide.

1.1.5 Changing geography

Unlike a sudden-onset natural hazard, the geography and nature of a public health emergency including an outbreak can be very dynamic. As such, the need to use military assets may not wane over time and military assistance may be required either throughout or ad hoc over the course of the emergency.

1.1.6 Access to expertise

Public health emergency responses including outbreak response often require coordination and medical and public health expertise. The medical and public health expertise required to effectively inform decision-making and resource prioritisation is not consistently found or readily available in these contexts. Contributing factors include constraints on human resources for health, poor global health security preparedness infrastructure and scarcity of expertise related to unusual or even novel outbreaks or other health emergencies. Civil authorities often need to resource and deploy expertise rapidly once an event has occurred, including drawing on military actors as a resource. Relatedly and as above, outbreaks place responders at sometimes significant and indiscriminate risk, making it difficult to predict risks to Human Resources for Health (HRH).

1.2 Methodology

This practical guidance, and associated Matrix of Activities and Related Considerations for Civil-Military Interaction were adapted from a project initiated by the Australian Civil-Military Centre (ACMC) that examined national responses to COVID-19. Key informant interviews were conducted in Australia, the United States, and New Zealand to create preliminary mapping of military contributions to COVID-19. The project continued to collect data through focus groups conducted during 2024 at the Humanitarian Networks and Partnerships Week in Geneva, Switzerland, the Brown University-US Naval War College Civil-Military Humanitarian Coordination Workshop in Providence, United States, and the Military-Civilian Health Security Summit in Sydney, Australia.

1.3 Status

Readers are encouraged to consider this document in the context of their setting. Such an assessment can include consideration of the specific situation at hand, the history of military and other armed actor activity in the area, the pathogen being responded to, domestic military capabilities, the nature of foreign military contributions, and the capabilities that either a domestic or foreign military may apply to achieve response functions.

These practical considerations are a non-binding document that will not, in any way, affect the rights, obligations or responsibilities of States and individuals under international law. They have been developed by contributing organisations to document knowledge and experience, and as such, are considered a living document and may be reviewed and updated as appropriate in the future.

2. Existing relevant guidance

2.1 Core civil-military guiding documents

Civil-military interaction is guided by several existing documents. These documents support actors to adopt a principled approach and primarily inform interaction between civilian actors and foreign militaries. They are introduced here and please refer to these documents in full if a foundation level of the Humanitarian Principles and civil-military interaction is needed. The documents maintained by UN OCHA (amongst others) are:[1]

- United Nations Humanitarian Civil-Military Coordination (UN-CMCoord) Field Handbook
- Recommended Practices for Effective Humanitarian Civil-Military Coordination of Foreign Military Assets (FMA) in Natural and Man-Made Disasters;[2]
- IASC Non-Binding Guidelines on the Use of Armed Escorts for Humanitarian Convoys;[3]
- Guidelines On the Use of Military and Civil Defence Assets To Support United Nations Humanitarian Activities in Complex Emergencies;[4]
- Oslo Guidelines on The Use of Foreign Military and Civil Defence Assets In Disaster Relief;[5] and
- Foreign Military and Civil-Defence Assets in Support of Humanitarian Emergency Operations: What is Last Resort?[6]

The World Health Organization (WHO) has published the guiding document:

- National civil-military health collaboration framework for strengthening health emergency preparedness.[7]

The Office of the Coordination of Humanitarian Affairs Response Support Branch – Coordination Division Civil-Military Coordination Service published specific Operational Guidance:

- Humanitarian Civil-Military Coordination (UN-CMCoord) Operational Guidance for Appropriate Interaction with Armed Actors in the Context of the COVID-19 Response

2.2 Other relevant guidance

Most existing principles and standards are fully relevant to civil-military interaction in public health emergency responses including outbreak responses, and should be referenced as needed. This includes (but is not limited to):

- The Sphere Handbook[9]
- Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations in Disaster Relief;[10]
- Principles related to the maintenance of the civilian nature of a response wherever possible; and
- Principles related to the visual distinction between civilian and military actors.

However, other concepts, principles, and issues may require special consideration during public health emergencies including outbreaks (see Table 1, page 6).

3. Core considerations and risks

Concept, principle, or issue	Special considerations for public health emergencies including outbreaks
Humanitarian Principles	Humanitarian need is a fundamental principle of response. Actors should have understanding of the public health structure of the host nation and the specific assistance required. Responses should be as civilian as possible and as military as necessary.
	A joined-up approach means that the Humanitarian Principles of neutrality, independence, and impartiality may not be fully realised because all partners, including governments and their military, need to work together.
	The WHO is the global health cluster lead agency, mandated to support the host nation. Some public health and humanitarian actors may have little choice but to collaborate with military actors, or choose to refuse service and exit the country despite the humanitarian imperative.
	Careful consideration must be given to the application of the principle of 'humanity' using a public health lens, rather than an individualistic one. It should be noted that many governments have public health exceptions to individual freedoms. Humanitarian actors may also need to consider public health exceptions, where the collective humanitarian imperative is privileged over specific individuals placing others at unnecessary risk.
	Humanitarian actors may be required to adhere to host nation rules regarding the architecture and operation of a public health emergency including outbreak response, including collaboration with armed actors.
	States and public health authorities may decide to act 'hard and fast' to try to contain an emerging outbreak very quickly before it escalates further. States and public health authorities may prioritise other considerations over humanitarian needs if/when there is a perceived risk that the outbreak could substantially escalate unless efficiently contained, and therein, threaten a more significant humanitarian crisis in the future.
Last resort	Priority should be given to the use of civilian assets in responding to affected population's needs. However, rapid containment may require responding with assets that are most readily available and deployable, including military, regardless of whether similar capacities exist in the civilian sector.
	Some States have legal mechanisms for activating and deploying militaries during public health emergencies including outbreaks. Others do not. This includes consideration of ways in which governments can delineate and legislate for military activation mechanisms, which may or may not include last resort principles.
	Last resort principles cannot fully apply when a sovereign government chooses to deploy their national military within State borders. Militaries and/or civil defence forces can be the most appropriately equipped, prepared, and positioned to respond, and States may call for the use of militaries early in a public health emergency, especially in times of panic. However, the breadth of tasks raises concerns around competency of militaries to complete all the necessary tasks.
	States and other actors benefit from having clear requirements, tasks and responsibilities for militaries to restrict leaning forward and having them step into roles that are not appropriate or required. This ensures that the use of militaries does not become normalised, especially where the military may be perceived as better performing than civilian capabilities.
Safety and security considerations	Governments and health actors should be extremely cautious in using militaries for security functions. Nevertheless, such enforcement functions (when requested or mandated by civilian authorities) do often fall within or very close to military remit—more so, for example, than supporting other public health functions like contact tracing, surveillance, or social mobilisation.
	Public health authorities and governments may decide that armed escorts or forms of armed military presence are necessary to quickly contain an outbreak before it escalates. Humanitarian actors should be prepared to navigate these decisions, in which they may have little say other than to refuse to intervene.
	During some public health emergencies including outbreaks, responding persons may be at sustained risk. For example, in an outbreak (and unlike following some sudden-onset natural hazards), responding personnel are themselves at an elevated risk that may only be manageable to a certain extent. Response considerations include the willingness of teams to deploy where there is an unseen and unknown threat and personal safety considerations, especially because public health emergencies often necessitate responders to deploy for longer periods.
Distinction	Civil-military distinction is often the most important to affected communities at the tactical level or service delivery level. At the operational and strategic level, this distinction may be more relevant to issues such as command and control, strategic decision making, and resource allocation and deployment. In many settings, populations may be accustomed to the routine presence of armed actors during emergency contexts and may therefore be more amenable to civil-military interaction than in other settings.
	While visual distinction using uniforms can be maintained, the principle of 'distinction' between humanitarian and military roles cannot be fully realised during a joined-up or whole-of-government response to a public health emergency including outbreaks. Distinction between actors can be prioritised to the extent possible, but flexibility may be required when services are interlinked.

Table 1: Special considerations for public health emergencies including outbreaks

4. Relevant influencing factors

4.1 Conflict versus non-conflict contexts and the 'alignment of interest'

One of the core guiding concepts of interaction is that coordination occurs at all stages along a spectrum, with higher opportunities for cooperation during peacetime, and lower opportunities for cooperation in kinetic contexts (resulting in an approach of 'co-existence'). This approach is derived from adherence to the Humanitarian Principles being less fraught during peacetime. Conversely, in kinetic contexts, there is a higher risk that humanitarians might be drawn into (or perceived by the public to be participating in) conflict dynamics. This concept is usually presented as a 'coordination' spectrum, running from cooperation to co-existence.[8] While this continuum is recognised as being difficult to apply in practice, it is the policy position of humanitarian actors likely to be involved in public health emergencies including outbreaks.

More tailored deliberation should be undertaken to apply this document in areas experiencing conflict or threat of conflict, and where crisis-affected communities are at risk from armed actors. This document does not reach a level of detail necessary for full use in complex humanitarian emergencies, though may still help decision makers to elaborate and guide discussion related to civil-military interaction.

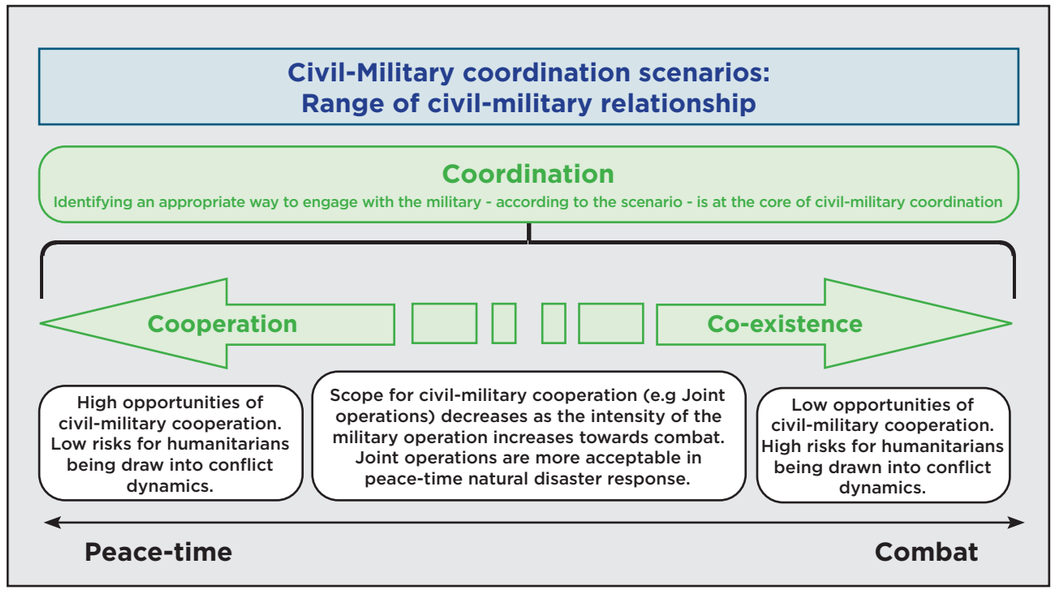

Figure 1: Civil-military coordination scenarios ranging from cooperation to co-existence drawing on UN-CMCoord Approach

Relatedly, any alignment of interest between civilian and military actors, which may be positive, neutral, or negative, brings together three elements known to influence interaction: purpose, proximity, and perception.

The combination of these provide insight into areas where interaction may be beneficial or problematic. Specifically, the alignment of civilian and military interest, drawn from these elements, are mapped alongside axes of objectives, levels of engagement, and stability of the area. The analysis results in a heat map of high, medium, and low 'alignment of interest' between civilian and military actors,[11] that is summarised as follows:

High alignment of interest: in stable areas, covering tactical activities including capacity building and relief; operational capacity building and coordination; and strategic stability and influence.

Medium alignment of interest: potentially unstable areas, operational-level focused activities such as capacity building and coordination.

Low alignment of interest: as noted, tactical activities in highly unstable areas where the focus is capacity building, 'hearts and minds' and relief.

Applied in practice, this heat map enables civilian and military actors to engage in interaction according to health objective, military objective, area context, and alignment of interest.

4.2 Type of military actor

The type of armed actor (and associated assets, capabilities, and competencies) responding to public health emergencies is a factor that may inform interaction and coordination, with four types of actors identified from literature. Actor type is derived from the extent of overlap between an armed actor's and civilian responders' interests and aims and the extent of crisis-affected population's view of armed actors as a credible agent.[12] This is a key consideration for practice because it informs level of military acceptance in States and affected populations' acceptance of civil-military interaction.

		Extent of crisis-affected population's view of armed actor as a credible agent of security	
		High	**Low**
Extent of overlap between armed actor's and civilian responder's interests and aims	**High**	**Armed actor type** Active partner **HMR approach** Collaborative	**Armed actor type** Loose cannon **HMR approach** Contain
	Low	**Armed actor type** Reluctant partner **HMR approach** Compromise	**Armed actor type** Disrupter **HMR approach** Convert

Table 2: Typology of humanitarian-military relations based on armed actor

Depending on which quadrant an armed actor falls into (and may fall into more than one, especially in areas with diverse populations and political problems), different approaches to civil-military interaction might be advised, ranging from: collaborate, compromise, contain, and convert. Trust in military actors is critical, with trust having the potential to assist or deter social cohesion and community commitment towards any measures.

Collaborate: high alignment of civil-military interests and aims and population view of armed actor as credible meaning that civilian partners should collaborate by leveraging and incorporating armed actors into the response. It is presumed that interaction will not be objectionable, and that armed actors won't resist to being involved consistent with civilian responders' aims. Where this is the situation, productive civil-military engagement is anticipated.

Compromise: high population view with a lower alignment of civilian and military interests and aims. In this case, armed actors may be able to contribute but lack incentive, have a 'red line', or opposing strategic direction. Civilian responders may face capacity gaps or access needs that an armed actor can support but is unwilling to accommodate and resultantly are left implementing an unoptimised response because of a lack of resources or cooperation from armed actors. In this case, civilian responders will need to consider how to operate most effectively through comprise.

Contain: this type of actor is not viewed positively by the crisis-affected population but does have interests that align with civilian responders' objectives. These armed actors can be a liability during a response but very much wishes to be involved or has direction to be involved. Use of this approach entails engaging with an armed actor but in a manner that contains and reduces the visibility of the armed actor's role.

Convert: the type of armed actor that is least conducive to productive engagement. These actors are not viewed positively by crisis-affected populations, and they do not have any overlapping interests and objectives. The absence of any overlap suggests that the armed actor does not have a stake in the welfare and public health of the crisis-affected population or has diverging priorities from civilian responders and crisis-affected populations. Engagement should focus on preventing the armed actor from disrupting response efforts.

4.3 Level of engagement

Civil-military interaction might occur at varying levels—tactical (i.e., decisions taken in the field); operational (i.e., decisions taken close to the field); and strategic (i.e., decisions taken away from the field, often at national or international levels). The interaction between relevant civilian and military actors at each of these levels may be very different, as are the interactions that might occur between military personnel and crisis-affected populations. There are often connections between strategic (state) and operational (military) decision making that needs to be understood because political change will trickle down to the field level.

Engagement should consider unintended effects and/or longer-term impact. Short term gains may lead to negative secondary and tertiary effects or carry longer term risks, for example, in terms of access to a population.

Levels of civil-military interaction may vary depending the context. Strategic interaction may include higher levels of civil-military interaction through liaison networks and arrangements to support effective information sharing. Identifying liaison officers from all actors enables closer cooperation where appropriate. Operational level civil-military interaction should be determined by the context and the suitability of armed actor involvement within a public health emergency response.

5. Plausible military contributions to public health emergencies and considerations for civil-military interaction

This section introduces the accompanying Matrix of Activities and Related Considerations for Civil-Military Interaction. Experience shows that civilian and military actors may come together, either willingly or not, during all phases of a public health emergency. Militaries often have capabilities and skillsets that can support civilian authorities and humanitarian actors. This document frames possible military contributions into thematic areas of preparedness and readiness, coordination and operational, public health, security and enforcement, logistics and operational support.

Preparedness & Readiness	Coordination & Operational	Public Health	Security & Enforcement	Logistics & Op. Support
Improve and enhance resilience of health care systems. Development of rapid reactive capacities.	Leadership, planning and coordination during responses.	Protecting and improving health of communities, including detecting, preventing and responding to infectious disease.	Provision of security for facilities and securitised enforcement of public health measures.	Provision of logistics, transport, and other operational support.

The Matrix acts as a decision-making tool by enabling readers to reflect on the plausibility, viability, and safety of civil-military interaction during public health emergencies including outbreaks. It does so by providing:

- Activities that might be required during public health emergencies;
- Possible interaction when military capabilities contribute to support these activities;
- Rationale for interacting with militaries to complete these activities;

- Key considerations and complicating factors of military involvement where relevant;
- Reflection on the pros and cons of military contributions to the activities; and
- Where available, good practice and guiding policies and principles applicable to the specific activity.

Glossary and acronyms

Appropriateness

The provision of military capabilities that are appropriate for their task; the circumstances under which it is appropriate to use military capabilities in an operational setting.

Civil Defence

Civil defence organisations perform tasks intended to protect the civilian population against the dangers, and to help it to recover from the immediate effects, of hostilities or disasters and also to provide the conditions necessary for its survival. Tasks are enumerated in Article 61, paragraph (1), of Additional Protocol I to the Geneva Conventions of 1949.

Civil-military interaction

Dialogue and actions between civilian, humanitarian, and military actors to engage with each other in preparation for, and during, operations. The term is a purposefully broad and neutral concept to reflect a breadth of engagement and activities between civilian, humanitarian, and military actors in all operational contexts and settings, and at all levels.

Cooperation

Civilian, humanitarian, and military actors with complementary, aligned or partially aligned mandates and goals may conduct joint action for mutual benefit. Organisational independence is retained, actors have a willingness to organise and conduct activities together however these are context-drive, temporary and negotiated based on common interests.

Coordination

Civilian, humanitarian, and military actors share information to avoid duplication, overlapping or working in conflict with each other. Coordination takes place between actors with different mandates or those who need organisational independence but share interests or strategic vision. Coordination is considered aligned, independent, and separate actions between actors. Essential dialogue and interaction between civilian and military actors that is necessary to protect and promote humanitarian principles, avoid competition, minimise inconsistency, and when appropriate, pursue common goals.

Timeliness

The period taken by military capabilities to deploy and become operational.

Preparedness and Readiness

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Public Health Emergency (PHE) Strategic Response Plans	Detailed response plans that includes or considers the use of military and civil defence assets, and the thresholds for decision-making on the use of military and civil defence assets.	Plans establish known and agreed upon response frameworks, structures, roles and responsibilities. Plans align leadership, coordination, priorisation and decision-making response practices before a PHE rather than during. Plans build shared understanding of potential response capabilities and their timelines for deployment, including military health capabilities. Plans enable complementarity because planning and plans establish a shared understanding of likely roles and responsibilities.	Plans, including leadership roles, can be set aside during a response due to political or operational pressure. Plans can constrain behaviours needed to enable actors to adapt to the situation or activity at hand. Some organisations do not have a planning capability or culture which may reduce their ability to contribute to plan development. Federal/national framework may not be able to integrate well with state or local plans. Constitutional allocation of health-related powers and planning to states, rather than federal, may constrain effective planning. Plans that haven't been adequately tested prior to a crisis are often found to be unsuitable and aren't able to be employed. Higher level plans often do not contain sufficient details to inform operational practices.	Public health emergency response plans should include leadership, decision making, and response practices for civilian and military roles and responsibilities, including thresholds for requesting military assistance. Build flexibility into plans that support responsiveness to operational reality and the changing epidemiological context of a public health emergency. Align national plans with international plans for civil-military coordination (e.g. WHO, OCHA) or agree to use international plans in the absence of national plans.
PHE Readiness Planning	Operational response planning is often supported by militaries because they have dedicated planning personnel (known as the '5' branch), planning horizons beyond immediate response, and planning doctrine/ processes.	Militaries are able to plan effectively because their operating procedures enable forecasting of resources rquired to conduct tasks through consideration of desired outcomes. Military planning characteristics mean that militaries are able to distil and apply strategic guidance to achieve a tactical response/action plan. The military may be more willing to invest in preparing for the worst-case in a PHE, whereas a civilian organisation might be more reluctant to. Militaries typically have the ability to generate robust, well-developed plans in short timeframes, providing clarity to personnel in the operation and avoiding ad hoc planning sessions. Militaries are able to provide dedicated response planners, liaisons, and support to emergency operations centres.	Integration of civilian and military actors may be adversely affected if differences in language and planning approaches are not considered. Education and training regarding military planning language may be required for civilian actors to translate and communicate their needs to military audiences. Some civilian organisations do not have a future planning capability or culture like militaries, which limits their ability to participate in planning and plan development. Militaries are likely to have a technical gap in knowledge and understanding of PHEs that necessitates collaborative planning and/or inclusion of health expertise in planning.	Militaries can be requested to form or contribute to planning teams. These teams can build understanding of the environmental context, as well as developing solutions to identified problems. Civilian's involvement in military planning enables political and strategic guidance to be translated into appropriate operational tasking. Readiness plans can give an immediate organisational structure or known set of stakeholders in the earliest days of an emergency. Plans almost always change, but a clear starting point that establishes stakeholders and initial civil military roles may can save time and reduce friction early on. The best placed actor should lead planning and support implementation to ensure the most efficient and effective response.
Response 'Playbook,' Operating Guidelines or Compendiums	Published operational-level response practices that incorporate response plans, and strategic and operational contexts to enable users to conduct tactical activities linked to operational and strategic outcomes.	Civilian and military playbooks and document operational practices that are complementary connect response levels to provide a consolidated response. These documents record and share institutional knowledge and risk management of infectious disease outbreak response. While playbooks may need to be adapted based on the epidemiological profile of the disease, they are considered a fundamental element of institutional learning to support application of experience and adaptation where required.	Playbooks include previous experience and learnings and can be politicised if these learnings are developed under previous governments or leadership. People may not know that playbooks exist or where they are stored. Playbooks may infer a rigid, controlled response that does not allow for on the ground emergent practices to optimise civil-military interaction and response.	Operational documents, such as playbooks, should clearly document decision-making, risk management, roles and responsibilities for the use of military and civilian capabilities during public health emergencies. Playbooks should not be politicised or shunned if they are based on the experience and learnings of others. They should be rapidly assessed for relevance and applied where appropriate. Playbooks should be informed by simulations, civilian and military expertise, and contain suggestions for policy coordination and evidence-based response practices. Playbooks should be drilled/practiced, and revisions should be regular and cumulative as experience is gained.

Preparedness and Readiness — continued

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Training, education and exercise activities for PHE responses	Cross-organisational training and education which exercises response plans in advance of a public health emergencies, including lines of decision making, communication channels and roles and responsibilities.	Training and education allows relevant actors to practice and rehearse response plans, building understanding of respective civilian and military capabilities within public health emergency response. Training and education in the form of exercise scenarios modelling disease outbreak allows relevant actors to support operational decision making, understand capabilities needed for a PHE response and to identify any gaps in capabilities. Training and education enables insight into response times required to mobilise military forces and to understand risk tolerance of military forces (e.g. redlines, rules of engagement, and health rules of engagement).	Military training can be strategic/politically driven, and preparedness for public health emergencies may not be prioritised. There may be no political or organisational appetite to understand or address deficiencies identified in exercises. Knowledge gained and relationships built during training and education activities may not be applied for political or operational reasons, such as force protection measures. People who participate in training activities may not participate in a response, leaving a gap in knowledge of response structures and practices.	Shared learning can build relationships and strengthen response. Training and education activities should be used to provide response actors with the ability to test policy documents and to identify operational gaps. The conduct of simulation exercises allows participation of civilian and military actors to understand existing response frameworks and structures. Table-top exercises (TTX) are a useful tool to deploy, especially as these are often familiar to military and humanitarian actors alike. Training and education activities should include credentialing, recognition, or preapprovals prior to deployment, and incorporate capability modifications as necessary.
Research and innovation	Defence funded laboratories/organisations conduct research into dangerous pathogens and provide unique laboratory capabilities and expertise.	Military research can study new medical countermeasures and methods for infection control and decontamination that may be especially helpful during PHEs, as was the case during the COVID-19 pandemic. Military laboratories can test the technical application of new technologies within military bases before wider distribution.	Civilian and military laboratory and research culture are diverse as their primary missions often differ. National Security classifications make information sharing between civilian and military laboratories challenging.	Civilian and military laboratories can establish integrated joint databases to share information on outbreak modelling and pathogen characteristics. Military laboratories should be complementary/additive to national public health laboratories or civilian surveillance/diagnostic/labs. Legal and regulatory frameworks can be modified to enable sharing of samples and research outcomes between civilian and military laboratories without compromising national security.
Learning from previous PHEs	Civilian and military actors may share knowledge and experience during dedicated after action learning activities, including cross-organisational and cross-functional lessons workshops to share knowledge and experience of both planning and responses.	Learning opportunities, supported by analysis and continuous improvement ensure that civil-military actors learn from experience, understand shared responsibilities, and to solve comparable issues in future responses. Learning together reflects a commitment to accountability.	There may be no organisational or political appetite to learn from experience because it can highlight gaps and limitations within a public health response. Organisational learnings may lead to calls for remediation, and there may be no appetite to accept responsibility or shared responsibility. Sharing of lessons can be negatively impacted by security clearance constraints, which limits what information militaries can share.	Learning activities should ensure all voices and expertise are involved, including individuals at all levels of the response to ensure comprehensive understanding for future responses. Learning activities should be conducted in a non-judgemental manner that allows for an honest review of past mistakes and improvements in future responses without assigning blame to specific individuals or organisations.
Capacity building through global health engagement	Militaries can deliver global health engagement programs to build capacity for other nations to respond to PHE.	Capacity building enables information sharing at the local and regional level. Capacity building activities are mutually beneficial for civilian and military medical workers to keep their skills current.	Security classification of military activities may impact information sharing, and this may depend on the community or nation being assisted. The goals of global health engagement may include political and security dimensions in addition to improving health security. In addition, global health engagement activities may lead to a dependency on military capability in the receiving community.	Global health military engagement activities should focus on interoperability and relationship development, in addition to capacity building. Provisions for sharing health data between nations, including cross-sectoral data collection should be prioritised if it may assist during a public health response.

Coordination and Operational

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Leadership/Command and Control	Leadership structures of a public health response can be civilian-led, military-led or blended civil-military led. Informal leaders may also emerge during a response. However the response should be a civilian as possible, and as military as necessary. Selection of a leadership structure is often nationally and politically-driven, and leadership structures often depend on operational requirements and priorities. Some nations consolidate their leadership team and decision-making processes between civilian and military stakeholders. This may occur when retired military personnel transition into high-level civilian government leadership positions, maintaining civilian leadership and drawing on military planning and coordination expertise. Even without overall response leadership, military leaders will likely have direct communication with political leaders to translate national objectives into operational tasking.	The inclusion of military leaders in public health emergency leadership structures enables the military to respond and deploy more rapidly and efficiently. Military leaders can provide effective operational leadership based on their ability to translate high-level strategic input from civilian leadership into actionable tasks at the operational level.	Military leadership of a public health emergency may unintentionally erode public trust/confidence/resources for public health authorities and leaders if they are not viewed in an active leadership role. Military leadership in a public health response disrupts traditional civil-military relations (which call for a civilian led response) and diverts military assets away from combat-focused activities. Military leadership could limit/restrict/ignore the use of civil society actors who often play a critical role at the tactical level in public health emergencies and outbreak response. Depending on the context, military culture may not be as responsive to community needs as civilian leadership. Militaries might have a bias towards action due to a combat mindset, which might not be ideal for leadership of a public health response. Militaries are likely to have a technical gap in knowledge and understanding of public health emergencies.	A civilian leadership structure for public health emergency response is beneficial and can be supported by military and civil defence assets. Country context is important because of differing levels of public trust in militaries and government institutions. National militaries should support civil authorities, actors and partners, not leading or replacing them. Operational agility includes having a willingness to change leadership structure as part of a response, if necessary. Militaries are likely to have a technical gap in knowledge and understanding of public health emergencies.
Coordination Structures	Public health emergency responses often include a dedicated coordination structure or function for militaries contribute into. This function may provide a centralised authority for decision-making for clear command chain and efficient communication. Coordination options can include thematic or incident management structures. Coordination structures may exist at the national, provincial or district levels and their purpose is to support the conduct of operational tasks through coordination of actors. They can also contribute to cross-border jurisdictional challenges.	Militaries have a hierarchical structure that includes provisions for coordination and de-confliction. The involvement of military health personnel in a public health emergency coordination hubs may address technical gaps in command and control, and can help connect the military with civilian coordination structures.	Militaries may dominate coordination structures, especially where they contribute personnel and assets to a response. Militaries may be unwilling to transition coordination and decision making to civilian agencies or be unfamiliar with local networks excluding local actors.	Nations have different approaches to coordination that need to be understood by civilian and military actors. Militaries may need to transition coordination structures to civilian agencies if they lead coordination in the early stages of a response. A coordination mechanism may be needed for cross-sector resource management and distribution.
Risk Management	Risk management (assessment, mitigation and communication) assists nations and actors to identify public health events, analyse information, assess risks to public health and vulnerable groups, monitor interventions and response activities, and communicate health emergency information. Risk management initiatives keep communities informed, guide decision making, and overcome any uncertainty with scientific evidence.	Military risk management tools are based on well-understood principles and are often applied to assist military and civilian agencies in understanding risk and mitigation strategies. Military personnel have an operational mindset, allowing the conduct of rapid risk appreciation in uncertain situations, make informed decision, and take risks to achieve preventive actions.	Military appreciation of risk and risk tolerance means that risks are not always aligned or accepted by other civilian agencies and actors.	Actors should have a shared understanding of risk. Risk management strategies should be based on the risk acceptance of all actors, depending on the tasks and the broader health risk. A public health response should be proportionate to the level of public health risk faced. Resources should be mobilised that limit excessive interference on social and economic activities.

Coordination and Operational — continued

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Situational Understanding	Nations often attempt to gain an operational understanding of many aspects of a public health response (e.g. infected persons and resources allocated). Information-seeking practices include using intelligence fusion capabilities and information flows between civil-military responders.	Militaries have dedicated and trained personnel to act as liaisons, collect and fuse information, and visualise information that can be used to establish situational understanding. Understanding is optimised by liaison officers. If a civilian leader or official wants to consult a branch of the military regarding support, they can speak to that respective liaison officer and de-conflict any misunderstanding.	Other methods of situational understanding can be established where it is not suitable or appropriate for civilian actors to engage with militaries for information sharing purposes. Some aspects of situational understanding may be more available to civilian actors, especially local civilian actors, than military actors. There may be health intelligence that actors don't want to or can't share due to competing interests and privacy concerns.	Connections such as liaison officers between civil-military actors are especially useful in public health emergencies. Civilian and military roles dedicated to information flow and communication support effective and timely responses to public health emergencies.
Reporting Systems ('Battle Tracking')	Nations or militaries may develop reporting processes including 'battle tracking' to monitor a public health emergency or components of a response. This includes collecting metrics and data, such as demographic and narrative data, tracking of cases at facilities, monitoring vaccine doses, PPE allocation, workforce availability.	Militaries can contribute data and provide reporting to inform decision-making because their operational processes include intelligence fusion and reporting. The use of military tools can support situational understanding in a range of areas to inform decision-making and allocation of resources. Using specialist military capabilities and tools may optimise understanding of high-risk populations and communities, and the progress of public health measures. Militaries may have higher threshold to respond within uncertainty and incomplete data allowing a more proactive approach.	Information inputs and decision making based on information inputs should be balanced as military and civilian agencies are likely to interpret data based on their individual missions and mandates. Some public health professionals may require more data before a decision is made than militaries. Data definitions may differ between civilian and military agencies, complicating reporting and data sharing. Military information, data classification and systems may cause challenges for sharing information and limit information flows. Privacy and confidentiality of patient data is critical, and may be burdensome to de-identify civilian patient data prior to sharing with military.	The use of military reporting systems should always be informed by the appropriate public health experts in terms of surveillance, decision making, data aggregation, epidemiologists, and potential interpretations, etc. Civilian and military actors should confirm what metrics are needed by area and function, including consideration of cultural considerations. Consider disease tracking business as usual between civilian and military actors via de-identified datasets that can always be shared. User exchange (UX) interfaces need to be optimised, and sometimes face-to-face sharing and interpreting of data may be beneficial. There is a need for external actors to appreciate the difficulties in smaller countries of collecting and sharing data and support these efforts.
Real-time organisational Learning	Collaborative learning can include rapid debriefs from those working in a response to support real-time learning, and to capture experience for future planning and practice in the future.	Organisational learning can occur informally at the tactical level between civilian and military actors in local health departments. This reflects an agile improvement process.	Organisational learning informality may risk response innovations to be undocumented and rapid debriefs will not be followed up by a more deliberate analysis process to identify good practice.	Immediate debriefs ensure relevant issues are captured and can act as the basis for a longer term analysis. Public health emergency response should include internal feedback loops (vertical and horizontal) on outcomes. Insights should be fed back into an evolving plan. Organisational learning structures should be agile to respond to developments on the ground and include a systems-based approach rather than relying on individuals.

Public Health

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Clinical care (outbreak related)	Military involvement in outbreak-related clinical care covers a range of plausible situations, such as establishment of treatment centres for specific populations, administering testing and vaccination sites, vaccination or medical teams for geographically hard-to-reach communities, testing and medical assistance to diverse populations (e.g. incarcerated populations). In some cases, military augmentation of a national health-care system to provide clinical care directly associated with an infectious disease. Military medical capabilities and personnel can be combined with logistical capability to reach and provide care to remote communities and high security risk populations.	Military augmentation can rapidly increase testing and vaccination capabilities, providing broader and more accessible testing. This includes scheduled appointments or walk-up model (i.e. not triaged by state/local health entities). Military augmentation of hospitals enable medical staff to fill staffing shortages and to better manage surges in workload. Military personnel can be re-assigned and/or rapidly trained to perform simple clinical tasks, including infectious disease testing and administration, testing site establishment, and administrative and management support. Militaries are able to provide vaccination programs, and where needed, crowd management to secure sites and establish order at sites (e.g. queue and crowd control). Use of militaries can provide an immediate/rapid capability to address long lines and waiting times for testing, and respond to protect residents and staff at long-term care facilities. Militaries can both construct tents for testing sites and conduct/manage testing. Militaries are able to support operational and coordination frameworks for clinical care, including planning and providing real time data.	Communities and populations can be uncomfortable or uncertain about military presence at medical sites, especially for communities with a history of distrust of the national military. There may be political and clinical risk of military involvement in outbreak clinical care that limit military contributions (redlines). Deploying military personnel can increase their risk of infection and place military populations at risk. While select personnel may be trained in CBRN threats (and therein, biohazard threats), most of the military medical workforce is trained to treat battlefield trauma, not infectious hazards. Further, most training is specific to the demographics of military personnel, who are often younger, male and healthier. Infectious hazards affect all populations including children, the elderly, and pregnant women, cohorts that military medical personnel may not be robustly prepared to treat. Militaries may not have doctrine and processes to respond to public health emergencies. There may be a requirement to rapidly upskill military personnel in using PPE and/or pathogen testing during a public health emergency. Use of military medics for outbreak-related clinical care removes them from their primary role of caring for soldiers and preparedness/training for military missions.	Domestic militaries augment clinical care during public health emergencies, but only if they have the specific skill sets and necessary medical countermeasures to respond to the specific infectious disease. Without specialist skills military personnel should be reserved for non-outbreak related healthcare. There will always be alternatives/approaches that are not militarised and can reach special and marginalised populations in particular. Foreign military should generally be reserved as a last resort when civilian and domestic military health facilities are so overwhelmed, significant numbers of civilian deaths would ensue without military support. In select situations where military has expertise to provide high level infectious disease care and access to necessary medical countermeasures, they may be used to care for specific populations (for example health workers, ex-pats) who would trust or even prefer their care. If military is engaged in providing clinical care and testing, it should be in close coordination with civilian authorities. Military efforts should be complementary to civilian health care systems.
Clinical care (non-outbreak related)	Militaries may augment national health-care system to provide clinical care not directly associated with an infectious disease. This can include employment of military health personnel and military medical team for patient care at civilian hospitals, and as nursing assistants to fill staffing shortages at long-term care facilities (nursing home and assisted living facilities).	Military personnel may augment hospitals to enable medical staff and hospitals to handle surge workload. This assists to address staffing shortages at long-term care facilities to protect high-risk populations. Military teams are rapidly deployable, easily trained/up-skilled, and can support overwhelmed hospitals and facilities to shorten wait times for care. Militaries are able to provide immediate medical, planning, and operational assistance to high-risk populations (including those in long-term care facilities), remote populations, and facilities at risk of being overwhelmed.	The deployment of military medical assets may not be fit-for-purpose for public health needs (e.g naval medical ships deployed to support overwhelmed hospitals in New York and Los Angeles during COVID-19). There are risks to communication when military and civilian medical personnel do not have a shared understanding of health care practices and health aims. Deploying military medical teams may impact/decrease military preparedness/readiness of the force and impact military morale. Barriers to care arise for some parts of the community when military personnel are used in medical roles, causing hesitancy in seeking care (e.g. language barriers or immigration status). Lack of trust between civilian and military personnel may require education to build trust and shared understanding. Militaries may need to be trained in biosecurity and understanding the pathogen. They may need training for providing health care to non-military populations, such as aged care and inpatient facilities.	Military support should augment health authorities and public health systems, not replace them. Militaries may be used to achieve health aims when domestic health system are overwhelmed, assuming they are fit for purpose. In settings where military hospitals are routinely used to treat civilian populations, these can be used immediately in a health emergency. The principle of last resort should be applied to the use of foreign militaries for the provision of health services to populations during public health emergencies. Military working under auspice of civilian organisations need to have clear health aims. Civilians need to develop and share these aims. Use of military personnel to provide care to especially vulnerable populations should be avoided. Develop shared protocols for civilian and military medical staff in order to maintain standards and service of care. Militaries should be provided with the right training and understanding of civilian healthcare procedures and processes.

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Medical evacuation	Use of military assets for clinical transport of infected patients to hospitals. Repatriation of infected citizens from overseas location for increased level care.	Militaries have international and regional partnerships to support patient movement. They also have dedicated aeromedical evacuation capabilities. Many landlocked nations rely on military transportation for the movement of goods. In the event of a public health emergency, this infrastructure can be repurposed to assist with patient transfers to suitable treatment centres and specialist facilities situated elsewhere. Use of foreign military for transporting patients back to their home countries can assist to prevent spread of the disease, contain it, and safely provide care. Use of foreign military transport should be based on an assessment of available resources and risk. Military assets can be rapidly configured for transporting infected patients (e.g. isolation in cargo planes), and may be easier to use dependent on the pathogen and level of risk.	Medical evacuation is often dependent on patient nationality, not the level of patient need. Discomfort and panic may occur when medical evacuation is prioritised based upon nationality. Military medical transportation and movement processes are configured for trauma, not infectious disease or isolation. Assets may need to be reconfigured, taking significant time and resources. Protocols for military evacuation may be different to civilian standards. There may be no training program or agreements in place to support military involvement.	Military transport needs to have medical capacity, not just transport capacity when used for medical evacuation. The medical transport capability should meet the level of hazard created by pathogen involved in the public health emergency. Develop military capacity for transporting infectious patients includes developing training and protocols in advance of a public health emergency. Only use military medical transport for infectious patients where appropriate and as a last resort when civilian options are not available. Transportation system should to be developed to complement local community and security needs. Decision-makers should consider the use of the right asset to meet requirements, including configuration and support equipment.
Dead body management	Use of military assets and personnel for removal and transportation of corpses and/or as burial teams. Ensuring the safety of the burial grounds. Note: there are only a few known diseases where the body remains infectious after death (i.e. Ebola and Cholera).	Military logistics personnel rather than military medical personnel may be used to transport dead bodies, especially when they pose an infectious hazard. Militaries may be able to provide technical advice on how to handle remains, respectfully and in accordance with medical safety. Militaries may have the equipment for cold storage and dead body movement.	The optics of militaries handling this activity should be considered carefully, particularly in situations where the relationship between of the local population with the military is strained. Managing dead bodies is often a civil responsibility, and militaries may not be trained or skilled to manage dead bodies, especially for infectious cases that continue past death.	A culturally appropriate and respectful approach to safe, dignified burials are essential for ongoing trust, including for reporting purposes, contact tracing, and ongoing infection prevention and control measures. Identify and involve local leaders, include both men and women perspectives, to guide dead body management. Local community views around burial and the appropriateness for military to interface directly with the population should be considered. Limiting military involvement to the provision of refrigerated trucks and other equipment may be more appropriate. Specific policies and processes should be in place to guide militaries involved in dead body management. This includes force protection and protection of personnel based on biohazard risk and correct handling of bodies. Operating procedures and training for dead body management, should reflect respect for the dead, self-care and mental health care, and ensuring culturally acceptable practice.
Infection Prevention and Control (IPC)	Use of military assets and personnel to prevent or reduce the biohazard risk of patients and health care workers. Military cleaning teams and infection control teams can be used to disinfect locations, including individual homes, nursing homes, hospitals, clinics, public areas, buildings and transport equipment (e.g. ambulances). These teams can be directed to use PPE effectively and protect themselves while decontaminating surfaces.	Use of military capability may increase production of critical and essential PPE and disinfection supplies, especially during early stages of a public health emergency. Military deployment for non-clinical work allows medical staff to focus on patients. Military can be deployed alongside civilian health teams to decontaminate homes or public spaces, while civilian health teams focuses on the care for the infected individuals. Military involvement may provide communities with a sense of protection from unknown threats, such as new pathogens.	It may not be appropriate for military to personnel to be seen working alongside clinical civilian personnel, depending on the context and the local population's perception of the military. There is no assurance of training quality and standardisation for infection prevention and control, and there is a very limited infection prevention and control trained workforce within most militaries. There is risk military personnel may inadvertently contribute to spreading the disease, especially without sufficient training. Military personnel may also be placed at higher risk of contracting the disease when they are involved in infection prevention and control activities.	If appropriate, military legislation that contributes to PPE and decontamination supply production can be implemented as soon as possible. The use of civilian and military teams can be complementary in providing infection prevention and clinical care. Where appropriate combine civilian and military processes to streamline appropriate activities. Emphasis should be on training to share knowledge and build capacity. Processes should be agreed to ensure all civil-military actors are adhering to the same practices and standards. The security context needs to be considered before using militaries in an infection prevention capacity, especially alongside civilian health workers.

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
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Biosurveillance	Bio-surveillance assists in epidemiological modelling and simulation in order to support real-time decision-making during PHEs. In some nations, the military has modelling agencies, such as the Defense Threat Reduction Agency in the United States. These monitoring systems work in close relationship with national and international civilian entities.	Militaries may be critical in some nations because they possess laboratories with sufficiently high biosafety ratings that can safely study dangerous pathogens. Some nations such as the United States possess military lab networks all over the world that can support regional surveillance for a new and particularly dangerous pathogen. Military labs are assumed to have higher security, adherence to guidelines, and limited contamination risk. Military labs are approved and authorised for infectious disease testing. Militaries may be able to set up field laboratories for pathogen testing to support civilian delivery of healthcare in treatment centres for infectious pathogens. They may also be able to deploy to remote areas to collect specimens.	There may be barriers to sharing of laboratory data between military laboratories and civilian public health authorities. Many nations have limited military biosecurity capacity or technical expertise. Moreover, military laboratories may not be available in the areas where they are most needed.	It may be beneficial to have a robust bio-surveillance systems that optimises military and civilian capabilities. Many militaries, such as the United States, maintain field laboratories worldwide collecting surveillance data. The use of epidemiological modelling and simulation can contribute to providing real-time data and surveillance on civilian-military bio-surveillance operations. Use of robust modelling systems can be extremely beneficial in crafting proactive measures in the development of pandemic responses without a large associated investment. Militaries may also be able to rapidly set up field laboratories in the setting of an outbreak, including foreign military when domestic lab capacity is limited. These practices are dependent on country context and capacity, including the civil-military system. A multi-sector coordinator is needed to manage this activity.
Vaccine development and quality control	Military expertise may be used to develop or execute contracts for vaccine development. Military staff may also be used for quality control at vaccine manufacturing plants.	Military vaccine development mitigates financial risks associated with vaccine development for pharmaceutical companies, potentially speeding up processes. Optimising use of available civilian and military resources means vaccine development and preparations to increase vaccine production can occur at the same time as development of the vaccine supply chain. Militaries can provide specific support, such as security of vaccine manufacturing plans and support to increase manufacturing levels at sites. Militaries are able to partner with other entities quickly to secure and support vaccine development and manufacturing. Their involvement can span cyber security, procurement of vaccine materials, contracting domestic manufacturing capabilities of ancillary supplies (e.g. needles and glass vials) needed to store and administer vaccines, provision of engineers to oversee production capacity (including project management, regulatory strategy) and providing additional individuals to staff vaccine manufacturing plants.	Military planning and expertise may accelerate development, but may not be aligned to vaccine rollout. Military vaccine development incurs a financial burden with no reimbursement mechanisms. Militaries often do not have the expertise to scale up and provide funding for health measures.	Civil-military vaccine development provides a unique public-private partnership opportunity that needs to be fully considered prior to implementation. Civil-military actors best placed to ensure equitable distribution should lead this activity, noting that authorisation and rollout is often at a national level.
Medical Countermeasures	Militaries have planning and operational expertise to collaborate with public health leaders to support vaccine prioritisation, delivery plans (packaging and shipping) and provide health agencies/entities with operational and coordination capabilities (personnel and procedures). Militaries can provide personnel to manage vaccination sites including assisted living facilities and disability facilities, and remote and temporary vaccination sites. They can also establish partnerships with commercial entities to administer vaccines at long-term care facilities. Military personnel can conduct activities such as administering vaccines at vaccination sites and support pharmacists to prepare vaccines for administration. Military personnel can also form 'vaccination outreach teams' to access communities and remote locations using a 'vaccination hub' model.	Military logistics expertise can plan and deliver vaccines to shorten vaccine rollouts. Use of military assets and expertise can accelerate vaccine delivery, and ensure vaccines are delivered to recipients based on national guidelines, especially where there is short supply or targeted vaccinations. Militaries can plan and deliver vaccines in a self-supported way and can access remote locations. Military practices and software can be used to plan and efficiently deliver the vaccines, including cold chain storage. Vaccination of military or civil defence actors vaccinated in the middle of a PHE may help the population feel comfortable getting vaccinated as well. Militaries can vaccinate their own forces, which reduces the burden on civilian health care facilities. This means they are not seen at public centres, and their forces are protected. A combined civilian-military workforce doubles vaccination workforce capacity where appropriate.	Military vaccine rollout can be slow and limited to a variety of factors, such as lack of transportation to vaccination centres or public hesitancy to be vaccinated. Primary care providers and their patients may prefer localised vaccine delivery at local primary care clinics. Military practices prioritise mass vaccination and use larger clinical sites. There is hesitancy in some communities to engage military health professionals involved in vaccination. Militaries need to consider force protection measures when providing support to community health measures.	The integration of military personnel into a civilian operation centre can provide civilian health authorities with additional operational capability (personnel and procedures). Good practice changes with the context. Factors to consider include level of local acceptance of military personnel, identification of trusted local leaders, cultural and demographic considerations, and a recognition of the need to adapt to the specifics of different sites. Nations may need to address religious, political, and socioeconomic barriers to vaccinations. One way to overcome these barriers are engaging local stakeholders to work with communities for vaccination. Building relationships and trust between the government and local leaders assists reducing vaccine hesitancy and ensuring equity in vaccine rollouts. Military personnel need to have appropriate skills, accreditation and social licence to be a part of civilian vaccination operations.

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Contact tracing	Use of military contact tracing technology can reduce the spread of an infectious disease through rapid case investigation. This can include providing education and follow-up to individuals who have tested positive. These teams can operate in the community in partnership with local health entities or on military bases to protect military populations.	Military personnel can assist civil authorities for contact tracing, especially during infectious disease surges. Militaries can be rapidly trained and assigned to indirect roles such as call centres, rather than direct contact tracing roles, such as door knocking. Militaries have linguistic capabilities that can be used during contact tracing. Military public health technicians can lead contact tracing programs on military bases/establishments that are usually inaccessible to civilian personnel.	Data privacy should be considered prior to employing militaries to conduct contact tracing. Military personal are typically not trained in engaging with people on public health issues, and most will need some training.	Human rights and legal protection during contact tracing activities should be adhered to. Legislation may not allow military involvement in contact tracing activities like door knocking. Military contact tracing and investigation teams should work in partnership with local health departments. Contact tracing may be included in military public health training. There should be a differentiation between political and public health measures. The use of military for contact tracing should be associated to public health reasons and not used in conjunction with enforcement of containment measures that may be employed for political reasons.
Countering misinformation and disinformation	Militaries may be used to communicate the importance of public health measures and counter misinformation to provide effective care. Military may engage with communities through a public health emergency response to dispel myths and conspiracy theories surrounding vaccines.	Militaries have capabilities for the production of 'soft' knowledge, including countering disinformation using anti-propaganda and psychological warfare experts. Militaries may conduct an information campaign depending on the whether they have sufficient trust within communities. Militaries are able to support and uphold public health protocols and messaging, e.g. when enforcing curfews, lockdowns, and other restrictions in concert with local law enforcement, which assists to counter misinformation. Militaries may be used as a work force to disseminate informational materials at strategic sites including ports and points of entry.	Military members countering misinformation can be seen as the politisation of the public health emergency response. Not all countires accept and trust militaries sufficiently for them to implement information campaigns.	The use of militaries for information campaigns should be based on society acceptance and trust.

Security and Enforcement

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Security for Health Care Workers (HCW)	HCWs may face violence because of fear in the community and face a greater risk of spreading contagions due to workplace hazards (e.g. lack of personal protective equipment). HCWs may also face risks resulting from misinformation and disinformation campaigns. Militaries may provide armed or non-armed security for HCW and other responding actors if there is a risk of violence. This includes providing security at pathogen testing and vaccination sites.	Militaries have a range of capabilities that may be used to provide security, including armed and unarmed roles, crowd control, and tailored security responses depending on the context. Militaries may have access to resources and personnel to provide ongoing security. In some nations, there are restrictions on how militaries are used within domestic response circumstances, such as the ban on search and seizure, protecting communities from excessive or inappropriate force. In some countries military institutions enjoy high public confidence and the military can be used to inspire public trust. Military personnel are trained to provide security for infrastructure such as medical production and storage sites.	Uniformed members may be viewed with fear, apprehension, or disapproval when performing in domestic security roles. The use of military in security/protection roles may not be within domestic policy or legislation. Use of military protection may lead to medical personnel losing their protection under International Humanitarian Law. Militaries are unable to provide HCW security in their daily lives where they also face risks of violence.	During public health emergency responses, it is important to acknowledge that HCWs and other responders may face an increase in incidents of physical or verbal assaults, threats or discrimination. Mitigation against violence towards HCW should focuses on negotiating with local armed actors to ensure safe provision of health services. Alternatives to the use of military or security forces should be explored, such as training HCWs in de-escalation techniques or utilising hospital or clinic employed security guards when available. This can also include the use of technology, such as metal detectors, cameras and panic buttons.
Enforcement of public health measures	Militaries may be used to enforce public health measures, such as the establishment of safety zones to prevent infectious disease spread from sources of transmission (e.g. cruise ships, air transport, road movement), and checkpoint monitoring that includes mandatory health screenings. Other public health measures may mean different modalities for military personnel. For example policing functions vs the securing of quarantine or isolation facilities. In certain circumstances, militaries may be used to enforce 'lockdowns'. For example, geographic areas where certain public activities may be restricted for a period of time to limit opportunities for infectious hazard transmission.	In contexts where militaries or civil defence are trusted institutions at a local and community-based level there may be more capacity to enforce controls concerning freedom of movement. Militaries and civil defence personnel are usually trained specifically to follow orders to ensure strict enforcement, which may be required depending on the public health threat at hand.	Communities may be concerned to see uniformed people enforcing public health mandates, which may be interpreted as the military targeting a specific group of people. Some enforcement measures may be guided by political imperative rather than public health need. There may be circumstances a public health body may advise not to use checkpoints or other measures but political decision makers, who are in a position to task military personnel, decide to advance a particular measure. This can create tension not only between public health professionals, political decision makers, and militaries, but also between affected populations and all response actors.	Military enforcement of public health measures needs to be informed by health subject matter experts and driven by epidemiological justification to ensure that enforcement is necessary and to minimise the extent of enforcement. Civilian actors should first establish voluntary quarantine and isolation systems, when needed, through non-military means, with military involvement used only as a last resort and in collaboration with local communities. If the military is enforcing a lockdown, governments need to be prepared to provide resources to the population that may be therefore unable to provide resources for themselves. For example, food or medicine deliveries. Government officials and politicians assigning militaries to security and enforcement duties should have clear justification for overriding the guidance of public health experts.
Border and road movement control	Physical containment measures may include security and oversight at airports, harbours, border patrol stations, and traffic points near borders. Military and civil defence are a readily available workforce and may be deployed to conduct such roles to act as a deterrent to unauthorised entry into a country during a public health emergency.	Militaries provide a readily available workforce for non-specialised border control activities. Use of militaries may be considered part of an effective cross-border health policy that does not infringe on the rights of a country's own citizens.	Use of militaries or civil defence for border or entry control removes them from their primary mission and objectives. The long-term use of military personnel in non-traditional military roles creates burnout and stress.	Military or civil defence enforcement of border control needs to be informed by public health subject matter experts and driven by epidemiological justification.
Maintenance / enforcement of public order	Militaries may be called upon to provide basic security to enforce public orders during a public health emergency.	Militaries are disciplined forces which can provide support for maintaining public orders during national crises, including public health emergencies.	Use of uniformed personnel in enforcement roles can be viewed by communities with fear, apprehension, or disapproval.	Communities may not approve militaries and civil defence personnel being used in roles that enforce public order and may be perceived as implementing martial law. Other response actors, such as police, may be better suited due to their civilian nature.

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Armed escorts	In areas of insecurity or conflict, militaries may be requested to provide armed escorts to public health responders during the conduct of public health emergency response operations.	Military escorts may assist public health responder's movement through insecure areas, especially in nations experiencing conflict.	Cooperation with an armed actor can lead local, national and international actors to associate the civil response organisation and its beneficiaries with the political and/or military objectives of that armed actor, impacting neutrality, impartiality and the independence of the civilian response organisation. While short term access may be facilitated through the use of armed escorts, it is plausible that routine use may alienate or generate a lack of trust between affected populations and public health responders, impacting community trust and access. The armed actors providing the escort may be a target for attack by opposing forces putting civilian personnel, supplies and beneficiary populations at risk. Cooperation with one armed actor can make it impossible or unsafe to operate in territory controlled by another armed actor. Dependence on support from an armed actor can make it extremely difficult or impossible to operate without such force in the future, undermining the sustainability of public health emergency responses. The provider of armed escorts may develop a financial interest in maintaining the service.	The IASC non-binding guidelines on the use of armed escorts for humanitarian convoys should be considered by all civilian actors in a public health emergency response, including local civilian government actors. Public health actors should only use armed escorts as a last resort, in exceptional cases, and then only when a set of key criteria is fulfilled (as outlined in the IASC non-binding guidelines). It is acknowledged that there may be occasions when not all of these criteria can be fully met. In such circumstances consideration must be given to balancing security risks with program criticality.

Logistics and Op. Support

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Continuation or optimisation of Supply Chains	Military logistics and expertise can be leveraged to ensure supply chains continue or are optimised. This may include the rapid transfer of expert logistics, planning and operational experience to support public health activities, supply chain mapping, and provide cold chain advice to ensure delivery of vaccinations and other critical items. Militaries can provide planning advice, conduct logistics and supply chain mapping to develop medical countermeasures or personal protective equipment (PPE) delivery plans, while medical countermeasures are still in development and goods are being produced.	The use of militaries can address supply chain shortages, including importing PPE and testing kits, while domestic production catches up to demand. Military personnel have logistic expertise that can be used to optimise supply chains, and support and assist freight management. Militaries can transport large amounts of goods by air, land, and sea to strengthen supply chains.	Reliance or over-reliance on militaries can impact the capability and economic structures of civilian supply chains.	The use of militaries to support goods and services supply to people in need should be considered where appropriate and timely. Any request for use of military assets should be under the guidance of civilian authorities and based on humanitarian need. Militaries and decision-makers should have a transition plan once the response no longer needs military involvement.
Procurement, Manufactoring, and Provision of supplies and PPE	Military may be used in manufacturing, and/or procuring supplies critical for a response. This can include modification of military contracts to ensure procurement and making supplies available from strategic reserves for distribution.	The use of military assets can expedite the procurement and delivery of critical equipment and goods.	Extensive and ongoing use of military capabilities may create dependency or reliance on the military. The provision of military stocks causes depletion and requires re-stocking to mitigate subsequent shortages and supply chain issues. Militaries may be hesitant to repurpose facilities for production of medical countermeasures, PPE, and supplies, as it may disrupt the production of what the military considers essential for their operations beyond addressing the public health emergency.	Militaries support rapid procurement for acquiring essential medical countermeasures, PPE, and other supplies in a public health emergency. Militaries may have the capability to produce or secure public health emergency supplies quickly and on a large scale, but it is critical that plans and policies are in place to ensure equitable distribution of critical countermeasures, especially in more resource limited areas. Interaction between military and healthcare workers is potentially less fraught compared to military interaction with the public directly, which means back-end supply chain support may be a more suitable contribution of military assets during public health emergencies
Transportation	Military can support movement of supplies, military personnel, and civilians, including transport of individuals from cruise ships, international transportation of goods, international transportation of medical staff, national transportation of goods and supplies/ equipment and national transportation of citizens and medical staff.	Militaries have a rapid response capacity and are able to move people and goods more quickly than other entities. Military airlift can be used to quickly and efficiently repatriate citizens from abroad and quarantine them in domestic facilities. This can be done at scale and into high-risk areas. Militaries can provide road, sea and airlift transportation and can support the urgent movement of medical stores. Militaries transportation capabilities may gap fill when civilian capabilities may be unavailable to conduct critical flights including the repatriation of citizens.	Militaries may experience diminished readiness and a disruption in training schedules, resulting in re-prioritisation of critical tasks outside of the public health emergency response. There may be a lack of civilian understanding of size and capacity of military transport assets, including military decision making on prioritisation and distribution.	Military airlift and other transportation capability assets may have comparative advantage for the transport of both goods and personnel compared to civilian alternatives in high-risk areas or when movement needs to occur at scale. Military decision-makers should have a transition plan once the response no longer needs military involvement.
Facility construction	Military engineers are able to construct testing sites, vaccination sites, field hospitals, or specialised treatment centres, convert hotels and college dormitories into medical facilities, and provide medical engineering assessments.	Military engineers are a readily available workforce that can be tasked with designing and building health facilities more rapidly than civilian contractors, especially early in a public health emergency.	Militaries may lack public health expertise to ensure they configure field hospitals to provide isolation for infectious diseases. There may not be sufficient medical personnel in the civilian sector to staff health facilities built by the military and provide patient care.	Military engineers can support civilian teams to construct field hospitals relatively quickly, especially when existing health facilities are overwhelmed during a public health emergency. Planning considerations should include specific needs of the patients the facility will be used to treat and the ability for public health professionals to staff these facilities.
Use of fixed Defence infrastructure	Military bases may be used to accommodate public health emergency requirements, including quarantine and isolation.	Militaries may need to provide quarantine to military populations.	Civilian access of military infrastructure during public health emergencies may put military personnel at risk for disease transmission and may undermine security classification requirements.	Military infrastructure, such as bases, should not be accessed by civilians during a public health emergency, though can be adapted for quarantine and isolation of military personnel.

Logistics and Op. Support — continued

Activity	Plausible Military Involvement in Response Activity	Considerations for Civil-Military Interaction		Good Practice including guiding principles/existing relevant guidelines (source of good practice + international practice or domestic practice)
		Pros (Potential utility / value / advantages)	Cons (Potential risks / drawbacks / disadvantages)	
Rapid Contracting Capabilities	Militaries may be able to provide rapid contracting capabilities with industry and the private sector (e.g. workforce, equipment, infrastructure, light construction resources).	Rapid contracting of private sector capabilities can support a wide range of activities during a response, and can be used to support the economy. Militaries may have experience and readily established organisational processes, MOUs and agreements that enable rapid procurement and contracting of civilian industry capabilities. Procurement in the private sector may involve lengthy processes that are not adaptable or responsive to public health threats. Rapid contracting enables accelerated timelines to obtain goods and services, and can provide greater flexibility to meet public health response requirements.	There is a need to understand civil and military procurement and contracting capabilities prior to contracting. This is especially critical where rapid contracting capabilities exist at the national/ federal level. Industry options may not be consistent, compatible to the public health response requirements or be available at the scale necessary. Authority mechanisms are slow and burdensome. They can be further impacted by financial processing limits and systems, and the absence of cooperative agreements.	Consultation with medical subject matter experts and public health response professional is recommended to determine specific rapid contracting requirements. The implementation of pre-approvals and authorities can streamline procurement processes. Military contracting arrangements can be used as indirect assistance to the public health emergency response and can leverage pre-established procurement and contracting processes, MOUs and cooperative agreements for rapid sourcing of goods and services.
Food packaging and distribution	Military personnel may conduct food packaging and/or distribution, including food delivery for local populations and providing food and water to those in lockdown or enforced quarantine and isolation.	Militaries can provide personnel and transportation for rapid distribution of resources due to their military-style chain of command and organisational ability to deploy quickly. Familiarity with the host nation may expedite distribution. Militaries offers access to a culturally and linguistically diverse work force that can be tailored to meet community needs.	Uniformed military members conducting direct food distribution can cause distress and hesitancy in accepting supplies in communities where militaries do not have social licence. Militaries may not understand local customs, contexts or requirements when distributing food, resulting in vulnerable populations not having access to food supplies.	Militaries should seek understanding of their perception and level of acceptance within local communities to determine suitable roles within food distribution. Military should provide indirect assistance by delivering food supply provisions to community-accepted personnel to distribute appropriately.

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