

Understanding Understanding at the Boundary of Inter-organizational Crisis Management – Perspectives from the Swedish COVID-19 Response

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ABSTRACT

The objective of this paper is to *understand understanding at the boundaries of inter-organizational crisis management* – through different practitioner accounts of the Swedish COVID-19 response. Large-scale crisis management is challenging, as it demands cooperation across organizational boundaries. This paper presents an interview study conducted in Sweden during the COVID-19 response. Findings suggest that cooperative work at the inter-organizational boundaries depends on the ability to bridge discursive boundaries. From the perspective of an organization, this demands understanding of the rationale, values, constraints and capabilities of other organizations. Interviewees expressed frustration due to the time demands of establishing such an understanding. Despite time demands, establishing understanding was needed as the ability to conduct basic tasks such as sharing information and resources, and coordinating action emerge from that understanding. In this paper, it is suggested that new approaches to training that comprise general boundary-crossing skills be added to existing training and exercise programs.

Keywords

Boundary-crossing Competence, Boundary Discourse, Systems Science, Complex Adaptive Systems, Constructivism

INTRODUCTION

When organizations interact across boundaries, a new type of inter-organizational discourse emerges. "...the communications that take place across organizational boundaries can be seen as a specific type of discourse that differentiates itself from the discourse taking place within the individual organizations... The communication that occurs between organizations involved in a crisis response organization reflects the quality of these interactions in terms of the knowledge, assumptions, definitions, etc that can be found in the discourse" (Johansson, 2020, p. 4). Boundaries, in turn, can be defined as ambiguous concepts, reflecting the belonging to/excluding from as well as the points of interactions between organizations (Akkerman and Bakker, 2011). Further, boundaries are not stable constructs, but rather "precarious and permeable" in nature (Kerosuo, 2001). Personnel working at the boundaries between organizations have been suggested to either possess or develop a "boundary crossing competence" (Wenger, 1999). This boundary-crossing competence consists of the ability to translate, coordinate, and perhaps most importantly, align between perspectives and take multiple views. "...boundary-crossing people move beyond the boundary since they are not fully defined by the multivoicedness but rather are in a middle ground and have an often unspecified quality of their own (neither-nor)" as stated by Akkerman and Bakker (2011, p. 15). As organizations interact, boundaries will be re-negotiated and re-defined as time passes, in many cases enacted in the multiple meanings and perspectives taken by people working across the boundaries.

This paper reports on an interview study conducted during the COVID-19 pandemic in 2021. The Public Health Agency of Sweden reported the first clear signs of societal spread of COVID-19 on the 10th of March 2020 (Folkhälsomyndigheten, 2020). More than a year and half later, in November 2021, the pandemic was still

ongoing. To date, Sweden alone has surpassed a million confirmed cases of the disease, and over 15 100 deaths. Among lethal cases, the elderly population has been greatly overrepresented, with the vast majority of deaths being people aged 70 years or older (Folkhälsomyndigheten, 2021). Managing the COVID-19 pandemic has created an unprecedented strain on Swedish crisis management, especially healthcare and care for the elderly. Most crises are local phenomena that challenge the capacity of individual hospitals. In contrast, the COVID-19 pandemic has posed a nationwide challenge, demanding coordination of effort and supplies between national agencies, regional organizations and municipalities. These actors all conform to different laws, regulations and guidelines, making cooperation a highly complex endeavor.

In a previous paper by Johansson (2020), inter-organizational crisis response was described as a case of complex adaptive systems. Johansson conducted a systems analysis of Swedish crisis management and concluded that Swedish crisis management was signified by ad hoc constellations of organizations. These constellations formed temporary problem-solving clusters. The management of crisis response thus emerged as an effect of the interactions that takes place between the involved actors (Johansson, 2020). This view on crisis management systems is not novel as such, several other authors have reached similar conclusions (Andersson, 2016; Ansell et al., 2004; Berlin and Carlström, 2015; Comfort and Kapucu, 2006; Kapucu and Hu, 2016; Noori et al., 2016). However, Johansson pushed the argument that coordination of effort in such a system largely depends on communication and the ability to bridge discursive boundaries. The argument for this derives from the fact that organizational differences in terms of purpose, knowledge, ethos, culture, etc. manifest themselves in the way members of that organization express themselves, and hence act in the world (Ley, Pipek, Siebigroth and Widenhofer, 2013).

A social constructivist perspective is adopted in this paper, meaning that knowledge is seen as subjectively constructed within the social context of the knower. This perspective applies both to the understanding of the informants' accounts of cooperative work during the Covid-19 pandemic, as well as the authors' interpretive analysis of the collected interview data. The objective of this paper is thus to *understand understanding at the boundaries of inter-organizational crisis management* – to account for different views of challenges in handling the COVID-19 pandemic, and by constructivist analysis identify challenges and possible learnings from these accounts.

SYSTEMS THINKING AS CONSTRUCTIVISM

The theoretical underpinnings of this paper are rooted in systems thinking and social constructivism. Systems thinking is used to model and understand the context of inter-organizational crisis management, and social constructivism is foundational as it allows for reasoning about *understanding* as a volatile concept, shaped by communication and social systems, manifested in communication and action (theory-in-use) (Berger and Luckmann, 1991; Kriz, 2010; Argyris and Schön, 1996). By combining these two perspectives, it is possible to develop a theoretical foundation that will guide the analysis of the interviews conducted in this study.

The term *system* is often used in conjunction with *crisis response* or *crisis management* without further explanation. System is such a widely used term that it is taken for granted, although more elaborate discussions among scholars often reveal ambiguous applications of the term. It is therefore important to devote a few sections to clarify what is meant by *crisis response system* in this paper, and how it relates to the social constructivist approach. Systems thinking is to be understood as a perspective through which systems are defined for the purpose of analysis (von Bertalanffy, 1968). This stresses the point that systems never exist independent of the observer. According to the definition by Checkland (1999, p. 47), a system is “the name of an abstract concept, that of a complex whole entity of a particular kind”. Hence, the same observable entity can be defined into one or more systems or as a part of an overarching system, depending on the rationale of the observer. Different observers with different purposes will explain a phenomena in terms of different systems, just as someone studying physics will explain a flower differently from someone studying chemistry. Von Bertalanffy stressed this point even further, stating that “perception is not a reflection of ‘real things’ (whatever their metaphysical status), and knowledge is not a simple approximation to ‘truth’ or ‘reality.’” (1968, p. xxii). The study of crisis response systems is no exception to this.

Defining a system is crucial in the sense that it comprises the task of identifying the boundary of that system. Boundaries make it possible to define inputs and outputs, meaning information that enters or leaves a system (Checkland, 1999, p. 101). Unfortunately, this neat description is hard to apply in reality, especially in a crisis response context where various entities interact in unpredictable ways, forming and re-forming constellations of systems and sub-systems (Johansson, 2020). This is particularly true in crisis and emergency response, as noted by Kapucu and Hu (2016, p.399): “Structural attributes of emergency management systems have impacts on the development of multiplex relationships among organizations within various networks.”

Constructivism (von Glasersfeld, 1984), and thus social constructivism (Berger and Luckmann, 1991), departs from a similar standpoint by stating that understanding is *created* in interaction with the environment or other humans. This approach states that there is no objective reality to be *discovered*. Instead, understanding is constantly being constructed, negotiated, and re-negotiated in an ever-ongoing cycle. As will be demonstrated, the acceptance of multiple views and perspectives on the organization one is part of and organizations one interacts with is crucial for the success of inter-organizational work. By accepting the notion of social construction of subjective realities, meaning that “an individual’s creation of their reality occurs within an exchange process between the individual and society and/or within encompassing social systems” (Kriz, 2010, p. 664), it can be assumed that representatives of different organizations in a specific inter-organizational context will have different perceptions of the situation shaped in relation to their individual organizational contexts.

From a meta-analytical perspective, the system under scrutiny is in this sense *created* by the observer/analyst when he/she decides what the unit of analysis should be. For the purpose of this paper, the Swedish crisis response system, which is an inter-organizational endeavor, is defined as a Complex Adaptive System (CAS), as previously suggested by Johansson (2020).

THE SWEDISH MODEL FOR CRISIS MANAGEMENT

This study has investigated cooperation¹ in the context of Swedish crisis management, which might differ from other models internationally. As previously described by Johansson, “The Swedish crisis response system is not *a system per se*”, but rather “a temporarily assembled construct composed by a variety of actors working according to a set of principles, directives and laws” (2020, p. 429). These are the principles of *proximity*, *responsibility*, and *similarity*. Responsibility for crisis management is dealt on the basis of geographical proximity, and organizations are expected to collaborate within the affected geographical area. Involved organizations are expected to continue operations with minimal changes, meaning that responsibility and mandates remain with the same organizations as in normal times, and no redistribution of power is enforced. Consequently, the Swedish model for crisis management relies upon flexible cooperation and coordination of concerned organizations and agencies, depending on the extent and location of the crisis. The involved organizations are expected to identify the needs for cooperation themselves. Thus, no guidelines for the initiation of cooperative/coordinative work are provided from government or agency level (MSB, 2018).

In practice, the Swedish Crisis Response (SCR) system behaves analogous to a Complex Adaptive System as described by Holland (1992). Largely dormant in normal times, the SCR system produces emergent behavior in response to crises through the continuous interaction of its constituent organizations, “with little or nothing in the way of a central control” (Holland, 1992, p. 21). The organizations are in their own right considered as static agencies, with robust hierarchical structures and high levels of specialization. This adds up to a situation where emergent boundary-spanning structures are formed to respond to unanticipated and novel situations that cannot be handled within the original, specialized structures of the involved organizations.

Boundaries and Boundary Spanning in the Context of Swedish Crisis Response

A fundamental part in defining any system is the task of describing the boundaries of that system. From the constructivist approach described above it becomes clear that boundaries cannot be defined objectively as the outline of the system in focus is defined by the perspective taken by the analyst. However, defining and understanding boundaries is far more than an intellectual exercise. It very much affects real-world work, especially in situations where the boundaries define who can and is supposed to do what task. Boundaries define what you belong to as well as what you do not belong to (Akkerman and Bakker, 2011), but also provide an opportunity for interaction with others. Organizational boundaries are not static entities but in a continuous state of re-interpretation and re-negotiation (Kerosuo, 2001). Just like belonging to a certain social group, profession, or age, organizational belonging creates discursive boundaries. As Linell put it, discourse comprises linguistic expressions, concepts, propositions, facts, lines of argumentation, values and ideologies, knowledge and theoretical constructs, ways of seeing things and ways of acting towards them, ways of thinking, and ways of saying things (Linell, 1998), or a matrix of context in which people exist. Thus, discourse does not only guide communication, it also creates boundaries that must be spanned in order to interact in a meaningful way. Overcoming discursive boundaries involves the activity of interacting with others, meaning that a price in the currency of time has to be paid. Unfortunately, the currency “time” is scarce in crisis response situations, and

¹ *Cooperation* is not to be confused with *collaboration*. In the present paper, cooperation is used to refer to the communicative process of reaching agreement about how to proceed with an issue where no single governing authority has the decisional mandate. In contrast, collaboration is the combined action of multiple actors. Collaboration may thus be an *outcome* of cooperation.

investments not made beforehand must be made during the crisis to establish and maintain cooperation, coordination, and ultimately collaboration.

Turning the attention to the SCR System, a number of boundaries are of interest for the purpose of this study. At an overarching level, the utmost boundary of the SCR system in response to the Covid-19 pandemic can be said to be the country's national border. Responding to this crisis has involved the whole of society, including public sector agencies, private organizations and the citizens. Looking at the system in more detail, a distinction can be made between actors operating on a national level and actors on regional levels. Actors of primary interest on the national level during this crisis are The Swedish Public Health Agency, The National Board of Health and Welfare and the Government. These actors have cooperated on a strategic level, pushing directives for all actors within the system on how to act.

On the regional level, Regional Healthcare Agencies (from now on "Region"), municipalities, the Police, Rescue Services and County Administrative Boards (CAB) cooperate in each individual county. The study reported on in this paper primarily investigated the respective roles of the regional level actors, and by extension the boundaries between these organizations. This focus was intentional and follows the logic of the analysis of the SCR system as a complex adaptive system. According to this analysis, the ability to respond to the pandemic is based on the ability of the operative entities to cooperate, work which is manifested on the regional and sometimes even local (municipal) level (Herkevall, 2021).

Regional and Municipal Healthcare Providers

The Regions are the primary healthcare providers in their respective county, including management of both hospitals and local health centers (Swe: vårdcentraler). The everyday operations of the regional healthcare is a line production-based organization, where work and resources are calculated based on predictions regarding the need for different types of care and subsequently evaluated by rates of effectivity. The different care units (such as surgery, orthopedics, and oncology) are administratively distributed across all hospitals in the county.

With emergency healthcare being a part of their services, the Regions are involved in the response to all crises that involve injury outcomes. As such, every Region is required to have an *emergency medical contingency plan* (Socialstyrelsens föreskrifter och allmänna råd om katastrofmedicinsk beredskap, 2013) that defines standardized roles for crisis response, the redistribution of decision mandates to a special command and control structure, and procedures for different types of scenarios. In practice, this means that the Region establishes a dedicated crisis staff that is run in parallel to the ordinary activities in order to handle crises as effectively as possible – meaning best possible outcomes for victims of the event while minimizing the impact on the ordinary activities of the organization.

Complementary to the needs-based healthcare services of the Region, municipalities provide routine healthcare in the homes of the chronically ill. In contrast to the regional healthcare organizations, the municipalities do not have a corresponding emergency medical contingency plan. This follows logically from the fact that emergency medical care is not part of their everyday operations, and as such they are not normally involved in medical crises but rather continue work as usual in parallel with crisis response operations.

In essence, the municipalities are strictly bureaucratic organizations, divided into administrative departments according to service area (e.g., education, health and welfare, culture). Each department is specialized in its area of responsibility and strives to optimize the bureaucratic processes of their operations. The boundaries between departments within municipalities are similar to organizational boundaries as described in this paper. Each department works according to different regulations and has their own budget. Interdepartmental cooperation thus poses a challenge similar to that of inter-organizational cooperation. Despite the overall organizational structures being similar, each municipality differs in terms of how they divide department areas and responsibilities, how departments are organized internally, and what roles are included.

County/Regional-Level Cooperation

There are established cooperative structures for crisis response in every county, which unite representatives from a chosen set of actors including County Administrative Board, Region, municipalities, the Police, Rescue Services, the Armed Forces, Coast Guard, and the Transport Administration. These cooperative structures take the form of communicative forums with the main purpose of establishing common operational pictures and identifying cooperative needs. This does not entail any shifts in C2 or decision-making mandates. During non-crisis times, these structures exist in a sort of idle state, where meetings between the involved actors occur sparsely (but regularly) with the purpose of discussing learnings of previous crises and potential changes in the organization of the crisis response system as a logical consequence.

The county cooperative forums have contingency plans similar to that of the Regions' emergency medical contingency plan, stating who can initiate a crisis response, in what situations, and through what channels. Essentially, any of the involved actors that find themselves in a crisis situation that they perceive to require cooperation can classify it as a *special event*. From this point, the forum is to enter crisis response mode. The County Administrative Board holds the summoning function and is thus expected to coordinate meetings when need arises.

Table 1. Participant characteristics and qualifications.

Participant ID	Background
R1	<i>Professional background:</i> Specialist nurse, emergency care (ambulance care) <i>Current position:</i> Contingencies coordinator (emergency medicine), developing civil defense, duty officer (region). <i>Pandemic role:</i> Chief of Staff in Regional Medical Command and Control for healthcare.
R2	<i>Professional background:</i> Nurse. <i>Current position:</i> Teacher in emergency medicine, duty officer (region). <i>Pandemic role:</i> Staff member Regional Medical Command and Control for healthcare.
R3	<i>Professional background:</i> Ambulance care. <i>Current position:</i> Contingencies coordinator, education and development in prehospital systems. <i>Pandemic role:</i> Staff member Regional Medical Command and Control for healthcare.
M1	<i>Professional background:</i> Nurse. <i>Current position:</i> Medically responsible nurse for municipality. <i>Pandemic role:</i> Internal coordination and municipal representative for vaccination effort.
M2	<i>Professional background:</i> Nurse. <i>Current position:</i> Medically responsible nurse for municipality. <i>Pandemic role:</i> Internal coordination and municipal representative for the vaccination effort.
CAB1	<i>Professional background:</i> Crisis response in national agencies. <i>Current position:</i> Administrative officer with focus on crisis preparedness. <i>Pandemic role:</i> Chief of Staff in special Command and Control for County Administrative Board.

METHOD

This study used a semi-structured interview approach with a focus on eliciting accounts of cooperation in an inter-organizational context during the Covid-19 pandemic. Participants were recruited from one Swedish county and included one representative from the County Administrative Board (Swe: Länsstyrelsen), three representatives from the regional healthcare organization (Swe: Regionen) and two municipal (Swe: kommun) representatives from the researched county. The participants were recruited based on their experience of inter-organizational work during the Covid-19 pandemic. In total six interviews were conducted, five over Zoom video-calls, and one through a regular phone call. This approach was chosen based on the prevailing pandemic restrictions at the time. All interviews were transcribed at the level of *orthographic transcription* (i.e., verbatim, standard spelling, and script-like organization) (Linell, 1994). Some additional notations regarding tempo and emphasis were noted based on the interviewer's judgement of necessity.

The interview data was then analyzed by one of the authors through a process of thematic analysis as described by Braun and Clarke (2006). This process included identifying and collating codes in the data into overarching themes. These themes were iteratively checked against the dataset and refined until a set of themes had been defined, named and described to a satisfactory level of accordance with the dataset as a whole.

RESULTS

The results² of the interviews and the subsequent thematic analysis are presented in two themes offering different insights into the process and importance of establishing a functioning boundary-crossing discourse in inter-organizational cooperation:

1. *The concept of cooperation.* This theme illustrates the varying understandings of the concept of cooperation present in the studied boundary context. Differences are evident both in the semantical sense of the phrase, and in terms of expected behaviors and outcomes.
2. *Inter-organizational cooperative structures.* This theme accounts for three different types of cooperative structures for inter-organizational work that have been highly involved in managing the pandemic. These structures, although separately distinguishable, also show evidence of high interconnection. The process of establishing emergent cooperative structures in response to crises is illustrated in three distinct steps.

Theme 1 – The Concept of Cooperation

The first theme concerns the challenge of aligning implicit assumptions with regard to the notion of cooperation, the associated activities, and goals. There seems to exist a tendency to view cooperation as successfully achieved when the result is in line with the usual operations of the individual organization. The agencies of which the work is primarily administrative in nature (e.g., the County Administrative Board) have orders to collect and collate information into continuous operational pictures. As a consequence, their focus in cooperative work lies primarily with information exchange.

16.235.CAB1: So a lot has been about (.) yeah well gathering information for the operational pictures that is-- the government asks for quite a lot and [The Civil Contingencies Agency] as well quite a lot of information about this. So it has been (..) yeah well building that and keeping it going where the municipalities are to deliver information.

In contrast, the Region, being healthcare providers, have a stronger operational focus. In their view, the information exchanging activities involved in cooperation is seen more as a prerequisite for reaching cooperative action. This creates tension in inter-organizational settings where the traditionally administrative County Administrative Board is to cooperate with the more operationally weighted Region. R1 illustrates this challenge using an analogy from the perspective of an emergency medicine operational:

11.736.R1: information sharing is the case if I as a paramedic find a patient that needs to be carried over to an ambulance. I find the patient, I inform that I need to put this patient on the stretcher [...] and I need to carry it over to the ambulance. And then, then we concretize that example and I tell the police and rescue services as they stand beside and watch "well that sounds difficult, let us know if you need (.) anything". =Something like that. And watch me as a lone paramedic when the patient is on the ground. Cooperation, according to my definition, that is that the police or rescue service which also happens on an operative level grabs the foot end of that stretcher and help me carry the patient over to the ambulance. >Do you follow<? Then we have cooperated.

The inference that inter-organizational cooperation needs to build from a common understanding of the goal and purpose of cooperation might seem obvious. Nevertheless, the results from this study suggest that this first step of establishing a boundary-crossing discourse is not only difficult, but recurrently forgotten about when entering a new cooperative context. This is not new information. The Civil Contingencies Agency has made a substantial attempt to mitigate this problem with a common document (MSB, 2018) for cooperative crisis response operations, building from a proposed common terminology. Despite expressing an appreciation for the document in terms of both content and intent, R3 was underwhelmed by the lack of implementation across organizations.

15.540.R3: And (.) what strikes me is that it is actually VERY FEW, 2019, 2020, 2021 that actually hold high positions that have the slightest idea what [Gemensamma Grunder] is. I find that quite interesting, especially-- say that a firefighter doesn't know [Gemensamma Grunder] that, that I can accept. But a rescue officer that doesn't know [Gemensamma Grunder] then we haven't reached our goal.

² The results presented in this section are adapted from selected parts of a previously published M.Sc. thesis. For a more comprehensive account, see Herkevall (2021).

The consequence of failing to establish a common point of departure for cooperation seems to be that the involved organizations, rather than working together in a problem-solving manner, tend to become stuck in information sharing regarding the individual challenges of each organization in the current situation:

I3.685.R2: you come to a meeting, you are from different organizations, you are there to solve a task and then everyone reports their situations and then you note that this was difficult. And then that's about it. Because it is difficult to reach decisions. Because NOBODY commands over the other.

Theme 2 – Inter-organizational Cooperative Structures

This theme accounts for experiences of working in different types of inter-organizational structures during the Covid-19 pandemic. These structures differ in terms of purpose, involved actors, time frames, and tasks. All of these parameters have influenced the cooperative capacity and effectiveness of the various structures.

Everyday Inter-organizational Cooperative Structures

The first type of structure is characterized by continuously ongoing inter-organizational interactions during everyday work. This is prominent with municipalities, where role- and function-specific networks have been formed for the exchange of learnings, resources, and need-based help.

I2.175.M1: The health and welfare managers of all municipalities in the county (.) they are part of a health and welfare network. [...] it may be about once a month every other week they meet but it intensified when the pandemic started (so that) they would learn from each other and help each other out

Having boundary-crossing networks established in the everyday operations have proven valuable in managing the pandemic. Through these networks, communication paths and boundary-crossing discourses were in place already when the pandemic started, which in turn sped up the initiation of problem-solving activities significantly. Through the networks, municipalities have been able to co-create informational resources, exchange learnings and solutions, and provide each other with general support.

I4.117.M2: And there cooperation over municipal borders have worked very well. In my opinion. And it is like the fact that you can work across municipal boarders in the different groups results in-- it is a success. And you could add that us medically responsible have a very close cooperation from earlier as well which I believe has been a great advantage for us, that we have a very good dialogue from before.

Having inter-organizational cooperation established pre-crisis is, however, no guarantee for smooth crisis response. The Region cooperates with the municipalities on a day-to-day basis regarding municipal healthcare services. The municipalities employ nurses that provide healthcare at home to the chronically ill. When tasks arise that require doctors (e.g., prescription of medicine), the municipalities turn to the Region since they do not employ doctors in their own organizations. As such, an existing collaborative structure exists, but it is not as well functioning as the between-municipalities structures – something that has proved problematic during the pandemic.

*I3.615.R2: I mean it has been discussed repeatedly, primary care toward municipalities in the everyday but it works fine as long as you can sort of grind through it and it's not, it's not visible on a societal scale but on the individual level. In those cases you can sort of grind through it time and again. Haha it's *been going for such a long time*, there's something that's gone askew. Well. That is something that is just, completely just it is so concrete and so, I mean it has consequences in a crisis. That is my biggest learning. You cannot have things in the everyday work that is fretting because it DOES NOT SETTLE during a crisis. It obviously gets a lot, lot more visible that we have something to work with here.*

For all intents and purposes, the every-day cooperative functions can be said to have maintained their structure during the pandemic. The primary difference has been an intensification of boundary-crossing activities.

Preplanned Regional Inter-organizational Structures in the Crisis Response System

As previously described in this paper, there is an inter-organizational structure with preplanned processes for

countywide cooperation in times of crises. This includes a host of actors, among which the County Administrative Board (CAB) has a summoning role, and thus it was expected of the CAB to initiate meetings in the county forum. However, from the perspective of the Region, the CAB stuttered a bit in taking their expected role until they received clarified instructions from the governmental level.

15.106.R3: I think the County Administrative Board have had a good and clear role in the everyday operations where they call to cooperative meetings [...] But I think this failed a bit when the crisis came. It has become much clearer now but that was also because they got a government assignment as I said before. Then it became clear for the County Administrative Board.

Turning to the perspective of the CAB however, this seems perfectly logical. Healthcare is not a part of the CAB's regular mission statement. Thus, in response to (what was generally regarded as primarily) a healthcare crisis, their role was far from obvious in their own view.

16.527.CAB1: And on our part, [...] it is usually said that the County Administrative Boards have something to do with everything (.) except healthcare and (.) education. All other sectors or other political areas are part of the County Administrative Board's ordinary mission. [...] so because of that (.) this whole health and welfare is pretty new to the County Administrative Board in terms of cooperation and having an active role as well.

An additional challenge in this context can be understood as a consequence of all actors maintaining their decision-making autonomy in full during crises. Part in this autonomy is deciding whom to send as representative in the cooperative forums, (often) resulting in a situation with skewed mandates represented in discussions. Since all agreements in the cooperative context needs to be approved at decision-making levels in the respective organizations to materialize in practice, these representative differences can have substantial consequences, as exemplified in the following account from R1:

11.788.R1: [...] we actually together between municipality and the County Administrative Boards and the regions developed a suggestion [...] to quickly establish a short term accommodation for cohort care of (.) positive Covid-patients that is those <infected with Covid> not in need of hospital care but where it maybe would suffice with municipal care but that was a clear example of when the people who prepared the work did not have sufficient mandate in their own organizations. Because when the top decision-makers heard the proposal they shot it down and said that "this question has been wrongly prepared". And so a month passed and then someone else said "we should have short time accommodation for Covid-patients". [...] "well we said that a month ago". We could have had this accommodation up and running by now if we'd have taken that decision already back then.

What R1 expresses above is a concrete example of a clash between the operationally focused regional crisis response staff and the bureaucratic managers of the municipalities. Another aspect of importance is suggested by CAB1 to be differences in crisis management experience.

16.501.CAB1: the cooperation that we have within the crisis preparedness field (and) that which is like agreed and (.) (trained) and such that is just one, one certain type of people that have been involved in that [...] it is something that happens in parallel, that, that the regular operations usually never come in contact with

The specific circumstances of the COVID-19 pandemic have forced full integration between everyday operations and crisis response, which in effect has placed decisions on crisis response in the hands of people with potentially no such previous experience or training. When faced with novel decisions in potential grey areas, there seems to have been a tendency to apply a risk aversive approach in relation to the risk of breaking bureaucratic rules and regulations.

Emergent Cooperative Structures

As illustrated, everyday cooperative structures and the crisis response forum act as foundations for activating crisis response. However, planned structures can only cope with a limited extent of variety. During the pandemic, the need for emergent structures in response to novel challenges have proven very high. These emergent structures have not been formed in isolation from the established structures, rather the ongoing structures act as platforms for identifying needs and possibilities for new cooperative structures.

16.447.CAB1: *So, I believe that we have been (.) have had to be much more pragmatic (.) regarding “well, now we need to cooperate around these questions. How do we do that in the best way?” [...] we have had to depart from the agreed steps. To move forward in the event and it has been so-- the impact has been so severe if we fail.*

For the purpose of this report, emergent behavior is understood to be the effect of interactions between the constituent parts of a complex adaptive system. Based on the interviews, an understanding of how these interactions begin and develop into a new emergent structure can be illustrated in three steps.

Identifying needs and possibilities for new structures. The first step is identifying current challenges that could and should be managed through new cooperative structures. This is one of the most important functions of the regional crisis coordination forums. However getting past mere communication to actually forming adaptive response structures is difficult. This is in part due to difficulties in seeing how different competencies can come together in solving a challenge.

16.268.CAB1: *it has been a recurring discussion throughout this time=how (.) we could support the region and (.) the region maybe haven't seen, that “well what could the County Administrative Board do”.*

Compiling the right competence. The next step is identifying the competencies that should be included in the specific function. This is exemplified in the establishment of the cooperative structure for vaccination in the county, where the constellation of representatives was altered early on to provide the needed competencies more accurately.

12.55.M1: *No we are three for the county. [...] [The county] have [10+] municipalities and we are 3 who represent all municipalities. And in the beginning I was alone and were to represent all municipalities together with a social director. But the first meeting I felt that “oh, we can't have a social director involved we need more medically trained personnel” so I asked the social director to step back and we brought in two other [Medically Responsible Nurses] in the county so that we were three with the medical knowledge.*

A general experience is that keeping the size of task-specific groups small and trusting them to have the required competence to do their assigned job are important aspects. When the size of emergent structures is kept small, the experience is that this favors swift-footed response and decision-making compared to the larger established cooperative forums. Within the context of a complex adaptive system, this can be understood as allowing the smaller constituents of the system perform their respective expertise, thus achieving a better emergent outcome from the system as a whole.

11.1155.R1: *[...] My analysis is that minimizing the number of individuals and actors in meetings was a success factor.*

Solving the task. Following the identification of a novel task and the assembly of a suitable inter-organizational group, the task at hand needs to be operationalized and an action plan needs to be formed. With new structures being formed by actors from different organizations, finding a way to approach the problem becomes a question of finding a suitable solution within the operational frames of all involved organizations. The inter-organizational cooperative structures that have been forced to emerge in response to the pandemic have effectively illustrated the magnitude of the challenge of understanding the theories-in-use of the organizations with which you cooperate. Without bridging the discursive boundaries and thus constructing a common understanding of the prerequisites for actions, the emergent structure cannot solve the task it was formed in response to.

13.534.R2: *<Long discussions and a lot of frustration> eh: that have resulted in that we have a better understanding of each other. And a large set of routines that have been continuously updated. Eh you have to write routines because there aren't any in place for managing this so, so in dialogue you just try to find like (.) well, practical procedures for how to solve this.*

DISCUSSION AND CONCLUSION

The objective of this paper was to *understand understanding at the boundaries of inter-organizational crisis management* – to account for different views of challenges in handling the Covid-19 pandemic, and by constructivist analysis identify challenges and possible learnings from these different accounts. This systems-constructivist perspective carries the implicit assumption that adaptive crisis response cannot be solved solely by predetermining rules, roles, and technical support – in the end it comes down to interpersonal interactions. This

does not mean that preparedness in terms of standardized roles, communication paths and training is meaningless – quite the opposite. Predefined structures act as scaffolding for the production of emergent, adaptive response structures by providing a predefined solution space without which the number of possible solutions would likely be too overwhelming to get anywhere.

The concept of *boundary discourse* can be viewed not only as an analytical perspective on inter-organizational work, but also as a requirement for effective cooperation in inter-organizational work. Establishing functional inter-organizational structures can be regarded as a three-step process where boundary discourse plays a crucial role. Common for the three steps of establishing inter-organizational structures is that each step requires an updated boundary discourse involving (potentially) new individuals. First, a boundary discourse in relation to the ongoing crisis must be established such that the involved actors may identify cooperative needs and possibilities. Second, the boundary discourse must evolve so that the actors attempting to form a cooperative structure can identify the needed competencies for the structure in question. Last, the collaborative task group that is formed must establish a boundary discourse such that they can operationalize a response to the challenge in question.

As an example from the reported empirical study, Figure 1 provides a simplified illustration of the primary cooperative partners and their relationships before and during the COVID-19 pandemic response. During the pandemic, a task-specific response structure emerged where new partners became involved, and old partners interacted in new ways. The colored dots represent the primary actors during the pandemic, and the smaller black dots on the right represent emergent structures that has arisen in response to pandemic-specific challenges.

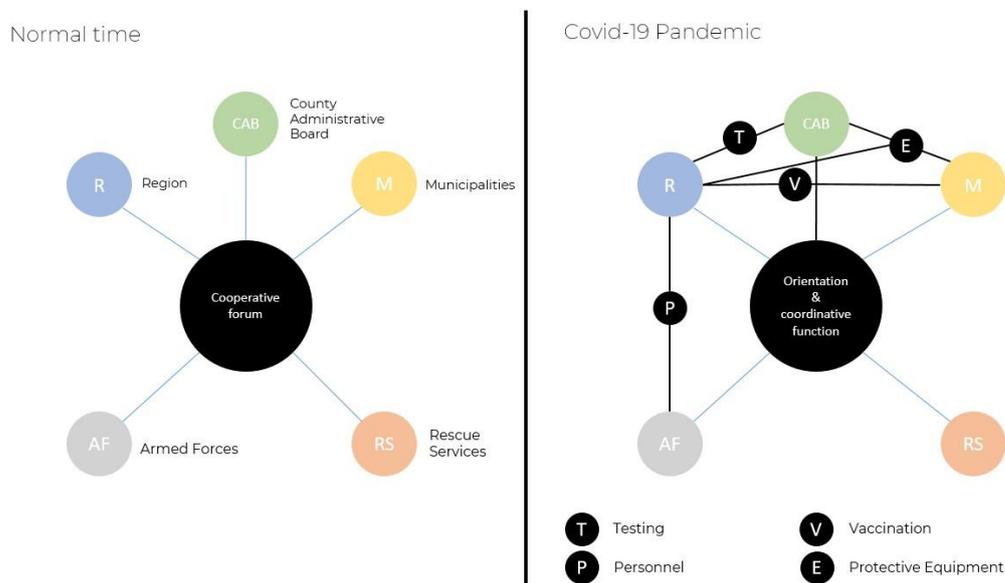


Figure 1. Simplified illustration of the county cooperative forum and some of the emergent cooperative structures that have been formed during the pandemic.

Given that the pandemic was still ongoing at the time of conducting the interviews in this study, the state of utility of the structures in Figure 1 varied greatly. The interviews suggest that one of the major challenges in cooperation is to understand why people do, or do not, understand each other. In this paper, it is thus suggested that at the core of establishing a boundary-crossing discourse is the process of making the *implicit explicit*. This means making visible the various assumptions that representatives from different actors carry with them from their respective organizational contexts into an inter-organizational context. The interviewees expressed frustration regarding the challenge of understanding the theories-in-use (Argyris and Schön, 1996) applied by other organizations, something that limits the ability to take joint action. The basic understanding any individual holds about someone or something else shapes the way they communicate about things, which in turn will be re-negotiated with every interaction with others, creating an ever-ongoing cycle of re-interpretation and re-contextualization of discourse. This also explains the difference between assuming a common use of terminology and jointly defining and re-defining meaning in use. This understanding must be established as the structures needed for conducting basic tasks such as sharing information, resources, and coordinating action emerge as a consequence of that understanding. The collaborative, communicative effort needed to achieve this is without exception time-consuming. Given the time pressure of crises, this poses the question of how this cost of time might be minimized.

While suitable for gaining insights into the problems of inter-organizational work, the interview method has limitations regarding the possibilities of studying the communicative practices that are effective in overcoming

these issues. However, one aspect that seems to aid in reducing the costs of achieving understanding across boundaries is keeping inter-organizational groups small in size. One hypothesis is that fewer people more easily can establish a common discourse than a larger group. There may be less need to defend and preserve the differences that signify the *own organization* when not surrounded by one's peers (Luhmann, 1982). Furthermore, each individual taking part in the boundary-crossing activity is likely to adapt to each other in an effort to create a discursive common ground for their work (Clark, 1996). The interviews also point to the importance of providing the right competencies for collaborative efforts. Similar professional competence provides a fundament for understanding, which may enable a more rapid convergence of perspectives (Linell, 1998).

From the point of view of training for inter-organizational crisis response, a paradox emerges. On the one hand, there are obvious advantages of training and exercising for cooperation as the cost for establishing cross-boundary functions can be reduced. On the other hand, it is hard to predict what constellations of actors that are needed in a crisis situation. This study points to the difficulty of transferring successful collaboration from one context to another. The CAS perspective used in this paper suggests that the only viable solution to the paradox is to train for a general kind of cooperation. This more generic focus on inter-personal skills can be seen as a complement to exercising establishment of pre-defined structures for cooperation. How to train this boundary-crossing competence is an issue that deserves further investigation. However, it can be concluded that understanding other organizations' rationale, structure, constraints and capabilities is fundamental. This can be taught by training, but is preferably appropriated through experience. The latter may however not be possible prior to a crisis and must be dealt with during the situation. This trade-off must be considered when designing inter-organizational exercises as well as training for inter-organizational cooperation.

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