Disaster Medicine and Public Health Preparedness

www.cambridge.org/dmp

Original Research

Cite this article: Westman A, Hugelius K, Weinstein E, Kurland L. Facilitators and barriers for effective staff work in Swedish National Governmental crisis response to the COVID-19 pandemic. Disaster Med Public Health Prep. doi: https://doi.org/10.1017/dmp.2022.91.

Keywords:

COVID-19 pandemic; crisis management; decision making; disaster medicine; staff management

Corresponding author:

Anja Westman, Email: anja.westman@gmail.com.

Facilitators and Barriers for Effective Staff Work in Swedish National Governmental Crisis Response to the COVID-19 Pandemic

Anja Westman MD, MScDM^{1,2}, Karin Hugelius RN, MSc, PhD², Eric Weinstein MD, MScDM³ and Lisa Kurland MD, MScDM²

¹Emergency Department, Örebro University Hospital, Örebro, Sweden; ²Faculty of Medicine and Health, Örebro University, Örebro, Sweden and ³CRIMEDIM - Center for Research and Training in Disaster Medicine, Humanitarian Aid and Global Health, Università del Piemonte Orientale, Novara, Italy

Abstract

Objectives: The coronavirus disease (COVID-19) crisis response in Sweden was managed foremost by a collaboration of several national agencies. Normally, their strategical and operational collaboration is limited, but the pandemic required new and unfamiliar collaborations. This study aimed to clarify the facilitators and barriers of perceived effective staff work within and between 4 national agencies.

Methods: A qualitative study of 10 participants with leading roles within the 4 national agencies' crisis organization was conducted via snowball sampling. The participant interviews were conducted between August and November 2020 and analyzed using content analysis.

Results: Four categories emerged from the analysis: individual characteristics, intra-agency organization, interorganizational collaboration, and governmental directives. Subcategories crystallized from the data were analyzed and divided into factors for facilitating or to function as barriers for effective staff work.

Conclusion: Individual factors such as attitude and approach were important for perceived effective staff work as well as clear mandates and structure of the organization. Barriers for perceived effective staff work include lack of network, the complexity of the mission and organizational structures, as well as lack of preparations and unclear mandates. Although flexibility and adaptability are necessary, they cannot always be planned, but can be incorporated indirectly by selecting suitable individuals and optimizing organizational planning.

Disaster response is complex.¹ There is a crucial need of all aspects of the disaster management cycle where all the parts—mitigation, preparedness, response, and recovery—are addressed in a sufficient way.² Irrespective of the cause, a common finding in the aftermath of crises is that preparedness was insufficient and that those engaged in the crisis response lacked correct knowledge and training. Efficient communication, collaboration, and training affect the outcome.^{3,4}

The emerging infectious virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) started at the beginning of 2020, spread quickly, and was declared a pandemic by the World Health Organization (WHO) on March 11.⁵ By then, governments had begun to understand the severity of the effect of the virus, including the Swedish authorities who began to mobilize.

In Sweden, the National Governmental response to the coronavirus disease (COVID-19) pandemic was coordinated through a collaboration between several authorities. The most central agencies for the pandemic response were the Swedish Public Health Authority, the National Board of Health and Welfare, and the Swedish Civil Contingencies Agency. 6 The role and function of these authorities during normal conditions are broad. The National Board of Health and Welfare is an agency under the Ministry of Health and Social Affairs, with the main task of supporting health and medical care, including patient safety and epidemiology, through information and guidelines for social services.⁷ The Swedish Civil Contingencies Agency is more operational and supports local and regional disaster preparedness and response as well as being responsible for international collaborations.8 The Public Health Agency of Sweden works on a national level for better public health and acts to prevent communicable diseases and other threats to public health. The Medical Products Agency also played a significant role because of its mission as the national authority responsible for regulations and surveillance of the development and sale of pharmaceuticals and medical products. 10 It is well known that disaster response and crisis management is complex and requires cooperation and collaboration both within and between organizations.¹¹ Boin et al. describes 5 critical tasks of strategic crisis leadership to sort out and can be applied to the crisis response of the pandemic: sense making,

© The Author(s), 2022. Published by Cambridge University Press on behalf of Society for Disaster Medicine and Public Health, Inc.



Table 1. Main categories and subcategories presented as barriers and/or facilitators.

Individual characteristics	
Facilitators	Barriers
Personal Attitude	Lack of Network
Personal Competence and Experience	Staff Methodology
Teamwork	
Intra-agency organization	
Facilitators	Barriers
Adaptability	Complexity in Staff Management
Organizational Competence and Experience	Complexity of the Mission
Staff Management	
Decision-Making Process	Decision-Making Process
Team Composition	Team Composition
Interorganizational collaboration	
Facilitators	Barriers
Collaboration	Collaboration
Network	Framework
	Lack of Preparations
	Organizational structures
	Organizational Transparency
	Unclear mandates
Governmental directive	
Facilitators	Barriers
	Lack of preparations
	Dynamic mandate and directives

decision-making, meaning making, accounting, and learning. 12 To establish a functional crisis organization with a clear staff structure and to be certain to build a resilient response that will endure the different phases of a prolonged crisis are also of importance and do not come easily. 13 According to the Swedish model for crisis management, all authorities maintain with their normal area of responsibilities during a crisis and are expected to collaborate and coordinate their activities. During the pandemic, all 4 agencies were forced to act and to make decisions in a situation that had never previously been experienced by Swedish crises managing agencies. The scientific knowledge on how to enable effectiveness for important processes such as staff work and decision-making is limited.¹² At the same time, such knowledge is necessary to understand how national level crisis management should be conducted in complex and long-lasting situations like pandemics. Therefore, the aim of the study is to explore the facilitators and barriers for perceived effective staff work in the national agencies' response to the COVID-19 pandemic.

Methods

Design

An explorative qualitative study.¹⁴

Participants

Ten staff members were included in the current study. Inclusion criteria for participants included having held leading positions

in the national crisis organizations responding to the COVID-19 pandemic in either the Swedish Public Health Agency, the National Board of Health and Welfare, the Swedish Civil Contingencies Agency, or the Medicals Products Agency.^{7–10}

Data Collection Procedures

The interviews were performed over video link, due to the ongoing pandemic. The participants were recruited using snowball sampling and included in the study based on their key position in disaster management at the different agencies' crisis organization of COVID-19. Participants received written and verbal information prior to consenting. No part of the data was at any point shared with their employers.

The interviews followed a semi-structured interview guide, with additional open-ended questions. ¹⁷ The participants were allowed to elaborate on their answers. The guide was constructed by the authors for the purpose of the current study and validated by a pilot interview, which was also included in the study. The interviews were conducted by the first author between August and November 2020. The interviews were recorded and transcribed verbatim. ¹⁵

Data Analysis

Content analysis was used to analyze the transcribed data. ¹⁴ First, all interviews were read comprehensively by all authors independently. Thereafter, relevant units were extracted and sorted into codes, subcategories, and categories based on the content. This was done mainly by the first author and thereafter processed between all of the authors, which added credibility and reliability to the analysis. ^{15,18}

Ethical Considerations

An ethical approval by the Swedish Ethical Review authority was gained for the study (reference number 2020-10568). The study was performed in line with the standards of good research ethics. ¹⁹ In order to ensure the anonymity of the participants, the data were anonymized from personal names or names of agencies during the analyzing phase. Some data will not be revealed in the study with regard to anonymity.

Results

The interviews lasted 45–70 minutes, mean time was 53 minutes. Five participants were women and 5 were men between 38 and 63 years of age. The mean age was 50 years old. The number of participants from each agency varied from 1 to 5 due to the organization within the agencies.

Four main categories emerged from the analysis (Table 1). "Individual Characteristics" described the individual's approach to work and attitude, background and view of the process and how those factors affected the staff work. "Intra-agency Organization" included perspectives on how staff command and the agencies were organized and what processes played a role for the progress of the work within each of the agencies. "Interagency Collaboration" described the challenges and experiences of the collaboration between the agencies. "Governmental Directive" reflects the perceived effect on the staff work in relation to the governmental processes and directives.

Individual Characteristics

The results suggest that *personal attitude* was a major contributing factor for effective staff management. An individual's positive approach to problem solving and the will to contribute and endure were mentioned repeatedly and by every participant. In addition, personal qualities such as curiosity, an intention to do a good job and to be open to new solutions contributed to the staff work:

High competence and ability to absorb or be adaptive. That was, I think, the greatest factors for success

The nature of the pandemic had an impact on the entire society, which also affected the staff themselves, that is, on a personal level. Specifically, when participants had elderly parents in risk groups or children who were affected by closed schools, the overall family situation had to be handled while also performing professionally:

So that, I think that that was a little hard, that it suddenly got so personal, which an earthquake in Nepal never is, neither is a conflict on South Sudan.

All participants described how a professional background with broad experience from a variety of areas was helpful for the staff work. Also, the different backgrounds of other team members were perceived as important for adding different perspectives. This permeated the *teamwork* and thereby facilitated effective staff work. Several staff members came from external agencies or areas, which was mostly perceived as a strength. At the same time, this also added difficulties when working in unfamiliar areas and with unfamiliar assignments and routines. A personal network of colleagues, both within the agency and in a broader partner network, was found to be important. Conversely, a small network was perceived as a barrier for effective staff work. A number of the participants were new to the agency and lacked both the network within their own agency and a network across the other agencies' crisis organization:

But if you do not have the network, then everything becomes so, so hard.

Despite extensive experiences in crisis management and disaster contingency, almost all participants meant that they had never experienced anything like the pandemic nor the staff positions they manned. However, their *personal competence and experience* were supportive and helped them manage their tasks. At the same time, participants expressed a need of better preparations and increased all-around organizational and civic knowledge for themselves:

I have felt both insufficient and that it has been a great challenge. When I arrived, I didn't ... I wasn't prepared to get the role I got. And in addition, during the first week, more tasks were added.

Since no formal education or training was required, the staff's background varied from health care services, military forces, and experiences as national authority officials. The broad professional backgrounds were an asset to the overall crisis management:

And very skilled co-workers, positively surprised, and this will to get on with the tasks and solve them.

Some of the participants had participated in a national course on strategic crisis management, which was experience as supportive in gaining understanding of the complexity of strategic crisis management on a national level.

Intra-Agency Organization

The pandemic necessitated a response that required adaptation of the normal organization among all of the agencies included in the current study. The *adaptation* included both the structure of the organization, working methodologies, and the number of people involved:

We had to create the organization quickly, I mean we constructed and expanded an organization of maybe ten people to, I think 125 people in six weeks.

How the complexity of the mission impacted the staff work effectiveness was considered a barrier. Agencies that were not operational during normal conditions now had to adapt and act operational. The decision-making process was perceived as clearer and more distinct during the first phase of the pandemic. As the staff methodology changed over time, from being more crisis oriented in the beginning, gradually step-by-step the staff evolved toward normal pre-pandemic functioning. Where the bureaucracy increased, the staff work was not perceived as effective in terms of fast decisions. The decision-making process was described as becoming more and more confusing and muddled as the number of individuals and levels of the organization increased:

I think that the decision-making process during the pandemic showed that it is possible to make decisions more easily and faster. The bureaucracy was down scaled, the work more pragmatic.

Facilitators for perceived effective work were clear directives and involvement from the upper command. As the work proceeded, staff work routines within the organization were established and the participants described the work as becoming more structured and perceived it as more effective:

I do think, we were the same people rotating and I believe that it was a factor for success, that we started to know each other and supported each other.

Team composition played a role where the input from individuals from other authorities, private companies, and the health care services was mostly considered a strength but also offered challenges. The composition of the team was perceived as more random in the beginning of the pandemic, not fully capturing or matching the individuals' capacity with the tasks. To know each other within the team, including both strengths and weaknesses, was considered to be a facilitator for perceived staff work effectiveness:

That is what I would have changed (if done all over again). To use the right competence at the right place and in the best way.

Competence and *previous organizational experience* of working in similar settings and in the actual agency were central for the outcome and also considered facilitating. An enormous challenge was the turnover of the staff as team members were frequently exchanged. This affected the process and *the staff management negatively*:

So I was thrown in to it, to the staff work and had to learn as I go. How the routines and work was set up in that crisis organization.

Little time was used for handover and opportunity to understand the task in advance of the mission, which worked as a barrier since gained experiences and effective ways of working were not transferred.

Interagency Collaboration

The agencies in the current study organized their staff structure and crisis organizations differently, which lead to some difficulties in the interagency *collaboration*. An example of confusion was when agencies sharing points of contact and information between organizational structures did not mirror each other. Despite these challenges, a will to solve problems and an overall intention to

A Westman *et al.*

collaborate facilitated interagency collaboration. Several of the participants mentioned the lack of common training as a limitation:

I would say that it is a big deficiency that the agencies in the Swedish crisis response system, that we don't know each other. On an administrative level. That we don't train together.

The differences in *organizational structures* and lack of *organizational transparency* resulted in difficulties in communication, such as when using different official terminology or spreading conflicting public messages. New directives and tasks did not always fall clearly under a specific organization's jurisdiction, which caused confusion and was a barrier to interagency communication. Although interagency communication existed during pre-pandemic conditions to some extent, during the pandemic the communication between agencies predominately took place between the heads of the agencies. This affected efficiency, communication, and transparency in a negative fashion:

And they (other agencies) did not have a classic staff management Not staff management in collaboration with other authorities that way.

The participants experienced that the formal *framework* was not clear and that the agencies were not aware of the boundaries and the mission of their own organization and were even less informed of the boundaries and mission of other agencies, resulting in uncertainty. Some matters seemed to fall through the cracks when they did not fit into either of the agencies' responsibilities:

Yes, but we suffer because of this. That there are different interpretations of different lead players mandate, respectively.

A general impression that "the other" agencies suffered from a *lack* of preparations and had not understood their role in the crisis response was common and caused frustration and was a barrier for effective staff work and interagency collaboration.

Governmental Directive

All agencies received more governmental directives during the most hectic months of the pandemic than normally received for an entire year. This new reality of *dynamic mandate and directives* with a direct effect on the agencies mission was not always perceived to be in line with the agencies' basic assignments. Combined with short time frames, the new assignments sometimes were considered as rushed and caused unnecessary frustration that affected the staff work negatively:

There was probably some kind of record in governmental assignments during this period. And one way to look at it is to take the number of assignments in proportion to how badly prepared we were. Because if the crisis preparedness in Sweden had been better, than [sic] the need for governmental directives would have been way less.

One doesn't see the complexity of it all. And doesn't plan towards common goals. So, it'll all become so . . . Ad hoc. And then you get a little disappointed that Sweden didn't understand. It never happens to us . . . But it does.

A commonly expressed perception was that the *lack of preparedness* from a national and political level had limited the possibilities to manage a faster and more effective response. The crisis revealed existing gaps in preparation for a pandemic as well as in rules and regulation of the national disaster response.

Discussion

This interview-based study was of the opinions of the challenges that 10 members of Swedish national governmental COVID-19

crisis response agencies faced during the spring and summer of 2020. In a new context, a few qualities arose as particularly important for facilitating or acting as barriers for effective staff work in the national crises' organizations. Given the demands of the crisis, all agencies had to extend their resources and increase the number of staff involved in crisis management. Regardless of the organization within the agency, and regardless of the external circumstances, personal factors such as attitude to the work assignments and the approach to challenges played a significant role as a facilitator for more effective staff work. Previous experience is likely to play a role but here the result suggests that regardless of experience, the ability to adapt and accept the circumstances made a difference.¹² Previous research states that successful crises management is not dependent on the individuals' skills but the individuals' characteristic and ability to cope with the assignment as well as the overall situation.¹¹ The participants in this study had in common the curiosity toward the task and the traction of working in similar settings. However, the results do not state whether the assignments and situation itself bring out these personal attitudes from the personnel, or whether it is a result from a kind of self-selection. Are persons with this personality drawn to such assignments? This is a question for further research.

The need to increase staff, stuff, space, and system within a very short period of time in order to manage is a well-known consequence of extraordinary situations.²⁰ This adaptation was also described in this study and added stress to both the organization and the individuals within the agencies. Short rotations and the employment of individuals who were not familiar with the mission of the agency were described as barriers for the staff work. This is described as ad-hocery and new-group syndrome and is known to lead to underperformance. 12 By sharing each staff function by at least 2 or 3 persons, better workflow and less discontinuity were enabled. Several of the participants mentioned the top-down decision-making process as a barrier that led to confusions on mandate within the staff. Staff commanders who were used to taking decisions and lead felt hindered and bound by that. Adaptability was perceived as a facilitator, both on an individual level in the agency and on an organization level. Adaptability has been described as one of the cornerstones in successful crises management, since all crises are dynamic. 11,13 Therefore, the attitude to seek solutions and work toward new ways with a humble and open mind that permeated the crises management process, in general, and the staff work, in particular, was important. This finding also illustrates the relationship between political and high-level leadership and the effectiveness of individual performance to enable effective staff work. Perceived presence of leaders, both on strategic and operational levels, has been found to increase a feeling of being secure and confident also in situations characterized by unclarity or uncertainty, and this finding can be confirmed by this study.

There were no facilitating factors in governmental directions, which is interesting and not fully examined or explained in this study. Despite that the studied agencies have several areas of collaboration under normal conditions, one of the commonly mentioned barriers for perceived staff work was the difficulty of interorganizational collaboration. One of the core problems that hindered effective staff work seems to be the described different structures used in each crisis organization, but also the differences in decision-making mandate that hindered communication between specific operational functions at different agencies. The use of personal networks that were described by the participants as a facilitator for effective staff work could also be used to increase

communication in interagency crisis organizations and also plays a role in decision-making. There was simply lack of communication between 2 persons holding approximately the same role but in different agencies. Instead, the loop went all the way up to the General Director and back, a concept for success described as a myth. This sometimes was evident when participants of the study were not briefed in advance and instead learned about new decisions and recommendations from media and not via collaborations between the agencies, resulting in decreased trust and a barrier for further collaboration. This lack of sufficient communication both within a crisis organization and in interagency crisis management is repeated in a number of previous incidents and disasters and described in previous research. 1,3,22

In addition to a lack of effective communication, unclear mandates and responsibilities were described as a barrier for effective staff work. Since new mandates and assignments are not unusual in crises, this is an important observation, and the clarity of mandate and structure should be given priority when assigning new responsibilities on all levels—especially the fact that only one of the studied agencies during normal conditions had an operational mandate (the Swedish Civil Contingencies Agency). But all agencies gained such assignments and new mandates during the pandemic. This added challenges of navigation on an interagency level. A common experience expressed was lack of formal preparations and training for a complex crisis like a pandemic. The contingency plans were in play, but they were perceived not to contribute to effective staff work and overall crisis management. A mismatch between a contingency plan and reality is not uncommon in crises, if the plan does not mirror the exact scenario or event. This might lead to an experienced lack of planning for the individuals involved, despite the actual planning made.^{3,13} It is also not unusual that the value on contingency plans is overestimated and may cause a false feeling of preparedness.²³ Another component of crisis preparedness is training. Lack of training was experienced as a barrier on the interagency level. Training can be used to increase individual, team, and organizational performances as well as identify gaps in the contingency planning. However, the value of disaster training for real crisis management remains unclear from a scientific point of view.²⁴ Actual formal interagency training, their content, and value for the staff work in national crisis management organization cannot be concluded from this study but is a question requiring further research.

The complexity of collaborations during emergency response has been described in previous research, but the focus has more often been on the first phase involving operational parties (prehospital care, fire department, police) or focusing on part of the problem such as only 1 agency, part of the chain of emergency response, or specific agencies. Pescarch on team and team constellations suggests that team modeling is important but also that there are several aspects to take into consideration that are not as well described in current research, for example, team cognition and multicultural contexts. Property of the problem such as the problem is a problem of the problem such as the problem of the problem of the problem such as the problem of the problem of the problem such as the problem of the problem of the problem of the problem such as the problem of the pr

Limitations

The interviews took place over a 3-month period between the first and second waves of the pandemic in Sweden. The time difference between the first and last interviews may have influenced the interviews' content and the study participants' reflections, with regard to the development of the pandemic but also from a personal perspective. However, this also increased the scope and results. Due to the operational demands of all invited agencies and their limited possibilities to release key personnel to participate in the study, the number of

participants from each agency differed from 1 to 5 participants. However, the participants of the current study have been viewed as individuals being deployed in a national crisis organization rather than representing a separate agency. All participants contributed with their personal experience. As in all qualitative research, it cannot be excluded that an increased number of participants, with a wider variation in roles or experiences, might have influenced the results. In order to protect the identity of the study participants, no detailed information such as age, gender, and exact position in each agency was presented in this study.

Conclusions

Effective staff work within the Swedish national crisis response depended on individual, intra-agency, interagency, and governmental components. Overall crisis and disaster response is complex, and the effectiveness and successful outcome depend on many factors. Effective staff work can in part be prepared by setting predefined criteria and standards for both the individuals' competence, experience, and training, in addition to the agency and inter-agency where standards should be set for communication, collaboration, and leadership. The survey results indicate that within our sample, although flexibility and adaptability are necessary, they cannot always be planned, but rather, be incorporated indirectly by selecting suitable individuals and optimizing organizational planning.

Acknowledgments. This work is the result of a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Disaster Medicine (European Master Disaster Medicine), class of 2020. The authors would also like to acknowledge the Department of Emergency Medicine, Örebro University Hospital, for the support as well as the participants in the study for their time and their willingness to share knowledge and experiences.

Conflict(s) of interest. None.

References

- Donahue A, Tuohy R. Lessons we don't learn: a study of the lessons of disasters, why we repeat them and how we can learn from them? *Homel Secur Aff.* 2006;2(4):1-28.
- Bullock JA, Haddow GD, Coppola DP. Mitigation, prevention, and preparedness. In: Bullock JA, HAddow, GD, Coppola DP, eds. Introduction to Homeland Security. Sixth ed. Butterworth-Heinemann; 2013:435-494.
- Juffermans J, Bierens J. Recurrent medical response problems during five recent disasters in the Netherlands. *Prehosp Disaster Med.* 2015;25(2): 127-136
- Ben-Ishay O, Mitaritonno M, Catena F, et al. Mass casualty incidents time to engage. World J Emerg Surg. 2016;11(8).
- 20200121-sitrep-1-2019-ncov.pdf. Coronavirus disease 2019 (COVID-19) Situation Report-51. Published March 2020. Accessed July 21, 2020. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200311-sitrep-51-covid-19.pdf?sfvrsn=1ba62e57_10
- The Role of the National Board of Health and Welfare During the COVID-19 Response in Sweden. Accessed June 3, 2020.https://www. socialstyrelsen.se/en/about-us/emergency-preparedness/the-role-of-the-national-board-of-health-and-welfare-during-the-covid-19-response-in-sweden/
- Our Mission. The Public Health Agency of Sweden. Published July 2018. Accessed June 25, 2020. http://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/about-us/our-mission/
- About MSB. The Swedish Civil Contingencies Agency. Accessed June 25, 2020. https://www.msb.se/en/about-msb/
- About the National Board of Health and Welfare. Accessed June 25, 2020. https://www.socialstyrelsen.se/en/about-us/

- Swedish Medical Products Agency. Accessed October 15, 2020. https:// www.lakemedelsverket.se/en
- 11. **Steigenberger N.** Organizing for the big one: a review of case studies and a research agenda for multi-agency disaster response. *J Contingencies Crisis Manag.* 2016;24(2):60-72.
- 12. **Boin A**, 't Hart P, Stern E, Sundelius B. *The politics of crisis management*. 2nd ed. Cambridge University Press; 2016:12-15, 128-132.
- 13. **Hugelius K, Becker J, Adolfsson A.** Five challenges when managing mass casualty or disaster situations: a review study. *Int J Environ Res Public Health*. 2020;17(9):1-13.
- 14. **Hsieh HF, Shannon SE.** Three approaches to qualitative content analysis. *Qual Health Res.* 2005;15(9):1277-1288.
- Ranney ML, Meisel ZF, Choo EK, et al. Interview-based qualitative research in emergency care, Part II: data collection, analysis and results reporting. Acad Emerg Med. 2015;22(9):1103-1112.
- Naderifar M, Goli H, Ghaljaei F. Snowball sampling: a purposeful method of sampling in qualitative research. Strides Dev Med Educ. 2017;14(3):1-4.
- Choo EK, Garro AC, Ranney ML, et al. Qualitative research in emergency care, Part I: research principles and common applications. Acad Emerg Med. 2015;22(9):1096-1102.
- 18. Lincoln YS, Guba EG. Naturalistic inquiry. Sage; 1985.
- Good Research Practice. Swedish Research Council. Published August 2017. Accessed January 17, 2021. https://www.vr.se/english/analysis/ reports/our-reports/2017-08-31-good-research-practice.html

- Hick JL, Koenig KL, Barbisch D, Bey TA. Surge capacity concepts for health care facilities: the CO-S-TR model for initial incident assessment. *Disaster Med Public Health Prep.* 2008;2(1):51-57.
- 21. **Abbasi A, Kapucu N.** Structural dynamics of organizations during the evolution of interorganizational networks in disaster response. *J Homel Emerg Manag.* 2012;9(1):1-19.
- Kortepeter MG, Kwon EH, Christopher GW, et al. Correspondence. Interagency cooperation is the key to an effective pandemic response. Lancet. Published January 2017. Accessed January 9, 2021. https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(16)30549-7/fulltext
- Marra FJ. Excellent crises communication: beyond crises plans. In: Millar DP, Heath RL, eds. Responding to Crises. 1st ed. Routledge; 2004: 311-325.
- Corbacioglu S, Kapucu N. Organisational learning and self-adaptation in dynamic disaster environments. *Disasters*. 2006;30(2):212-233.
- Eide AW, Haugstveit IM, Halvorsrud R, et al. Key challenges in multi-agency collaboration during large-scale emergency management. CEUR Workshop Proceedings, 953. Published 2014. Accessed January 9, 2021.
- Fedorowicz J, William C, Gogan JL. Interagency collaboration challenges in emergency response. Conference paper. International Conference on Egovernment research, Pittsburgh. 2006.
- Salas E, Cooke NJ, Rosen MA. On teams, teamwork, and team performance: discoveries and developments. Hum Factors. 2008;50(3):540-547.