

Defence organizations in emergency networks: the early response to COVID-19 in Europe

Elvira Kaneberg

Department of Business Administration, Jönköping University, Jönköping, Sweden and HUMLOG Institute, Hanken School of Economics, Helsinki, Finland

Wojciech D. Piotrowicz

HUMLOG Institute, Hanken School of Economics, Helsinki, Finland

Jana Abikova

Prague University of Economics and Business, Prague, Czech Republic and HUMLOG Institute, Hanken School of Economics, Helsinki, Finland

Tore Listou

Royal Norwegian Naval Academy, Norwegian Defence University College, Oslo, Norway

Sarah Aline Schiffling

HUMLOG Institute, Hanken School of Economics, Helsinki, Finland

Claudia Paciarotti

Dipartimento di Ingegneria Industriale e Scienze Matematiche, Università Politecnica delle Marche, Ancona, Italy, and

Diego Vega and Kristjana Adalgeirsdottir

HUMLOG Institute, Hanken School of Economics, Helsinki, Finland

Abstract

Purpose – The purpose of this study is to analyse the crisis network response of European countries and the role played by defence organizations (DOs) during the early response phase of the pandemic, here set to encompass 75 days.

Design/methodology/approach – Published materials – reports, news and communications – provided by authorities and DOs were used. Some of the authors actively participated in national pandemic response networks. An exploratory approach and qualitative content analysis were applied. The data were collected in national languages from 13 European countries, and they were coded and analysed using the actors, resources and activities (ARA) framework.

Findings – This study identified three main categories of activity structures in which the DOs interacted with civilian members of response networks, health-related services, logistics services and public support services. These networks among actors were found within formal response systems and emergent networks. The DOs engaged as actors that provided a range of services when civil authorities could not cope with the huge demand for specific services and when resources were scarce in the initial response phase.

Originality/value – This study contributes by filling an important research gap with regard to the civil-military relations associated with the use of DO resources in the civil response to the pandemic crisis in Europe, which is described as an untraditional response. The ARA network approach provides a framework for arranging ARA and extends the wider civil-military network to expand the formal networks of the early crisis response. The study lays knowledge about the co-operation between civilian and military actors in different contexts and provides a broader understanding of the roles that DOs played in the response operations.

Keywords Early emergency response, Defence organizations, Civil-military collaboration, Complex emergencies, Slow-onset disasters, Network, COVID-19 pandemic

Paper type Research paper

1. Introduction

This study is based on experiences in the initial response to the SARS-CoV-2 virus (COVID-19), which hit Europe by the end

The current issue and full text archive of this journal is available on Emerald Insight at: <https://www.emerald.com/insight/2042-6747.htm>



Journal of Humanitarian Logistics and Supply Chain Management
13/1 (2023) 91–105
Emerald Publishing Limited [ISSN 2042-6747]
[DOI 10.1108/JHLSCM-11-2021-0114]

© Elvira Kaneberg, Wojciech D. Piotrowicz, Jana Abikova, Tore Listou, Sarah Aline Schiffling, Claudia Paciarotti, Diego Vega and Kristjana Adalgeirsdottir. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial & non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

This work was supported by the Academy of Finland, under grant decision number 322188, for the project “Cash and/or carry: The challenges and modalities of delivering aid in conflict zones.”

Received 6 November 2021
Revised 14 June 2022
19 October 2022
Accepted 23 November 2022

of February 2020. At that time, there were no fully working structures or functioning vaccines that could stop the illness. The world faced a contagious virus with only limited (medical) means of prevention. With extended border controls and restrictions to reduce the spread of the virus between countries, logistical resources, services and human relations became constrained.

Developed countries, such as most of those in Europe, have formal systems for societal security (Kaneberg et al., 2016). Such systems are designed to draw on national resources when major crises or disasters occur. Although the risk of a pandemic is described in most countries' emergency response plans, in the case of COVID-19, the magnitude of the need for the response was beyond what any European country had tested in modern times. In addition to the strain on health-care resources, other vital parts of civil society were affected due to the lockdown of imports/exports, production systems, infrastructures and services.

In civil societies (Kaldor, 2013), national response networks include defence organizations (DOs) that play an important role in supplementing societal capacity. Such DOs include those that can counter a variety of safety and security threats; handle short assignment cycles; provide transport for rapid response; and advance logistics capabilities that are essential in responding to large emergencies, especially when security is also an issue (Bollen, 2002; Rietjens et al., 2007). In response to the COVID-19 pandemic, DOs in most European countries participated in the initial response, not only by providing logistics resources, command and control but also by performing many different activities, and they thereby became integral parts of national response networks in the initial phase of the pandemic across Europe.

This context differs from the involvement of DOs in classic humanitarian responses to events such as natural disasters or acts of war, which are the focus of the extant literature (Bell et al., 2019; Hall and Deinla, 2021). However, with COVID-19, the crisis affected the entire world (albeit to different degrees at different times) and thus impacted all supply chains and any potential external assistance simultaneously. Countries thus drew upon their various resources and DOs, along with private, public and third-sector organizations, became part of an elaborate national response network.

This study is concerned with understanding how DOs participate in national response networks and how national preparedness and response networks evolve during crises. DO assistance in major crises has been discussed extensively in the literature on humanitarian logistics (Kaneberg, 2017; Auerbach et al., 2010; Madiwale and Virk, 2011). Humanitarian operations often take place in failed or fragile states that become overwhelmed by events that render them unable to respond properly and in need of assistance from members of the international community such as the United Nations (UN), international organizations (IOs) and non-governmental organizations (NGOs). To protect their integrity, the humanitarian space is invaluable for some of these humanitarian organizations (Tomasini and Van Wassenhove, 2004). The literature frequently highlights the challenges and opportunities involved in integrating military assets in humanitarian crises (Heaslip, 2011; Rietjens et al., 2007; Harris and Dombrowski, 2002). Less attention is given to the co-ordination between DOs and civil society in responding to national, unarmed crises in developed countries, which corresponds to one of the

remaining gaps in the humanitarian research, as the humanitarian space has been perceived as being of less importance. To date, the literature has not addressed the COVID-19 pandemic in Europe as a disaster as it has in failed or fragile states. In Europe, the pandemic prompted organized responses from strong, legitimate governments. The early response was initiated and authorized by states, which remained in command throughout all the operations.

The DOs in developed countries are considered to be part of the state system, and their participation occurred due to governmental initiatives as an integral part of the national crisis response (Kaneberg et al., 2016). This permitted the planning and co-ordination of the national response to take place within the state and within the legal limits of government; it also meant that the DOs were not providing protection against an armed opponent at the border but rather reinforced civilian efforts to cope with the spreading pandemic. Different from the response networks examined in humanitarian crises associated with the support of fragile and failed states, the national response networks in Europe were not initiated by current IOs or NGOs but by the state. Studying the DOs in European response networks could extend the knowledge about the co-operation between civilian and military actors in different contexts and provide a broader understanding of the roles that DOs can and should play in different types of crisis response operations.

During the COVID-19 pandemic, each nation had to strike a balance between shutting down society and keeping necessary activities running. Since the European countries required multiple responses, they prescribed response plans, scaled up plans and developed *ad hoc* relationships. By scaling up and initiating new forms of co-operation, a myriad of actors, public and private, as well as civil and military, were added to the response systems, making the response system far more complex. For example, large-scale cross-sectoral co-operation resulted in new and untested response networks, which, in turn, created different emergency response systems and different approaches to societal security in European countries. Different means of mobilizing and using resources supported by the DOs were most prominent in the early response phase, a view previously suggested by Pettit and Beresford (2005). However, as the national health authorities gained knowledge about the disease and the civilian response capability increased, the need for support from the DOs decreased. To describe the DOs' participation in the early response, this study delimits the first 75 days from the first confirmed case of COVID-19 in each country. The purpose of this study is to analyse the networks of crisis response of European countries and the role played by DOs during the early response phase of the pandemic, here set to encompass 75 days. Thus, we formulate the following research question (RQ):

RQ1. Which response networks were activated and established in the early response to the COVID-19 pandemic in Europe?

The paper is structured as follows. Section 2 outlines theoretical approach to the study. In Section 3, we explain methodological approach and the selection of the theoretical framework for analysis. Section 4 presents the findings, which are discussed in Section 5. Finally, Section 6 presents the conclusions, implications and avenues for future research as well as the study's limitations.

2. Theoretical background

2.1 The pandemic as a slow-onset disaster

Pandemics and epidemics are categorized as slow-onset disasters (Adamo, 2011; Yamori and Goltz, 2021) due to the time it takes for them to develop. In addition to epidemics, other examples of slow-onset disasters include famines, droughts (Yamori and Goltz, 2021), sea-level rise, desertification and salinization (Human Rights Council, 2018). Such disasters often receive sporadic media attention (Yamori and Goltz, 2021) compared to sudden-onset disasters. One characteristic of slow-onset disasters is that they are often invisible to authorities and local populations before they grow into a full-blown crisis. As a result, affected people are ill-prepared when responding (Glantz, 1999). Therefore, Nguyen-Trung *et al.* (2020, p. 3) remind us that “less awareness of the crisis could impinge on responses or reaction and could extend to recovery in the post-disaster context” and that “it is believed that more visible impacts could lead to stronger reactions from affected communities” as well as other actors. The Ebola epidemic and the COVID-19 pandemic are good examples of this phenomenon.

According to Coppola (2015, p. 33), “disasters occur when a hazard risk is realized” and “to be considered disastrous, the realized hazard must overwhelm the response capability of a community”. If a slow-onset disaster is not managed properly, it may trigger a complex emergency, especially when the affected area is prone to other hazards. The term emergency is often related to urgency and is used in cases of unforeseen disasters and threats. According to Keen (2008), complex emergencies could involve a combination of armed and civil tensions, widespread damage to society and the economy, food shortages and often armed groups and/or government policies that contribute to insecurity, resulting in a need for large-scale humanitarian assistance. The Inter-Agency Standing Committee (IASC) defines complex emergencies as “a humanitarian crisis in a country, region or society where there is a total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the mandate or capacity of any single and/or ongoing UN country program” (IASC, 1994).

Although the term *complex emergency* may be used when the world faces pandemics and/or epidemics, for example, the Spanish flu between 1918 and 1919, which killed an estimated 25–50 million people, the swine flu between 2009 and 2010 (Coppola, 2015) and the Ebola epidemics in West Africa between 2014 and 2016 (CDC, 2019), not every pandemic qualifies as a complex emergency. Additionally, crises play out differently in different parts of the world. Our focus is on European countries. As in the rest of the world, the pandemic had a major impact on societies and resulted in complex national responses. However, neither of the countries covered in our study experienced a humanitarian crisis or a breakdown of authority. Hence, although the pandemic could add to the complexity of emergencies in other parts of the world, we will not define the pandemic in Europe as a complex emergency. By clarifying our research context through this distinction, we intend to identify context-independent factors that can improve our understanding of how societies react to major disasters.

2.2 Civil-military interaction in humanitarian operations

DOs have a long history of assisting in epidemics and pandemics. For example, when the plague hit Bari (Italy) in the 17th century, military efforts and related expenditures were motivated by urban programmes that sought to save people’s lives (Koch, 2014). When responding to the dengue epidemic in Brazil in 2008, the military quickly set up military field hospitals to ease the shortage of hospital beds (Coppola, 2015). In the Ebola pandemic in West Africa, military troops were deployed to close internal roads in Sierra Leone (Koch, 2015). Arie (2014) even stated that “only the military can get the Ebola epidemic under control”. US defence forces responded to that crisis by sending personnel and equipment to Liberia in 2014. However, significant delays occurred due to the slow arrival of both equipment and skilled personnel. The whole response came “far too slowly to have contributed directly to the management of the rapidly attenuating disaster” (Nevin and Anderson, 2016, p. 52).

Many humanitarian actors find themselves increasingly inhabiting spaces with a strong DO presence (Abiew, 2012). This is the case for both national DOs within a crisis-affected country (Madiwale and Virk, 2011) and international DOs intervening in foreign nations (Auerbach *et al.*, 2010). DOs are often no longer limited to the role of providing logistics support as originally described under the Oslo guidelines, but they are increasingly engaged in direct humanitarian action (Thiessen, 2011; Hall and Deinla, 2021). DOs, in many crisis responses, provide services that are identical or very similar to those of humanitarian organizations, and such services can be integrated into broader strategic objectives (Bell *et al.*, 2019; Egnell, 2013). Humanitarian actions by DOs can be used to engage influential civilians (Ankersen, 2013) and to win over the civilian population and garner their support (Hall and Deinla, 2021) in direct contravention of traditional humanitarian principles. This dissolution of boundaries has been perceived critically as it may make humanitarian organizations targets for attacks (Hall and Deinla, 2021) and could lead to inefficiencies (Thiessen, 2011).

The classic role of a DO is to secure humanitarian corridors (Harris and Dombrowski, 2002) and to provide a secure environment for humanitarian operations (Bell *et al.*, 2019). However, DOs also provide expertise, equipment and surge capacity for tasks as diverse as constructing hospitals, delivering supplies, establishing transport links and building refugee camps (Heaslip and Barber, 2016). This necessitates a nuanced approach, with military involvement being considered a much larger issue, with the potential to jeopardize humanitarian operations in areas embroiled in conflict, while relatively peaceful areas are more tolerant (Madiwale and Virk, 2011). As the role played by DOs expands to incorporate a wider scope of activities, a range of civil-military interactions can be initiated, from mere coexistence to full collaboration in crisis operations (Cook and Yogendran, 2020).

The tensions over humanitarian space between humanitarian organizations and DOs are not a major concern in the context of this study. In European countries, both civil and military responses in the initial phase of the COVID-19 pandemic occurred under the auspices of the relevant national governments. Thus, the focus was on collaboration and co-

operation as part of a national crisis response. The study, therefore, explores interactions in the initial response phase to a crisis where concern about the potential violation of the humanitarian space was not the defining element. Rather, it was a case where DOs were regarded as integral parts of government-led response networks in the face of a crisis that affected all aspects of society globally.

2.3 National response systems and the dual co-ordination challenges of defence organizations

When DOs become involved in a civil emergency response, their tasks differ markedly from their armed assignments. Greet (2008) claims that DOs take on a range of roles to participate in different types of operations. Such roles include domestic humanitarian operations; humanitarian operations abroad; and humanitarian operations in failed states; with tasks that include services in co-ordination with civil actors; the provision of accommodations; reconstruction; and the delivery of critical supplies, logistics and medical interventions.

The primary task of DOs is the safety and security of their country (Kaldor, 2013). During societal crises, this role can present dual co-ordination challenges (Listou, 2019). Firstly, since defence logistics largely rely on civilian commercial suppliers, there is a vertical co-ordination challenge in designing and managing supply chains that include both commercial suppliers and military units (Ekström, 2012; Listou, 2019). Resources located outside of the defence hierarchy must be governed in ways other than military command and control. Therefore, DOs should be regarded as customers of logistics support, with civilian (commercial) actors as suppliers. Secondly, there is a horizontal co-ordination challenge related to the cross-sectoral support of DOs within the state. In this horizontal dimension, DOs play the role of providers of logistical support to society, as suggested by van Wassenhove (2006), Heaslip (2011), Kaneberg (2017) and Listou (2019).

Although DOs possess military-specific assets that are difficult, if not impossible, to replicate, they also have resources that are of value for civil society. This encompasses tangible resources such as transportation capacity, construction equipment, medical supplies and communication means, as well as intangible resources such as their command-and-control structure, traffic control skills and medical competence. Rietjens et al. (2007) and Bollen (2002) claim that the military has the capability to benefit society because DOs can add extra capacity and create flexibility. For example, personal protective equipment (PPE) can be owned by suppliers or by national emergency agencies but distributed by the military. Thus, DOs act as suppliers or intermediaries in supply chains. The tighter the integration between DOs and their suppliers, the higher the value of these relationships will be for the DO. However, such integration might reduce the availability of these resources for society during complex emergencies (Listou, 2019), particularly if commercial actors hold stock on behalf of the military.

2.4 Displaying response structures as networks

The pandemic responses include a myriad of actors, both public and private. Different actors contribute using their resources to perform activities and chains of activities to reduce the consequences of the disease. There are different approaches to the study of network structures, such as social network

analysis, which was proposed by Carter et al. (2007) for mapping the role of the individual in supply chains. Steen (2010) describes actor-network theory as a tool for understanding the resource dimension in business strategy, and Ford et al. (2008) apply the industrial network approach (INA) to study inter-organizational networks. In this research, we choose to build on the INA because its systematic structure is suitable for analysing networks at both the individual and inter-organizational levels.

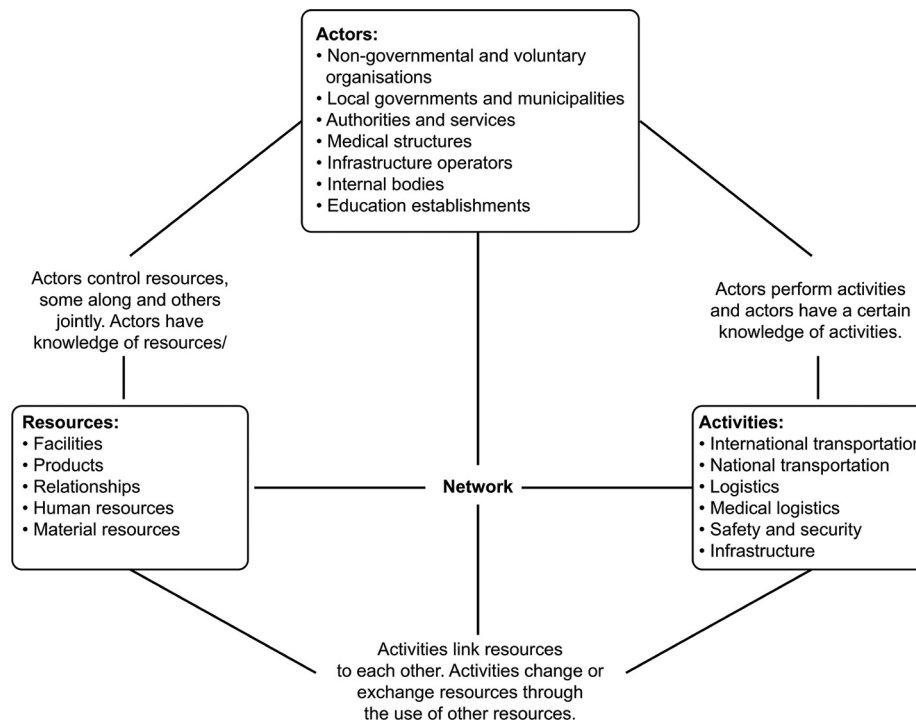
Within the INA, networks consist of actors, resources and activities (the ARA model); see Figure 1. *Actors* can be individuals, groups, organizations or firms that perform activities and control resources (Håkansson and Snehota, 1995). Actors are goal-directed, transforming their goals into specific intentions (Lenney and Easton, 2009). *Resources* are categorized as tangible and intangible (Lenney and Easton, 2009). Tangible resources include production units and products, while intangible resources include business units and business relationships (Gadde and Snehota, 2000). *Activities* occur when one or several actors combine, develop, exchange or create resources (Håkansson and Snehota, 1995).

Inter-relationships are formed among these three layers of ARA in the form of activity links, resource ties and actor bonds (Håkansson and Snehota, 1995). *Links* relate to how the activity structures of two or more units connect as a means of co-ordination by mutually adapting these activities, which in some cases, are further developed into activity chains and patterns. *Ties* refer to how different resource elements are connected such that resources are exchanged, transferred, accessed or reciprocally used. Finally, *bonds* concern the different factors that connect actors, help them build each other's identity and develop trust and commitment. Koporcic (2017) reminds us that these layers are all interlinked and mutually affect each other. Actors have the potential to benefit by sharing resources and activities with other actors (Håkansson and Waluszewski, 2003). Aspects such as trust, mutual understanding, learning and a co-operative atmosphere (Abrahamsen and Håkansson, 2016, p. 199), as well as a shared understanding of resource usage and the activities to be performed (Abrahamsen et al., 2011), are crucial for this co-operation.

The study emphasizes the networks of crisis response of European countries and the role played by DOs during the early response phase of the COVID-19 pandemic, here set to encompass 75 days. The roles and positions occupied by the DOs in the early phase of the pandemic response thus need to be understood based on the activities they performed, the resources they brought in, and their relationships with other public services, private actors and voluntary actors.

3. Research method

This study is exploratory and considers facts and lessons heretofore unaddressed in the literature for the purpose of theoretical analysis. This paper focuses on civil-military interactions as DOs became integral parts of national response networks in the initial phase of the COVID-19 pandemic across Europe. The scale of the response to the pandemic is not comparable to any earlier military involvement in European national emergency management systems in decades and differs from typical DO involvement in responding to crises such as natural disasters and acts of war, which tend to occur in fragile or

Figure 1 Network model for COVID-19 (adapted from Håkansson, 1995)

failed states. Furthermore, the extent of the global crisis and its effects on supply chains and global support mechanisms make this context unique.

We define our embedded units of analysis as national emergency response networks that include DOs. We collected and analysed data about national efforts to cope with the pandemic from 13 European countries. These data consisted of publicly available information about what measures were undertaken, with a specific focus on information related to DO participation. The data sources were governmental websites, the Web pages of NGOs, newspapers, TV and radio broadcasts. The data collection was performed by the eight co-authors of this study and included the reading of public announcements, bulletins, press releases and newspaper updates. The data were gathered in the local language by native speakers or bilingual researchers (e.g. Spanish, French, Italian, Czech, Polish, Swedish, Norwegian and Portuguese); transcribed; and translated into English. Where a language was spoken by multiple researchers, consistency and accuracy were checked to ensure coherence across the research team. We also collected materials on the emergency response systems of the countries covered by this study. These materials were taken from open official documentation (e.g. policy documents, emergency plans); Web pages (e.g. from military and governmental institutions); and local news and social media.

3.1 Data analysis

The data were organized by observation period, dating from the first reported cases of infection, the actors involved in the initial response and the requested military support in each of the 13

countries (as shown in Table 1). In some cases, the dates when resources were used are indicative, i.e. in some instances, the decision to use military capabilities was made on one day, while the actual use occurred later; or, in other cases, resources were ready for use, but there was no need to deploy them.

Our data analysis builds on coding and the search for common themes and categories. The coding was performed by several members of the research team. Our study is grounded in the notion of civilian networks and military assets being used in national emergency responses. Some of these networks existed before the outbreak, and some came into being during the early response phase.

The ARA model served as a tool to code the elements of our analysis addressing categories of ARA and their activity links, resource ties and actor bonds, as outlined, e.g. by Håkansson and Snehota (1995). The data analysis was carried out by coding the data, following the recommendations of Corbin and Strauss (2008) and Saldana (2013), whereby first-level codes were based on the extant literature, with further codes developing during the data analysis. The elements of ARA served as first-level codes in the data analysis (i.e. as activities, actors or resources). Then, second-level codes were established based on the content of the data. For example, actors were categorized as NGOs and the voluntary sector, governmental authorities, medical structures, infrastructure operators, international bodies and educational establishments. Within a third level, “individual actors” were coded, and international bodies were broken down into foreign governments, North Atlantic Treaty Organization (NATO), World Health Organization (WHO) and United Nations Office for the

Table 1 Summary and examples of data collection

European countries and the observation period	Sources from, for example, organizations responding to the initial response to the COVID-19 pandemic in each country – (websites and official documents)	Examples of tasks requested from the military for civil authority activities
Czech Republic (CZ) 01.03–14.05	Government offices (mostly the Ministry of Health and Ministry of Interior), central crisis staff, public health offices, integrated rescue system (IRS) and military forces	Supporting function related to co-ordination; the provision of knowledge and skills
Denmark (DK) 28.2–13.5	Danish Ministry of Health, Danish Health Authority under the Ministry of Health and the Ministry of Foreign Affairs assisted with COVID-19-related home travel; Danish armed forces	Answering questions from citizens in the national COVID-19 call centre and patient transport
Finland (FI) 29.1–11.4	Finnish Ministry of Social Affairs and Health, Finnish Institute for Health and Welfare and Ministry of Social Affairs and Health worked with the World Health Organization and European Centre for Disease Prevention and Control; the Ministry of Foreign Affairs, municipalities and the Finnish defence forces	The military helped enforce restrictions on movement, border traffic control and investigation of the possibility of massive respiratory (masks) cleaning
France (FR) 24.01–07.04	Ministry of Solidarity and Health, Ministry of the Armed Forces, General Directorate of Armaments, Defence Innovation Agency, Public Health France, regional health agencies, French armed forces (air, sea and land), Army Health Service, Army Training Hospital and health support units	The armed forces were involved in the repatriation of French and European nationals from Wuhan; transportation, co-ordination and disinfection
Germany (DE) 27.01–11.04	German federal government, health departments, foreign offices, Federal Ministry of Health, Federal Ministry of the Interior, Federal Ministry for the Economy and Energy and military forces	Security and protection; support for people; transport and police support (military police); disinfection, transport and warehousing (logistics and trucks)
Italy (IT) 30.01–13.04	Civil Protection Operational Committee, Civil Protection Technical and Scientific Committee, Ministry of Health, Ministry of Foreign Affairs and International Co-operation, Higher Institute of Health (ISS), interventions of the Fire Brigade team and armed forces involved in the National Service of Civil Protection	The armed forces were asked to support the Ministry of Foreign Affairs and International Co-operation with providing support for the repatriation of Italian citizens from Wuhan and to support national health care
Norway (NO) 28.02–15.05	As regulated through the Norwegian total defence concept, the Norwegian Directorate for Civil Protection under the Ministry of Justice and Public Security, which had a co-ordinating role in the work on civil protection and emergency preparedness	Reinforcing ordinary border police forces; liaising between hospitals and force headquarters; supplier of tents; security and safety
Poland (PL) 04.03–15–	Ministry of Health, hospitals (managed by cities and provinces), local governments, border guards, NGOs, church organizations, social support institutions, food banks, scouting organizations, police, sanitary control and local governments	Transporting, loading, unloading and preparing goods for shipment and consolidation; patrolling, manning checkpoints, providing food and water to drivers stranded during control and collecting travel documents
Portugal (PT) 26.02–10.05	National Health System, Ministry of Defence, the armed forces, Military Laboratory and national defence, among other governmental institutions	Military facilities, other potentially useful resources, staffing marine troops, nurses, doctors and volunteers; medical and hygiene supplies, transportation, ambulances and aeroplanes
Slovakia (SK) 06.03–19.05	Government of the Slovak Republic, Security Council of the Slovak Republic, ministries and other central state administration bodies, National Bank of SK, Regional Security Council, district offices, Security Council and municipalities	The army helped with an information campaign and border controls; staff and administration; supporting Slovak police; medical logistics and transportation functions
Spain (ES) 31.01–14.04	Directorate General of Civil Protection and Emergencies, Ministry of Defence, Spanish army and Military Emergency Unit	Information and communication; logistical capabilities, leadership of personnel services and mobilization of equipment
Sweden (SE) 31.01–15.04	Public Health Agency, Ministry for Foreign Affairs, National Board of Health and Welfare, Swedish Contingencies Agency, Swedish armed forces supporting civil protection, regions for scaling up and local health centres	Support in taking care of Swedish citizens and embassy staff from other countries, helicopters with civilian intensive care equipment, expertise in a molecular biology laboratory, medical materials and staff
United Kingdom (UK) 31.01–15.04	Cabinet Office, Ministry of Health, Ministry of Defence, National Health Service (NHS), Foreign Office, UK government, foreign governments and police forces	Medical airlift, air transport of supplies, PPE distribution, supply planning, procurement and air transport

Coordination of Humanitarian Affairs (OCHA). This approach was also applied for coded “activities” and allowed for comparison within and across nations; even when actors were named differently, coded “activities” were used to obtain different descriptions.

3.2 Trustworthiness

In qualitative studies, research reliability is usually expressed as confirmability and dependability. Dependability is obtained using an auditing approach with high importance placed on keeping complete records of the research process (Guba, 1981; Lincoln and Guba, 1985; Lincoln and Guba, 1986). Dependability was achieved here by maintaining a shared database among the researchers that contained all data and notes documenting the data analysis processes, thereby allowing any future researchers to repeat the analytical procedures (Stuart et al., 2002). As coding is a decision-making process (Elliott, 2018), the research team discussed the decisions made frequently during the data analysis phase.

Confirmability involves ensuring that the researchers have acted in good faith and have not overtly allowed personal bias to sway the conduct of the research and reporting of the findings (Guba, 1981; Lincoln and Guba, 1985; Lincoln and Guba, 1986). In this study, a clear chain of evidence was established, and the data analysis was extensively documented to increase transparency (Ellram, 1996). The close co-operation of the research team during the research process exposed the decisions made by each researcher to immediate scrutiny and helped minimize any existing biases.

Transferability refers to external validity (Guba, 1981; Lincoln and Guba, 1985; Lincoln and Guba, 1986), which is concerned with “the domain to which a study’s findings or presumed causal relationships may be generalized” (Stuart et al., 2002, p. 430). Generalization is not the aim of this study, as it strives to explore a context of some novelty compared to pre-existing knowledge about civil-military interactions in response networks. Following Lincoln and Guba, the approach taken here is to focus on the contextual uniqueness of the national response networks under investigation but with the aim of obtaining a detailed account that can enable researchers to make an informed judgement about the possible transferability of the findings. This is achieved here through an extensive and detailed findings section that expresses the richness of the primary data and a detailed understanding of the national response networks through the lens of ARA.

Credibility is measured by internal validity in the evaluation of quantitative research (Guba, 1981; Lincoln and Guba, 1985; Lincoln and Guba, 1986) and was achieved through validation by seeking corroboration of the findings through feedback from those involved in the response networks. In addition to data collection, some members of the research team simultaneously participated in the pandemic response as affiliates of NGOs or military organizations in various European nations, which increased our understanding of the different response conditions within Europe. Their insights as experts on the ground served as an essential sense-check to ensure accurate comprehension, for example, of military terminology or of the complex links between various actors.

3.3 Limitations

Our methodological approach has limitations. *Firstly*, by relying on secondary data, we do not obtain deep knowledge about decision-making processes and assessments of the different

measures undertaken. *Secondly*, our timeframe of 75 days from the first confirmed case of COVID-19 in each country restricts us from investigating the path dependencies of the response networks, just as it restricts us from understanding how the outcomes of these networks influenced response measures taken after this initial phase. *Thirdly*, given the data sources available to us, we could not access the details of the responses in each country. To capture the initial response in all countries, there was a need for a more generic overview instead of an in-depth country-by-country analysis. Linking early research on civil-military co-ordination was essential for identifying nationwide differences in the use of DOs as part of the national response networks. *Fourthly*, we used the ARA network approach to categorize our findings; however, the ARA frame did not help provide in-depth knowledge about the adaptation processes in the dynamic networks created, as our study represents only a snapshot of the national response networks in the early response. Instead, the ARA frame in this study was used to identify actors, activities and resources and to show how DOs in diverse roles could provide defence resources ad hoc in the initial response, how resources from different actors were combined and how activity structures evolved.

4. Findings

This study analysed the crisis network responses of European countries and the role played by DOs during the early response phase of the pandemic, here covering 75 days, using network structures and the ARA model (Håkansson and Snehota, 1995) as a framework. To address these evolving relationships, the ARA model was applied as an analytical tool to identify and understand the response networks that appeared, the actors involved, their interactions, the resources employed and the activities performed within these networks. This approach provided examples from the field and facilitated discussion regarding the implications of the DOs’ role in supporting European countries’ initial response to COVID-19 through an exploratory study. It emerged that the dynamic adaptation of the emergency response systems was a prominent factor; thus, we formulated the following RQ:

RQ2. Which response networks were activated and established in the early response to the COVID-19 pandemic in Europe?

Table 2 involved both planned and *ad hoc* networks that were activated during the first 75 days of the pandemic that comprised a wide variety of actors employed at different times. Following the process explained above, we identified six types of actors. At a national level, they include the following:

- 1 *Non-governmental and voluntary organizations* (Caritas, the Red Cross, scouting organizations, combatants’ leagues, voluntary fire rescue services and voluntary DOs). These relate to the DOs on a voluntary basis, which means that their collaboration with the defence was also on voluntary basis, with exception of organisations that are members of the formal crisis response structure.
- 2 *Governmental authorities* (police, national emergency supply agencies, national agencies, fire and rescue services, national and communal civil protection authorities, DOs, local state and city institutions). These actors are part of the governmental sector. Their co-operation with the DOs is hence mandated through a formal bureaucratic structure.

Table 2 Classification of actors

Actor categories	Actors involved in the first 75 days of the pandemic response
NGOs and voluntary sector	NGOs – church organizations (e.g. Caritas), Red Cross, local associations, scouting organizations, combatants' leagues, voluntary fire rescue services, voluntary DOs, local state and city institutions and food banks
Governmental authorities	Police, national health systems, national agencies (e.g. Swedish Contingencies agency), prison hospitals, fire rescue services, civil protection authorities, national institutes and organizations (e.g., geospatial information centre and organizations governing air space), border protection services, epidemic/sanitary services and defence materiel administrations)
Medical structures	Civil hospitals and health centres, care homes, voluntary organizations and defence medical units
Infrastructure operators	Airports, railways, local centres (e.g. recycling centres), companies/industries manufacturing medical and PPE-related products
International bodies	Foreign governments, NATO, WHO and OCHA
Educational establishments	School establishments, institutes, universities, defence research agencies and medical universities

3 *Medical structures* (national health systems, civilian hospitals, health centres, food banks, care homes and prison hospitals). These entities provide public services that were reinforced by DO medical resources.

4 *Infrastructure operators* (airport authorities, railway authorities, waste management and production capacity). Infrastructure in Europe is a public responsibility, although it is often outsourced to commercial actors. During the pandemic, the operators assumed new and extended tasks, such as e.g. border control and the reception of infected citizens, which required assistance from DOs.

5 *International bodies* (NATO, WHO and EU).

6 *Research and educational establishments* (schools/institutes, universities, defence research agencies and medical schools).

Table 3 was also aimed at categorizing organizational actors and individual actors, including military planners and logisticians; military medical personnel; experts in crisis management, construction and epidemiology; laboratory

engineers; technicians; warehouse and forklift operators; and drivers. When exploring the activity structures, we identified seven aspects in each of the investigated countries in which DOs participated.

Table 4 in this study showed that in most of the countries, DOs actively participated in both national and international transportation. The exceptions included Finland (FI) and Norway (NO), in which we did not see any participation in international transport, and in Denmark (DK), where no military transport activities were reported. Regarding both national and international transportation, the Spanish DOs were the first to be used, already on the very first day of the response, by offering the repatriation of citizens abroad. Overall, the repatriation of citizens was among the first activities performed by the DOs (e.g. starting the sixth day in France [FR] and Germany [DE]). The transport of staff included military and civilian medical personnel (e.g. FR, Italy [IT] and NO) and logistics specialists (e.g. FR, DE and United Kingdom [UK]).

Table 3 Classification of activities involving DOs

Activity categories	Examples of activities in which DOs participated
International transportation	International transportation of citizens and staff from other countries (repatriation of citizens); international transportation of patients requiring special equipment; international transportation of goods; and international transportation of medical staff
National transportation	National transportation of patients requiring special equipment; national transportation of goods and medical/PPE equipment between regions; national transportation of citizens and medical staff
Logistics	Warehouse management, loading, consolidating and distributing medical supplies and PPE; administrative planning of repatriation of citizens; setting up/establishing field hospitals/temporary emergency hospitals; support of local vulnerable population (e.g. distribution of goods, grocery shopping, assistance to homeless people); knowledge sharing, answering questions from citizens and training activities; procurement support to authorities and hospitals; technical and organizational competencies; IT support; and operational support to health organizations
Medical logistics	Provision of military health facilities for the reception of patients (triage); provision of military health personnel for patient care at military and civilian facilities (support to the national health-care system); provision of military health personnel to support for care homes as operational support; and evacuation to hospitals; management support – evacuation and transportation of corpses; collaboration in the production of medical equipment; personnel support for testing people (drive-through tests and testing teams); arranging and managing testing points (drive-through); provision of psychological help and support; donating blood; information support to civil society; leadership support in the testing process; procurement support for the acquisition of medical equipment and medicines; liaison between the military and the healthcare system; liaison between the military and local authorities; and participating in the national crisis management system
Safety and security	Border control, airports; border control, roads and harbours; border control, protection of borders (border patrols); policing domestically, transport escorts; safety of production and/or storage sites
Infrastructures	Preparing air/seaports for the reception of patients; and increasing capacity at civilian hospitals
Special activities	Disinfection of public areas, disinfections of buildings and disinfection of transport equipment (ambulances)

Table 4 National and international transportation activities in the initial response to the pandemic by European country

International transportation	CZ	DE	DK	ES	FI	FR	IT	NO	PL	PT	SE	SK	UK
International transportation of citizens and staff from other countries (repatriation of citizens)	x	x		x		x	x		x	x	x	x	x
International transportation of patients requiring special equipment				x		x	x			x	x		x
International transportation of goods	x			x			x		x			x	x
International transportation of medical staff						x	x		x				x
National transportation													
National transportation of patients requiring special equipment		x		x		x	x		x		x		x
National transportation of goods and medical/PPE equipment between regions	x	x		x	x	x	x		x	x	x	x	x
National transportation of citizens and medical staff		x		x		x		x	x		x		

Table 5 was highlighted as crucial, and the DOs participated in many of these activities. Considering that the origins of the crisis were medical, we chose to distinguish these from other general logistics services.

Table 6 refer to DO participation in logistics activities as critical in general. With regard to medical logistics, the DOs were mainly involved in knowledge sharing, training activities, the establishment of field hospitals or temporary emergency hospitals and the provision of military health facilities and personnel. The DOs also assisted with some unexpected tasks, such as supporting care homes (including the evacuation of users), collaborating in the production of medical equipment, providing psychological help, aiding in the disinfection of public areas and transport equipment and obtaining blood donations. Whereas the DOs performed many different tasks in some countries (e.g. DE, PL and UK), their assistance was less required in others. The public reports on which our study is based did not report any DO involvement in general logistics tasks in FI and NO.

Table 7 shows that e.g. the Norwegian DOs significantly supported border control for roads, harbours and airports. In other countries, the DOs also assumed policing activities, such as domestic patrolling. This occurred in FI, where the DOs assisted with the isolation of the Uusimaa area in March and April 2020. In the Czech Republic (CZ), the DOs secured the internal borders in the areas of Litovel and Uničovsko in March 2020.

Resources: Our findings identified different types of facilities, including warehouses, factories, train stations, ports, airports and airbases, as well as the related handling of equipment and means of transportation (4 × 4 vehicles, trucks, planes, trains, military ambulances, helicopters and naval ships). Most of the products identified in the analysis are medical items (PPE, respirators, field hospitals, medical equipment, oxygen and medicines) but also non-medical items, such as hydroalcoholic gel, fuel, food, water, leaflets and manuals for sanitary guidelines.

4.1 Response networks

The pandemic response played out differently in each country. There are, however, many similarities in how resources were combined, which actors were involved and what activities were performed.

Regarding relationships, our analysis shows that several relationships evolved during the first days of the response. This quick alignment seems to have been motivated by the criticality of gaining access to medical, transportation, personnel and other resources.

Our data provide interesting examples in which co-operation with the DOs was intensified, especially by non-governmental, business and voluntary actors and educational establishments. The DOs reinforced the civil authorities' capacities with regard to specific services (ambulance, transport, logistics skills and

Table 5 DOs and general logistics activities during the initial response

Logistics	CZ	DE	DK	ES	FI	FR	IT	NO	PL	PT	SE	SK	UK
Warehousing, managing, loading, consolidation and distribution of medical supplies and PPE	x	x				x			x		x	x	x
Repatriation of citizens – administrative roles	x	x				x						x	x
The setting up/establishment of field hospitals/ temporary emergency hospitals	x	x				x	x		x		x		x
Disinfection of public areas and buildings				x			x		x			x	
Disinfection of transport equipment (ambulances)	x								x				
Support to the local vulnerable population (e.g. distribution of goods, grocery shopping, assistance to homeless people)		x		x			x		x		x	x	
Knowledge sharing, answering questions from citizens and training activities	x	x	x	x					x			x	
Technical and organizational competences		x				x				x			x
IT support		x							x				
Management and people with skills in logistics		x				x			x				x
Operational support to health organizations		x				x			x	x			x

Table 6 Medical logistics activities performed by DOs

<i>Medical logistics</i>	CZ	DE	DK	ES	FI	FR	IT	NO	PL	PT	SE	SK	UK
Provision of military health facilities for the reception of patients (triage)		X		X		X	X		X	X	X		X
Provision of military health personnel for patient care at military facilities		X				X	X		X				
Provision of military health personnel for patient care at civilian hospitals (support to national health-care system)	X	X			X	X	X		X	X	X		
Support for care homes – operational support	X			X					X				
Support for care homes – provision of military health personnel	X								X				
Support for care homes – evacuation to hospitals									X				
Management support – transportation of cadavers							X				X		X
Collaboration in the production of medical equipment		X			X		X		X	X			
Personnel support for testing people (drive-through tests and testing teams)	X	X					X		X	X	X	X	
Arranging and managing testing points (drive-through)		X							X		X		
Provision of psychological help and support	X	X							X			X	
Donating blood									X				
Information support to civil society		X	X	X					X		X		
Leadership support in the testing process		X							X			X	
Procurement support for acquiring medical equipment and medicines		X								X	X		X
Liaison between the military and the health-care system								X					
Liaison between the military and local authorities								X		X			
Participate in national crisis management system	X	X		X		X		X	X	X	X	X	X

Table 7 Activities for safety and security of countries performed by DOs

<i>Safety and security</i>	CZ	DE	DK	ES	FI	FR	IT	NO	PL	PT	SE	SK	UK
Border control, airports				X				X	X		X		
Border control, roads and harbours		X		X	X		X	X	X		X		
Border control and policing domestically	X				X		X	X				X	
Escort services						X				X			
Safety of production and/or storage sites						X				X			
<i>Infrastructure</i>													
Preparing air/seaports for the reception of patients						X	X	X	X	X			
Increasing capacity at civilian hospitals	X			X		X		X	X	X	X	X	

personnel) when resources were scarce in the initial response. On average, it took the DOs 12 days to become fully involved in the response, with some exceptions. For example, the Spanish DOs were involved from the very first day. Most of the DOs made their resources available for the national response operation in less than 20 days.

The actors' resources were tied together to provide access to and allow allocation of facilities and personnel. For example, temporary field hospitals (e.g. FR, DE, IT, Poland [PL], Spain [ES] and the UK) were deployed, including support services, transport modes, expert units, medical items, essential medical equipment, PPE, respirators, oxygen (e.g. DE, IT, PL) and operational support (e.g. ES, Sweden [SE]).

During the first 75 days, the DOs assisted in the repatriation of citizens by connecting transportation; administrative processing; triage; and care provision (e.g. FR, DE and PL) and preparing infrastructure (airports and ports) for the reception of patients

(e.g. IT and NO). As the situation progressed, the national response networks increasingly focused on logistics activities, such as connecting warehousing; handling; consolidation; and distribution activities with the national and international transportation of goods (e.g. CZ, PL and Slovakia [SK]) and, in some cases, the procurement and acquisition of medical equipment and medicines (e.g. DE and UK). Subsequently, the DOs' support of the response networks encompassed population-related activities, such as arranging and managing testing (e.g. DE, PL and SE); providing support to local populations (e.g. DE, PL and ES); operating information hotlines (e.g. DK); and supporting care homes (e.g. PL and ES).

The DOs co-operated with local governments and municipalities, authorities and services, medical institutions, local governments, NGOs, educational establishments and international bodies. The only exception was Sweden, which did not demonstrate any specific co-operation with international bodies related to the above-listed tasks.

In only five of the countries mapped in this study, the DOs co-operated with non-governmental and voluntary sectors. In DE, the DOs provided support to the local vulnerable population, distributed information, answered questions from the population, trained volunteers and participated in the production of medical equipment. In ES, the DOs assisted the voluntary sector in citizen repatriation, international transport of goods, national transport of patients, national transport of goods, disinfection of public areas, support to the local vulnerable population and information support to civil society. The DOs in IT were active in the international transport of goods, the international transport of medical staff, the disinfection of public areas, the provision of support to the local vulnerable population and the provision of personnel support for individual testing. In PL, co-operation involved the international transport of goods; the international transport of medical staff; the national transport of goods; warehousing; the disinfection of public areas and transport equipment; the provision of support to the local vulnerable population; the provision of IT support and operational support to health organizations; and the provision of personnel support for individual testing, information support for civil society and leadership support in the testing process. In contrast, in Portugal, the DOs helped with the international transport of patients, the provision of operational support to health organizations and personnel to civilian hospitals, the preparation of air/seaports for the reception of patients and increasing capacity at civilian hospitals.

The researchers identified activity links that connected logistics activities and services directed towards the population. Such links were established in close collaboration among local governments and municipalities, authorities, medical institutions and infrastructure operators.

Regarding co-operation with educational establishments, our findings revealed that the CZ, FI, PL and Portugal launched such co-operation. In FI, universities participated in testing the potential usage of massive respiratory cleaning protocols. A Portuguese university assisted with surveying citizens regarding their trust in institutions. In the CZ, students from the University of Defence answered calls from citizens concerning the quarantine. In PL, universities participated in tasks related to COVID testing and information sharing.

The researchers also found that in some countries, the DOs supported civil society in more untraditional ways. In the case of CZ and SK, the DOs sewed face masks. In SK, the DOs also supported the families of their members who were deployed abroad. The Portuguese DOs distributed food to homeless people, and the German DOs delivered food to stranded drivers. Finally, in five countries, the DOs were involved in providing psychological support. Of these, the DOs of PL, CZ and SK started early in the initial phase (days 14, 20 and 22, respectively), whereas PT and DE established such services on days 47 and 70, respectively.

5. Discussion

The initial 75 days of the response to the COVID-19 pandemic in Europe saw extensive civil-military interactions, with DOs forming integral parts of national response networks. Our study outlines several important characteristics of the networks that were activated and established in the early response to the

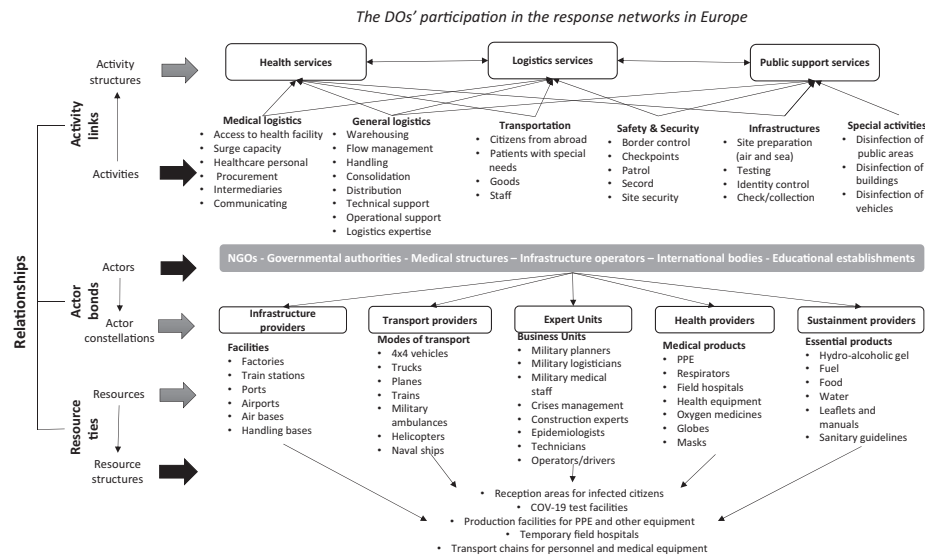
pandemic and the roles the DOs played in those networks. While the prior research on civil-military co-operation has mainly focused on humanitarian response when a host nation has been unable to provide adequate help to its population, this study considers DOs as actors in national emergency response networks (Kaldor, 2013; Listou, 2019; Kaneberg, 2017). A national response to a major crisis relies on the utilization of the resources of all actors, public, private and voluntary, as well as civilian and military (Kaneberg et al., 2021). By exploring all actors in the initial response to the COVID-19 pandemic, our study contributes to our understanding of such networks.

The contributions of this study are summarized in Figure 2, in which we outline three important challenges using the INA research method and the ARA model (Ford et al., 2008; Håkansson and Snehota, 1995; Lenney and Easton, 2009). The multilevel structures provided a tool to categorize and analyse relations. Interconnections among relationships between medical institutions, NGOs, military units, local governments, municipalities; international co-operators; and educational establishments were recognized at different levels, which were recognized as links (linking activities), bonds (connecting actors) and ties (combining resources). The analysis uncovered complex national response networks that were initiated by each state and consisted of public, private and voluntary actors. These network relationships were obtained to visualize the response networks during the initial response.

Based on our analysis, we identified three main categories of activity structures in which DOs interacted with the civilian members of the response networks. These are *health-related services*, *logistics services* and *public support services*. These activity structures evolved throughout the first phase of the pandemic. Some of the activities undertaken by DOs were related to safety and security, such as establishing checkpoints or providing site security. Such activities are in line with those commonly involved in humanitarian responses (Harris and Dombrowski, 2002; Bell et al., 2019). A major part of the activities was focused on logistics and transportation, including the movement of goods and people, as well as warehousing and materials handling. Given the nature of the response, medical logistics were particularly crucial, with DOs providing essential surge capacity, for example, in procuring supplies. This study showed that DOs provide services to society that are critical to protect people, skills, organizations and leadership (DE, PT and SK). DOs are skilled in securing environments, providing logistical support and co-ordinating activities, as well as engaging in command and control (Greet, 2008). In the initial response, DOs managed medical inventory and the procurement of medical items (DE, PT, SE and UK). DOs were also called upon to perform highly unusual special activities from disinfection to sewing face masks. This highlights both the importance of DOs in contributing to activities in their areas of expertise, as well as in providing a flexible workforce that can be used where needed, which is particularly useful in the early response phase as conditions and requirements change quickly.

The **actors** in the response networks came from all sectors. Based on our data, we find that actor bonds showed a variety of both existing and new relationships involving medical institutions, NGOs, military units, local governments, municipalities, international co-operators and educational establishments. The participation of DOs, e.g. through the acquisition of medical items

Figure 2 Response networks during the initial response



and through their skills and logistics, was necessary because supply chains and service industries were also impacted.

We classify these *actor bonds* as *infrastructure providers*, *transport providers*, *expert units*, *health providers* and *sustainment providers*. For example, public health organizations, military medical capacities and voluntary organizations participated in establishing and operating COVID-19 test facilities. These bonds formed complex relationships between actors within the formal response system and actors that participated on an *ad hoc* basis. DOs engaged as actors that provided different services from those offered by civil authorities, which could not cope with the huge demand for specific services, particularly when resources were scarce in the initial response phase.

In combining their tangible and intangible *resources* with those of other actors, DOs became instrumental in developing and maintaining major resource structures. In our research, we categorize these structures as *reception areas for infected citizens*, *COVID-19 test centres*, *PPE production facilities*, *temporary field hospitals* and *transport chains for personnel and medical equipment*. These were often high-visibility structures that were perceived as crucial during the early response. The wide range of resources the DOs provided made them indispensable. This included tangible resources, such as ambulances and planes, as well as intangible resources, such as the expertise of military planners. With the regular international movement of resources disrupted by lockdowns and border closures, reliance on what was available within a country was paramount, with the exception of some examples of international co-operation found in the data. The resources of DOs were called upon across the 13 countries in this study. While this included transport resources, which are frequently used in military-civil interactions in humanitarian responses, the nature of the early COVID-19 response necessitated the use of a much broader range of resources.

When DOs were requested to provide services to the general population, their support had an impact on the interplay of actors in already established networks. There were variations across the countries regarding the level at which DOs were already a part of

response networks. In many cases, the inclusion of DOs reshaped networks or entirely new response networks had to be established. Although DOs are frequently included in response networks for events such as flooding, the pandemic presented very different challenges, primarily involving a strong focus on health service activities. Studies of the Ebola outbreak in 2015 have shown that DOs were important in the initial response activities (Koch, 2015; Patel and Sridhar, 2020). Our study shows that the DOs in some European countries performed activities using their military resources when initially responding to COVID-19, as some military activities were already embedded in original structures (SE, NO using the total defence approach) or where DO tasks involve complex emergency responses (ES and PT). Because integrating emergency response ARA require leadership, Keen (2008) claims that the development of policies is a fundamental requirement to develop a wider network in which all actors are involved in responses to emergencies. The DOs of ten European countries were *ad hoc* authorized to guard borders, airports, harbours and roads and to patrol inside the country's territory.

6. Conclusions

This study illustrates some of the challenges associated with the European countries' response to the COVID-19 pandemic and the role played by DOs during the early response phase of the pandemic, here set to encompass 75 days, with a focus on issues that are essential for crisis response networks. This study contributes by filling an important research gap concerning the use of military resources by response networks in a national humanitarian crisis in Europe, in which untraditional relationships with DOs were developed with other actors to support the populations of developed countries. The network view and the ARA framework provide insight into the relationships that were activated and established in the early response to the COVID-19 pandemic in Europe and showcase the activities carried out by DOs as part of these response networks.

Methodologically, this study offers a snapshot of networks that were partly planned and activated and partly evolved during the

early pandemic response. The study shows variations in the response systems between countries due to the inclusion of DO resources. To understand why these differences, consideration is needed to determine how both planned and *ad hoc* structures came into being, i.e. to identify the path dependencies, the history and the incremental steps leading to the response networks in each country. This will clarify the roles of the enablers and barriers in the cross-sectorial emergency response collaboration within each country and help preconditions for cross-border response coordination in Europe.

6.1 Further research and implications

Further research is needed to assess whether the new constellations formed during the pandemic response evolved and formalized as adapted response preparedness patterns and whether such patterns are optimal for the next pandemic response. Since this study focuses exclusively on the first 75 days after the confirmation of the first COVID-19 case in each country, managerial implications are related to the countries' response systems' inability to react to urgent demands with the aim of obtaining a more comprehensive understanding of the activities, the actors and the swiftly changing relationships that evolved. It is expected, and in many cases already beginning to become evident in the data, that the need for the surge capacity provided by DO personnel receded as routines were established. However, future research should investigate this process, including the handover of activities to other actors and the potential reactivation of DO actors in later stages of the pandemic response, such as during periods of mass testing or the eventual roll-out of the COVID-19 vaccinations.

The pandemic has been followed by other regional and global crises. Here, managerial implications are related to failing global supply chains in part because of the Chinese lockdowns of cities to cope with COVID-19 outbursts and due to energy and food shortages as a result of the Russian war in Ukraine. These crises actualize a debate about societal preparedness and what role the state and the private market should play. The organization of many European countries is based on variations of new public management (NPM) principles (Mascio *et al.*, 2020; Pollitt and Dan, 2011) and the division of tasks and responsibilities between the public and private sectors. According to the industrial network perspective, the movement of resources from one actor to another alters actor bonds, resource ties and activity links in the networks. The effects of activity internalization were recently seen, e.g. when the German state nationalised the gas importer Uniper to secure its energy supply [1], on permanent and *ad hoc* response networks. How does a reconceptualization of NPM mechanisms affect cross-sectorial response networks?

6.2 Limitations

This study is not without its own limitations regarding the use of the ARA network approach to the categorization of the findings. It does not fully provide in-depth data regarding the adaptation processes in civil-military dynamic networks. The ARA network approach was useful in this study in identifying essential ARA. However, the approach was limited in terms of its inability to show how useful defence resources were related to the various activities of the initial response. A further complication was the support sought in the early

literature, as there was a substantial difference between the findings of the early research and those of this study with regard to the use of the resources of different actors in countries with less developed response infrastructures. For example, combining the research on activity structures in less developed countries was not fruitful in supporting the findings of this study, as the networks and path dependencies within a country's preparedness systems in this study differed from those of countries that are less structured and developed.

While this study includes the effects of different resource combinations that were employed in the initial response to a large range of activities, the effects on the efficiency and effectiveness of response operations were not country-specific, which constitutes an additional limitation regarding the achievement of the objectives of collaboration and interdependencies among governmental, private and voluntary actors. For example, in the *ad hoc* settings of the initial response to the pandemic, the experiences of existing networks of military and civil actors in Europe were rather unsuccessful in terms of transferring crisis responses to other parts of the world. Another limitation of the study is, to a large extent, the need for consideration of the history, culture, governance and level of trust in the military in some nations, which are preconditions for integrating civil-military collaboration in crisis response.

Note

- 1 Germany to nationalize gas giant Uniper amid spiralling energy costs | News | DW | 21.09.2022.

References

- Abiew, F.K. (2012), "Humanitarian action under fire: reflections on the role of NGOs in conflict and post-conflict situations", *International Peacekeeping*, Vol. 19 No. 2, pp. 203-216.
- Abrahamsen, M.H. and Håkansson, H. (2016), "Market policy and destructive network effects", *IMP Journal*, Vol. 10 No. 2, pp. 195-220.
- Abrahamsen, M.H., Henneberg, S.C., Huemer, L. and Naudé, P. (2011), "Network change as a battle of ideas? Analysing the interplay between idea structures and activated structures", *IMP Journal*, Vol. 5 No. 2, pp. 122-139.
- Adamo, S.B. (2011), "The impact of climate change on the spatial distribution of populations and migration", *Population Distribution, Urbanization, Internal Migration, and Development: An International Perspective*, United Nations, Department of Economic and Social Affairs, Population Division, New York, NY, pp. 161-195.
- Ankersen, C. (2013), "Interrogating civil-military cooperation", in Ankersen, C. (Ed.), *Civil-Military Cooperation in Post-Conflict Operations: Emerging Theory and Practice*, Routledge, London, pp. 1-12.
- Arie, S. (2014), "Only the military can get the ebola epidemic under control. MSF head", *British Medical Journal*, Vol. 349, p. 349.
- Auerbach, P.S., Norris, R.L., Menon, A.S., Brown, I.P., Kuah, S., Schwieger, J. and Lawry, L. (2010), "Civil-military collaboration in the initial medical response to the earthquake in Haiti", *New England Journal of Medicine*, Vol. 362 No. 10, p. e32.

- Bell, S.R., Blocksome, P., Brown, K.P. and Murdie, A. (2019), "Help or hindrance? The role of humanitarian military interventions in human security NGO operations", *International Political Science Review*, Vol. 40 No. 2, pp. 263–278.
- Bollen, M. (2002), *Working apart Together: Civil-Military co-Operation*, Wageningen University, Wageningen.
- Carter, C.R., Ellram, L.M. and Tate, W. (2007), "The use of social network analysis in logistics research", *Journal of Business Logistics*, Vol. 28 No. 1, pp. 137–169.
- CDC (2019), "Centers for disease control and prevention 2014–2016 Ebola outbreak in West Africa", available at: www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html
- Cook, A.D. and Yogendran, S. (2020), "Conceptualising humanitarian civil-military partnerships in the Asia-Pacific: (re-) ordering cooperation", *Australian Journal of International Affairs*, Vol. 74 No. 1, pp. 35–53.
- Coppola, D.P. (2015), "Participants-Multilateral organizations and international financial institutions", *Introduction to International Disaster Management*, Burlington, p. 588.
- Corbin, J. and Strauss, A. (2008), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Sage Publications, Thousand Oaks, CA.
- Egnell, R. (2013), "Civil-military coordination for operational effectiveness: towards a measured approach", *Small Wars & Insurgencies*, Vol. 24 No. 2, pp. 237–256.
- Ekström, T. (2012), "Public private business models for defence acquisition – a multiple case study of defence acquisition projects in the UK", Lund University, Faculty of Engineering.
- Ellram, L.M. (1996), "The use of the case study method in logistics research", *Journal of Business Logistics*, Vol. 17 No. 2, pp. 93–138.
- Elliott, V. (2018), "Thinking about the coding process in qualitative data analysis", *The Qualitative Report*, Vol. 23 No. 11, pp. 2850–2861.
- Ford, D., Gadde, L.E., Håkansson, H., Snehota, I. And Waluszewski, A. (2008), "Analysing business interaction", *24th IMP Conference, Uppsala*, pp. 1–37.
- Gadde, L.E. and Snehota, I. (2000), "Making the most of supplier relationships", *Industrial Marketing Management*, Vol. 29 No. 4, pp. 305–316.
- Glantz, M.H. (1999), "Sustainable development and creeping environmental problems in the Aral sea region", *Creeping Environmental Problems and Sustainable Development in the Aral Sea Basin*, pp. 1–25.
- Greet, C. (2008), "Reconstruction during conflict: a whole government approach", *Australian Journal of Multi-Disciplinary Engineering*, Vol. 6 No. 2, pp. 129–136.
- Guba, E.G. (1981), "Criteria for assessing the trustworthiness of naturalistic inquiries", *Educational Technology Research and Development*, Vol. 29 No. 2, pp. 75–91.
- Håkansson, H. and Snehota, I. (1995), *Developing Relationships in Business Networks*, Routledge, London.
- Håkansson, H. and Waluszewski, A. (2003), *Managing Technological Development*, Routledge, London.
- Hall, R.A. and Deinla, I. (2021), "Shifts in the humanitarian space? Examining NGO-military engagements during the 2017 crisis in Marawi, Philippines", *Asian Politics & Policy*, Vol. 13 No. 3, pp. 349–365.
- Harris, A. and Dombrowski, P. (2002), "Military collaboration with humanitarian organizations in complex emergencies", *Global Governance: A Review of Multilateralism and International Organizations*, Vol. 8 No. 2, pp. 155–178.
- Heaslip, G. (2011), "Challenges of civil military cooperation/coordination in humanitarian relief", in Kovács, G. and Spens, K. (Eds), *Relief Supply Chain Management for Disasters: Humanitarian Aid and Emergency Logistics*, IGI Global, Hershey, PA, pp. 147–172.
- Heaslip, G.E. and Barber, E. (2016), "Improving civil-military coordination in humanitarian logistics: the challenge", *The Irish Journal of Management*, Vol. 35 No. 2, pp. 143–158.
- Human Rights Council (2018), "Civil society space: engagement with international and regional organizations", A/HRC/RES/38/12, 16 July 2018.
- IASC (1994), "IASC working paper on definition of complex emergencies. New York: ISAC", *Industrial Marketing Management Journal*, Vol. 29 No. 4, pp. 305–316.
- Kaldor, M. (2013), *Global Civil Society: An Answer to War*, John Wiley & Sons, New York and London.
- Kaneberg, E., Magnus Jensen, L. and Hetz, S. (2021), "Managing network responsiveness in emergency preparedness supply chains for safety and security in developed nations", *Revista Científica General José María Córdova*, Vol. 19 No. 34, pp. 453–477.
- Kaneberg, E. (2017), "Managing military involvement in emergency preparedness in developed countries", *Journal of Humanitarian Logistics and Supply Chain Management*, Vol. 7 No. 3, pp. 350–374.
- Kaneberg, E., Hertz, S. and Jensen, L.M. (2016), "Emergency preparedness planning in developed countries: the Swedish case", *Journal of Humanitarian Logistics and Supply Chain Management*, Vol. 6 No. 2, pp. 145–172.
- Keen, D. (2008), *Complex Emergencies*, Polity Press, Cambridge.
- Koch, A. (2014), "Outlining a framework for the use of ICT in disaster management", Naval Postgraduate School, Monterey, CA.
- Koch, T. (2015), "Hubris: the recurring pandemic", *Disaster Medicine and Public Health Preparedness*, Vol. 9 No. 1, pp. 51–56.
- Koporcic, N. (2017), "Actor-resource-activity (ARA) model for studying interactive network branding in business relationships", *Association of Marketing Theory and Practice Proceedings 2017*.
- Lenney, P. and Easton, G. (2009), "Actors, resources, activities and commitments", *Industrial Marketing Management*, Vol. 38 No. 5, pp. 553–561.
- Lincoln, Y.S. and Guba, E. (1985), *Naturalistic Inquiry*, Sage, Beverly Hills, CA.
- Lincoln, Y.S. and Guba, E.G. (1986), "But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation", *New Directions for Program Evaluation*, Vol. 1986 No. 30, pp. 73–84.
- Listou, T. (2019), "Totalforsvaret og kommersielle aktører – den doble logistikkutfordringen", in Norheim-Martinsen (Ed.), *Det nye totalforsvaret*, Gyldendal Norsk Forlag, Oslo, pp. 100–116.
- Madiwale, A. and Virk, K. (2011), "Civil-military relations in natural disasters: a case study of the 2010 Pakistan floods", *International Review of the Red Cross*, Vol. 93 No. 884, pp. 1085–1105.

- Mascio, F.D., Natalini, A. and Cacciatore, F. (2020), "Public administration and creeping crises: insights from COVID-19 pandemic in Italy", *The American Review of Public Administration*, Vol. 50 Nos 6/7, pp. 621-627.
- Nevin, R.L. and Anderson, J.N. (2016), "The timeliness of the US military response to the 2014 ebola disaster: a critical review", *Medicine, Conflict and Survival*, Vol. 32 No. 1, pp. 40-69.
- Nguyen-Trung, K., Forbes-Mewett, H. and Arunachalam, D. (2020), "Social support from bonding and bridging relationships in disaster recovery: findings from a slow-onset disaster", *International Journal of Disaster Risk Reduction*, Vol. 46, p. 101501.
- Patel, J. and Sridhar, D. (2020), "We should learn from the Asia-Pacific responses to COVID-19", *The Lancet Regional Health - Western Pacific*, Vol. 5, p. 100062.
- Pettit, S. and Beresford, A. (2005), "Emergency relief logistics: an evaluation of military, non-military and composite response models", *International Journal of Logistics Research and Applications*, Vol. 8 No. 4, pp. 313-331.
- Pollitt, C. and Dan, S. (2011), "The impacts of the new public management in Europe: a meta-analysis", available at: <https://lirias.kuleuven.be/1866257>
- Rietjens, S.J., Voordijk, H. and De Boer, S.J. (2007), "Coordinating humanitarian operations in peace support missions", *Disaster Prevention and Management: An International Journal*, Vol. 16 No. 1. doi: 10.1108/09653560710729811
- Saldana, J. (2013), *The Coding Manual for Qualitative Researchers*, 2nd ed., SAGE, London, Los Angeles, CA.
- Steen, J. (2010), "Actor-network theory and the dilemma of the resource concept in strategic management", *Scandinavian Journal of Management*, Vol. 26 No. 3, pp. 324-331.

- Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R. and Samson, D. (2002), "Effective case research in operations management: a process perspective", *Journal of Operations Management*, Vol. 20 No. 5, pp. 419-433.
- Thiessen, C. (2011), "NGOs and post-violence community development: holistic, multi-track ventures in Afghanistan", *Development in Practice*, Vol. 21 No. 7, pp. 930-942.
- Tomasini, R.M. and Van Wassenhove, L.N. (2004), "A framework to unravel, prioritize and coordinate vulnerability and complexity factors affecting a humanitarian response operation", Working Paper No.20 04/41/TM.IN SEAD, Fontainebleau, France.
- Van Wassenhove, L.N. (2006), "Blackett memorial lecture: humanitarian aid logistics: supply chain management in high gear", *Journal of the Operational Research Society*, Vol. 57 No. 5, pp. 475-489.
- Yamori, K. and Goltz, J.D. (2021), "Disasters without borders: the coronavirus pandemic, global climate change and the ascendancy of gradual onset disasters", *International Journal of Environmental Research and Public Health*, Vol. 18 No. 6, p. 3299.

Further reading

- Schiffing, S., Hannibal, C., Fan, Y. and Tickle, M. (2020b), "Cooperation in temporary contexts: examining swift trust and swift distrust in humanitarian operations", *International Journal of Operations & Production Management, Ahead of Print*, Vol. 40 No. 9, pp. 1449-1473.

Corresponding author

Elvira Kaneberg can be contacted at: elvira.kaneberg@ju.se