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Municipal risk communication challenges in the Nordic context: Organizing risk ownership

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Abstract

At a time when disasters, pandemics, pollution, and other crises gain prominence, local governments bear a crucial responsibility for effective risk communication. Yet, there remains a gap in our understanding of how municipalities approach risk communication before a crisis occurs. This qualitative study, involving seven focus groups and 29 semistructured interviews across two Nordic countries, raises questions about ownership of municipal risk communication: What challenges do municipalities face in managing ownership in risk communication? How does the organization of communication influence municipal risk communication? The results underscore three key considerations: First, there is a critical need for municipalities to engage in definitional clarification of risk and crisis communication. Establishing a shared understanding is paramount for effective communication strategies. Second, reframing uncertainty in municipal risk communication ownership as an opportunity is suggested. Embracing the inherent uncertainties and dependencies can offer a valuable perspective. Lastly, recognizing the underappreciation of risk communication emphasizes the imperative for municipal decision makers to address resource allocation issues. This involves

ensuring that communication professionals have the confidence and resources needed, vis-à-vis other functions involved in risk management.

INTRODUCTION

As natural disasters, pandemics, pollution, and other crises continue to increase in frequency and severity, effective risk management and the communication of both visible and invisible risks to the public(s) are becoming increasingly important. Risks are increasingly understood as states of potential harm shared by all members of society, and the responsibility for mitigating risks is also shared among many actors and authorities at different levels (Comfort & Wang, 2022). Notably, in many European countries, municipalities are responsible for a significant part of risk and crisis management, including preventive communication about potential risks. For example, according to the Swedish Civil Contingencies Agency (MSB), the foundations of Sweden's overall preparedness lie at the municipal level: "The better they [the municipalities] are at dealing with emergencies, the better society as a whole will be at coping with emergencies" (Krisinformation, 2021, our translation). Municipalities are therefore often seen as front-line and essential actors in preparedness, with risk communication playing a crucial role in building resilient and well-prepared societies.

To actively engage communities in the process of risk mitigation, communicating, and sharing information about risks is critical (Comfort, 2007). However, while municipal risk communication certainly plays a vital role in protecting citizens and preparing communities for potential hazards, it is often a low priority (Skotnes et al., 2021). Moreover, there is still a significant gap in our understanding of *how* municipalities organize and approach risk communication before a crisis occurs (Dharmasena et al., 2020). Although there are some recent exceptions (such as Boholm, 2019a, 2019b; Lemon & VanDyke, 2021), the organizational dimensions of municipal risk communication are underexplored in the research. In particular, the perspectives of communication practitioners involved in risk communication at the municipal level have received limited scholarly attention (Frandsen & Johansen, 2009; Johnston et al., 2020).

It is important to acknowledge that the practice of risk communication within municipalities is fraught with dilemmas and tensions (Lerøy Sataøen & Eriksson, 2023) and is far from a straightforward undertaking, given the complex interplay of responsibilities, regulatory frameworks, and diverse functions within these dual entities, which include both political institutions and administrative bodies (Boholm, 2019a; Liu & Horsley, 2007). Thus, the overall research problem of this paper is to understand how local risks are identified and understood at the municipal level, who are considered "owners" of these risks (Årstad & Engen, 2018) and who are responsible for communicating them. Two research questions have guided the investigations. First, what challenges do municipalities face in managing risk communication ownership? Second, how does the organization of communication influence municipal risk communication? The paper will contribute to our understanding of municipal risk

communication, and it will add to the literature on the organizing of risk communication at the municipal level.

Our research focuses on municipal risk communication in the contexts of Norway and Sweden. These two Nordic countries were chosen as research sites because they are exemplary high-trust societies (Johansson et al., 2023) with efficient and proven, reliable risk management systems at the local level (Lidskog & Rabe, 2022; Storm-Mathisen & Lavik, 2016). Countries such as Norway and Sweden, with well-established norms for risk management, robust risk communication structures, an efficient public sector, and a populace that generally trusts institutions and their information, are well-equipped to handle modern risks characterized by wickedness, complexity, governance difficulties, and intricate interdependencies. While recognizing that other countries face unique challenges, we believe that the identified complexities in our cases have relevance beyond our specific context. Moreover, both Norway and Sweden have regulatory characteristics in common with many other European countries, making them valuable cases for examining municipal risk communication in the broader European context. By selecting these cases, we therefore aim to gain insights that may be relevant to other regions and countries seeking to improve their risk communication strategies. The data consists of semistructured interviews and focus-group interviews with municipal managers and advisors responsible for risk communication in municipalities in both countries.

THEORETICAL OBSERVATIONS

Effective risk communication is an essential component of modern public governance, especially in municipalities. To lay the groundwork for our empirical explorations, the following sections will therefore begin by elucidating key definitions and perspectives on risk communication in municipalities, which conceptualize modern risks as wicked and difficult to govern (Boin et al., 2020). We recognize that risks involve complex interdependencies and that risk governance is about understanding and managing ambiguous and contested risks and actions to address them (Renn, 2006). We will then focus on three central, yet unresolved, dimensions within this area (Ihlen et al., 2022; Johansson et al., 2023; Årstad & Engen, 2018): (a) the interplay between risk communication and crisis communication; (b) the conception of risk ownership in a municipal setting; and (c) the influence of ideas of transparency on risk communication. Furthermore, as a significant gap persists in our understanding of how municipalities organize and approach risk communication before a crisis occurs (Imesha Dharmasena et al., 2020), addressing these three dimensions and relating them to the current administrative risk communication frameworks in Norway and Sweden can be a contribution to the understanding of the specificities of municipal risk communication.

Municipal risk communication

We understand the concept of risk as a perspective from which to analyze the uncertain consequences of future societal changes and developments. According to Renn (2006), all risk communication must be tailored to meet the three challenges of complexity, uncertainty, and ambiguity. Complexity refers to the difficulty of identifying and quantifying causal links between a variety of potential causal agents and specific effects. Uncertainty refers to the difficulty of predicting the occurrence

and/or consequences of events, based on incomplete or invalid data. Ambiguity means that identical behaviors or statements are evaluated quite differently by different groups. According to the psychometric paradigm (e.g., Tversky & Kahneman, 1974), individuals define risk subjectively, and their risk definitions may be influenced by a range of cultural, organizational, psychological, and social factors. A major issue in risk communication is how to tailor the content of the communication process to the interests and concerns of the different social and cultural groups within a society. Furthermore, Rickard (2021) argues that risk communication depends on both how an actual risk is perceived and how individuals assess the trustworthiness of the information they receive as well as the trustworthiness of the senders.

We define practical municipal risk communication in line with Löfsted's (2003) understanding of it as an open process in which risk assessments and information about potential future damage and related hazards in a community are exchanged between experts, public authorities, interest groups, and citizens. The goal is to enable the concerned parties themselves to take measures to prepare for or mitigate risks. In this process, the meaning of information may be transformed rather than simply transmitted. A crisis, on the other hand, can be defined as a situation in which a group, organization, or community experiences a "serious threat to the basic structures or the fundamental values and norms of a system, which under time pressure and highly uncertain circumstances necessitates making vital decisions" (Rosenthal et al., 1989, p. 10).

Municipal risk communication takes place in a local context where the municipality is the principal organizer of communication and the sender of information. It also involves various organizational functions and units, such as emergency and safety sections, preparedness and contingency planning units, communication departments, and units responsible for physical infrastructure (Lidskog & Rabe, 2022). In both Norway and Sweden, risk communication is conditioned by a system of risk and vulnerability analyses (RVAs), which municipalities are legally required to conduct every 4 years. These provide a framework for identifying risks, reducing vulnerabilities, and improving the municipalities' ability to deal with crises and extraordinary events (MSB, 2019).

Formally, civil protection and emergency management in Sweden is guided by three overarching principles: responsibility, similarity, and proximity. The Norwegian civil protection and emergency planning system shares these principles and adds a fourth: cooperation (DSB, 2018). The principles of responsibility and similarity mean that the actors that are responsible for providing a service under normal circumstances are also responsible for providing it during a crisis and that this should be done in a similar way as under normal circumstances. Hence, municipalities are responsible for maintaining essential societal functions such as schools, elderly care, water supply, and district heating during a crisis. The principle of proximity means that the responsibility for risk and emergency management lies primarily with those most directly affected—the affected municipality and the sector(s) of society that are involved. In this system, municipalities are central because they are responsible for maintaining essential societal functions and are therefore best situated to manage and communicate risks in these areas. They also play an important role in the internal organization of risk communication.

Risk communication and crisis communication

From the literature, we learn that practical risk communication and crisis communication are two different and distinct activities (Johansson et al., 2023). In practice,

however, they are often conflated. Crisis communication is more spontaneous than risk communication and often focuses on the "here and now" and on situations that arise after an incident has occurred and a risk has become a crisis (Johansson et al., 2023; Ulmer, 2019). On the other hand, risk communication at a practical level focuses on things that *might* go wrong.

According to Johansson et al. (2023, p. 1577), risk communication has the potential to be "controlled and crafted, with extensive possibilities for long-term planning in designing and implementing campaigns over a long period of time." Crisis communication, on the other hand, is spontaneous in nature and relies more on ad hoc measures. In short, risk communication is "designed to speculate about what might happen, whereas crisis messages are in reaction to an event that did happen or is happening" (Johansson et al., 2023, p. 1577). The MSB and Norwegian Directorate for Civil Protection's (DSB) risk definitions are, to a large extent, associated with perceptions of crises in which the concept of uncertainty remains relatively unexplored. Their focus predominantly revolves around known risks and how to manage their consequences. For example, while MSB acknowledges that risk pertains to "what potentially might happen in the future," the risk assessment and communication processes are confined to well-defined phases structured within manageable plans (DSB, 2016).

In practice, the Swedish and Norwegian systems lack clear guidelines and instructions for risk communication. However, when it comes to crisis communication, the landscape is different. For instance, the DSB has issued guidelines for crisis communication (DSB, 2016) that municipalities can use to prepare a plan adapted to their own needs. In Sweden, the occurrence of an emergency or crisis can trigger a specific law that regulates the actions of municipalities and regions during extraordinary events. Municipalities are also required by law to have a plan for handling such extraordinary events. Risk communication, on the other hand, is embedded in a less rigid framework. However, it is crucial to recognize that despite the clear differences in formal administrative frameworks and the theoretically distinct boundaries between risk and crisis communication, the practical distinction can often be muddled and blurred (Reynolds & Seeger, 2005), prompting an exploration of how these discrepancies play out in municipalities.

Risk communication ownership

Many contemporary risks are *transboundary* in nature (Lidskog et al., 2009), as they are uncertain, invisible, contested, and involve conflicting views about the character of the risk. The complexity of this situation raises the question of risk ownership (Young & Jones, 2018) and even "risk communication ownership"; specifically, who is responsible for managing and communicating risks to citizens and stakeholders? Årstad and Engen (2018) use the concept of risk ownership to refer to a person, entity, or institution that has the authority to handle and manage a risk and is responsible for doing so. Hence, risk owners are agents that operate on multiple levels and participate in the management of risks within a specific area of responsibility (Årstad & Engen, 2018).

Risk ownership operates across three domains: ownership of the "assets at risk," ownership of risks associated with the impacts and consequences of a hazard or danger, and ownership of the actions taken to mitigate it, build resilience, or recover from it (Young & Jones, 2018). Depending on the type of risk, there may also be several potential owners, and there may be areas where it is not possible to clearly

delegate ownership. Although some argue that effective risk communication requires clear-cut "ownership" of risks (e.g., Ringsmuth et al., 2022), in a context where the public sector is under increasing pressure to address complex, "wicked" and transboundary issues, it can be challenging to identify the risk owner(s). There may also be situations where one entity is responsible for managing a risk and another is in charge of communicating about it. For instance, in Sweden's risk, crisis, and preparedness system, ownership issues are ambiguous. Even the MSB admits that the division of responsibility and ownership is not always clear: "No organization is solely responsible […] which makes the system for crisis management difficult to understand" (Krisinformation, 2022, our translation). However, Samimian-Darash (2022) introduces an alternative perspective, suggesting that it is essential to embrace uncertainty and acknowledge that the future is inherently uncertain. This approach encourages not only recognizing the uncertainty of external situations but also actively practicing and acting in accordance with an acceptance of uncertainty.

Based on an understanding of risk ownership as inherently ambiguous, Årstad and Engen (2018, p. 58) argue for a so-called "wide framing" of risk ownership, in which the complex nature of risks is seen as irreducible and, moreover, that one should accept that "complexity matters in practice," and that this is also a prerequisite for preventing and managing risks. In short, ambiguity, uncertainty, instability, and unpredictability are inevitable and must be taken into account. To date, research on risk ownership has primarily focused on the phases in which risks have turned into crises and has given limited attention to how risks are communicated.

Municipal risk communication and transparency

Many studies have found that transparency in the form of openness and honesty is important in authorities' risk communication because it can strengthen public trust (Enria et al., 2021; Ihlen et al., 2022; Skotnes et al., 2021). Nonetheless, problems related to the concept of transparency have also been discussed, and some scholars have argued that transparency without contextualization of the information can cause unnecessary public concern (Löfstedt & Way, 2016). Furthermore, in certain situations, transparency may undermine rather than strengthen trust. Transparency is commonly understood as merely "openness and honesty" (Löfstedt & Way, 2016), with simplistic perspectives equating it to the mere disclosure of information. Ihlen et al. (2022), however, advocate a three-dimensional framework emphasizing information substantiality, accountability, and participation, which we will rely on in the following discussion.

Information substantiality refers to providing relevant and understandable information; accountability refers to admitting mistakes and tolerating criticism; and participation refers to the public's ability to provide feedback and express their needs (Ihlen et al., 2022). Hence, acknowledging uncertainty is a key recommendation for building sustainable public trust. Ihlen et al. (2022) examined the strategies of Scandinavian health authorities during the coronavirus disease 2019 (COVID-19) pandemic and the different levels of public trust in these authorities. Their findings support the importance of the three transparency dimensions and indicate that transparency regarding uncertainties has a positive effect on levels of trust. In high-trust societies, such as Norway and Sweden, continuous efforts to maintain and strengthen public trust are recommended to prevent increased polarization and to strengthen the population's resilience against disinformation (NOU, 2023, p. 17). These sentiments are also reflected in the legal and administrative frameworks of the

Norwegian and Swedish systems for municipal risk and crisis communication. Here, the municipalities are obliged to follow the principle of public access to information. This means, among other things, that municipalities should provide information to the public swiftly and transparently (Swedish Ministry of Justice, 2020). However, provisions on secrecy may restrict public access to official documents (cf. the Public Access to Information and Secrecy Act), such as when some information in a document is classified as *secret*.

DATA AND METHODS

This article draws on the findings from two distinct research projects conducted in two similar national contexts, Norway and Sweden. Both projects gathered qualitative data concerning risk communication at the municipal level. Despite having different designs, they shared a common approach to municipal risk communication. In the following section, we will present the data, sample characteristics, and methods of the projects; see Table 1. Furthermore, we will provide an overview of the analytical strategies employed in our research and address the limitations of our study. We will also discuss Norway and Sweden as "critical cases" (Flyvbjerg, 2006) for understanding risk communication at the municipal level.

The Norwegian project had an explicit case-study design, with four municipalities in the sample, and these were studied using different methods. They were selected because of previous experience with incidents involving risks and invisible hazards (radon gas at a kindergarten, radon gas at a primary school, mold spores at a primary school, asbestos fibers at a municipal swimming pool, gas leaks at an oil and gas terminal, and gas leaks at an oil refinery). Although these municipalities were chosen because of previous experience with incidents, the interviews focused on issues related to risk and risk communication, with no explicit thematization of crisis communication in the interview guide. In this project, the researchers also interviewed stakeholders (parents and employees) and media representatives. In this article, however, we rely only on accounts from municipal officials. The data from Sweden

TABLE 1 Data and sample characteristics in the two substudies.

	Substudy 1	Substudy 2
National context	Norway	Sweden
Time frame	2017–2020	2021–2022
Municipalities	4	19
Sampling strategy	Municipalities with experience from recent incidents	Purposive sampling for variation
Key variation in the sample	Different sized municipalities, variety of risk profiles	Size, degree of urbanization, geographical localization, and risk profiles
Methods	Seven focus groups; 10 semistructured interviews	19 Semistructured individual interviews
Type of interviewees	Municipal officials responsible for communication (e.g., communication managers, health directors, and contingency planning managers)	Communication officers with responsibility for risk communication

focused specifically on the risk communication function in municipalities. The sample of informants was purposive, and the municipalities varied widely in terms of both their characteristics (size, degree of urbanization, geographic location) and their risk profiles (flooding, hosting of SEVESO plants/chemical industries, and fluctuating population due to seasonal variation). The aim was to include a variety of municipalities facing different types of risks.

As can be seen in Table 1, the two studies differ in their design, methods, and data. For instance, the Norwegian study focused on a more limited number of municipalities, potentially providing a broader perspective through methods such as focus-group interviews, where different stakeholders come together to collectively discuss issues of interest for risk communication. These focus-group sessions also captured the collective sentiments and shared perspectives of the participants. Conversely, the Swedish study delved more deeply into the roles of communication practitioners involved in risk communication and had a more diverse sample. Despite these differences, both projects shared the overarching goal of examining various dimensions of risk communication at the municipal level, from the perspective of municipal officials. By combining their data, we obtain a robust and broad basis for our analysis.

The process of analyzing the data proceeded in several steps (see Figure 1).

First, the two data sets were merged, and the interview transcripts from the two subprojects were searched for sections and statements in which dimensions of responsibility and ownership of risk communication were present. In our case, these sections and statements were grouped together into themes that related in different ways to perceived challenges of risk communication ownership in municipal contexts. The first theme concerned how the informants perceived, managed, and organized risk communication and crisis communication, respectively. The second theme focused on the internal distribution of responsibilities, coordination, and cooperation within municipalities, when it comes to risk communication. The third theme had to do with how municipal officials understand the distribution of risk communication responsibilities when the risk originates "outside" the municipal boundaries. The fourth theme examined a major concern among the informants, namely, how to communicate risks without causing fear among the municipalities' stakeholders.

The analysis did not involve the testing of specific hypotheses. Instead, the emergence of themes was guided by sensitizing concepts (Blumer, 1954) derived from
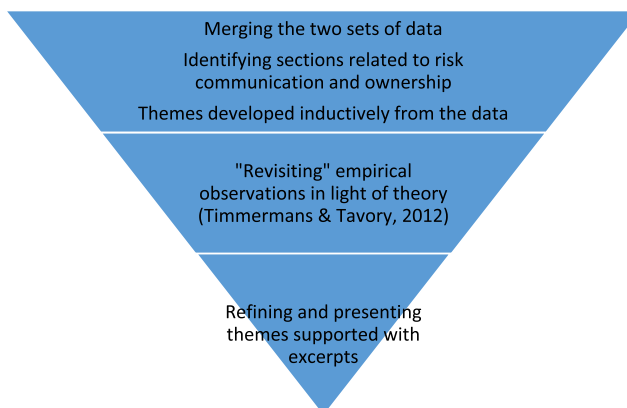

Merging the two sets of data

Identifying sections related to risk communication and ownership

Themes developed inductively from the data

"Revisiting" empirical observations in light of theory (Timmermans & Tavory, 2012)

Refining and presenting themes supported with excerpts

FIGURE 1 Schematic figure of the analyzing process.

the theoretical framework, in conjunction with the expressions and accounts found in the interviews and the semistructured interview guide(s). Hence, and in line with Timmermans and Tavory (2012), we revisited the empirical observations in light of the theories. Through "revisiting" the data, different aspects became salient and empirically based revisions of theories became possible. In the following results section, we therefore structure the analysis around these four themes and relate it to the theoretical framework. It is important to note that these themes did not encompass the entirety of the material. Factors such as professional logics of the interviewees, home preparedness issues, educational and organizational backgrounds, and the role of other technical experts were not explicitly included in this particular analysis.

In the analysis, we treated Norwegian and Swedish municipalities as somewhat aggregated entities, which may overshadow the internal differences between municipalities in the two countries. To address this limitation, our analysis also highlights some internal variation within different themes, providing a more nuanced understanding. The decision not to make direct comparisons between the Norwegian and Swedish data sets was deliberate. The substantial similarities between the two data sets often overshadowed the differences, and the inherent characteristics of the data did not lend themselves to systematic and detailed cross-country comparisons. Instead, our focus was on exploring the specific nuances and variations within each data set that allowed us to draw meaningful insights within their respective contexts.

Research setting

Norway and Sweden can be regarded as "critical cases" (Flyvbjerg, 2006) in the field of municipal risk communication. Critical cases are considered to be of strategic importance in relation to a general problem. Norway and Sweden have good preconditions for effective and legitimate and sustainable risk communication at the municipal level. Following the logic of critical cases (Flyvbjerg, 2006), if challenges and complexities are valid for this case, then they are likely to apply to other contexts as well, at least in Europe, where many countries have legal characteristics and requirements in common.

In the context of risk, Sweden and Norway are often classified as high-trust societies, where authorities are regarded as highly trustworthy (Johansson et al., 2023). Moreover, the countries are characterized by communicative partnerships (Fukuyama, 1995), with a high willingness to take protective measures (Johansson et al., 2023), and a general perception that crises can be overcome if people follow instructions, which they are expected to receive from trustworthy authorities (Cornia et al., 2016). Both countries have consensus-oriented democratic traditions with well-established systems of stakeholder participation, mutual trust between citizens and authorities, as well as trust in industry and state-industry alliances (Christensen & Lægreid, 2023). In addition, both countries exhibit characteristics of corporatism, with deeply institutionalized historical traditions of bringing together various interest groups, from both the private and public sectors, to prepare and implement public policy (Christiansen et al., 2010). Although municipalities in both countries have a high degree of autonomy, there is a certain degree of trust and respect between different levels of authority (Airaksinen & Åström, 2009). Moreover, both countries face quite similar types of risks due to their common sociopolitical and geographical characteristics (Storm-Mathisen & Lavik, 2016). The existing differences between the two Nordic countries regarding their public administration systems must therefore be weighed against their considerable similarities (Christensen & Lægreid, 2023). Given

these factors, it is reasonable to assume that these two countries together constitute a critical case for the study of municipal risk communication.

RESULTS

The hybridity of risk and crisis communication

A strong finding from the Norwegian and Swedish studies is that the informants struggled to distinguish between risk communication and crisis communication, both as concepts and as practices. When they talked about risks and risk communication in the interviews, they often turned to conceptualizations of crisis and crisis communication to explain and elaborate their perspectives, in line with Reynolds and Seeger's (2005) perspective which highlights that boundaries between risk and crisis communication are often blurred. In neither Norway nor Sweden did we find a clear distinction between risk and crisis communication. Moreover, the variation between municipalities is low; the informants all showed ambiguity in distinguishing between risk communication and crisis communication. In this context, ambiguity refers to the lack of clarity or uncertainty in the way informants differentiate between risk communication and crisis communication. In our material, the informants show ambiguity in how they struggled to differentiate between risk communication and crisis communication, both as concepts and as practices. This exists on the discursive level (how the informants talked about the phenomenon), the practical level (how they described the day-to-day management of risks), and the organizational level (how municipal employees are expected to work with risk and crisis).

Talking about crises is seemingly easier than talking about risks. Crises are more tangible, concrete, and bounded in time and space (Johansson et al., 2023). Risks, on the other hand, are uncertain, unbounded, and often concern the future. Furthermore, in Norwegian and Swedish municipalities, crisis communication plans are well-established and integrated within the organization, whereas risk communication plans are either nonexistent or only loosely connected with the municipal RVAs. For instance, the Norwegian study revealed that several municipalities had crisis communication plans, but they lacked routines and strategies that could be helpful *before* incidents occurred. Moreover, in a municipal context, the same employees are often in charge of both risk communication and crisis communication, making it difficult to distinguish between the two types of communication.

In the practical, day-to-day management of risk and safety, the overlap between risk and crisis communication is also evident. An example is the handling of the coronavirus pandemic in Sweden. For many informants, COVID-19 quickly turned into a crisis, with crisis communication plans being activated and implemented. The communication focused on things that had already happened. However, because the pandemic was a creeping and long-lasting crisis (Christensen & Lægreid, 2023) full of uncertainties, a significant part of the communication can also be characterized as risk communication, as it had to do with future events and uncertainties. The issue of vaccination is an example of risk communication occurring in parallel to actual crisis communication. Communicating in such a situation is of course a challenge, not least since risk and crisis communication are saturated with different experiences and expectations from the public. While these two types of communication differ in terms of timing, purpose, and audience, they are interrelated and can influence each other. For instance, from a Swedish informant we learned that risk communication is sometimes perceived as a prerequisite for effective crisis communication:

> What are the implications of municipal residents being highly knowledge-able about risk? Is our crisis communication more effective when something happens if they are well prepared beforehand? Or is it the case that they don't listen to risk communication anyway, and it has no real effect on our crisis communication? (Municipal communication officer, Sweden)

In this perspective, risk communication is merely a precondition for effective crisis management, and it is no wonder that risk communication ownership is difficult, as the value of risk communication may not always be recognized until a crisis actually occurs. These conceptualizations of risk communication and crisis communication as essentially different have implications for how risk communication is conducted within municipalities. Viewing risk communication as something carried out "when no one listens" inevitably shapes the strategies employed and the resources allocated to the task. It can limit the range of feasible strategies and hinder the potential for proactive risk mitigation.

Intraorganizational distribution of responsibility, coordination, and cooperation within municipalities

Governments struggle to deal with multifaceted policy problems that defy simple solutions and straddle the borders of organizations and ministerial portfolios as well as administrative levels. Thus, public-sector coordination has become a key asset in governments' policy capacity (Lægreid et al., 2015). Informants in the Swedish study underscored that the cooperation between security/safety units and communication departments is pivotal for risk communication issues. Although cooperation between the two was considered important, it also involved a potential fragmentation of authority over risk communication, as it sometimes led to uncertainty about "who owned the case," as one Swedish communication officer put it. Moreover, the communication department is seldom directly involved in risk assessments and RVA processes, as this interview excerpt illustrates:

> We have some insight into it [the RVA], but I would not say we have any influence over the processes […] For instance in discussions about potential hydropower dam failure, whether that is a risk or not, that is not a topic the communication department should be involved in. We're informed about it in a *for your information* note. (Municipal communica-tion officer, Sweden)

In terms of the involvement and cooperation of the Swedish communication practitioners in the RVA process, there is relatively little variation among the municipalities. Of the 19 informants, only three report being highly involved in this process. In the Norwegian study, the municipal communication professionals emphasized that when communicating about risk it was important to have coordination and cooperation between different departments and/or people that were responsible. They stressed that everyone involved should take responsibility for the risk communication and not assume that another department will take care of the problem. They should meet as soon as possible after a (potential) risk is discovered, share information, and agree on a joint message and a common stance. A participant from a focus-group interview with one of the Norwegian municipalities put it this way:

> But, working across different disciplines, I think that was one of the things that helped us find a good solution to this. So, this is a matter that can be a point of concern when public administration needs to handle something, namely that people don't talk to each other across different departments and disciplines. (Municipal employee, Norway)

Municipal risk communication also involves cooperation between administrative and political levels. In the Swedish study, this cooperation was often seen as a challenge. In theory, the division of labor between the political and administrative levels is clear: politicians decide, and civil servants implement the decisions. However, in practice, the relationship between politicians and civil servants can be more complex and nuanced. Some informants expressed concern that the political level prioritizes external communication that is overly optimistic, which may conflict with the goals of effective risk communication.

Some of the municipalities in the Norwegian study had also experienced various challenges when politicians got involved in risk communication. In one of the case studies, employees in the municipal administration felt squeezed between politicians on the one hand and groups of parents on the other. As one of the employees in the administration put it:

> (…) if we in the administration say something they're not happy with, then it gets politicized. Then a lot of politicians come in for coffee with their ombudsman role, and you get a lot of questions and discussions about it. (Municipal employee, Norway)

The mention of an "ombudsman role" refers to politicians acting as representatives of various interest groups, which often leads to a sense of pressure within the administration. This struggle and challenge to balance the demands of politics and administration within the municipality was also evident in the Swedish data.

Interorganizational distribution of responsibility, coordination, and cooperation between municipalities and other actors

In the Swedish study, there are some examples of challenges related to risk communication ownership and interorganizational cooperation. This primarily has to do with how the municipality should act when a risk is located "outside" the municipality but still has an impact on how the municipality should communicate. One example is a Swedish municipality located close to a nuclear power plant. The plant is close enough to impact the municipality's risk assessments and communication. In fact, a new and wider safety zone is about to be established around the plant. A significantly greater number of inhabitants are now to be equipped with "iodine pills and Radio Data System receivers for alarms," as noted by the communication officer. The informant at the municipality has been appointed a project leader for implementing the communication related to the new safety zone. Still, (s)he highlights that nuclear issues are a regional responsibility in Sweden. Nevertheless, the municipality

> is closest to the inhabitants. Hence, we have great interest in making the process smooth for everyone. However, we have extremely diverging perspectives on reactivity and proactivity. While we [the municipality]

prepare broad communication campaigns years in advance, the region focuses more on answering questions after something has happened. So now there's a big collision between us, which is a challenge. (Municipal communication officer, Sweden)

Another example comes from a Swedish municipality with risks related to fresh water supply. During several summers, the municipality experienced water shortages as well as pollution in the drinking water. Hence, regulations on water usage were implemented. The risk related to water supply is "owned" by an intermunicipal company that is responsible for water supply. However, the communication of related dangers is seen as a municipal responsibility. The interviewed communication manager stressed that "during the spring we've met with them [the inter-municipal company] to prepare the communication related to water supply." Still, the cooperation is a challenge: "I often think we should be alerted earlier. Many things come to us at the last second." Interestingly, the informant argues that the municipality owns the communication (the actual *sharing* of information), but the inter-municipal company "owns the information" (i.e., the actual *content* of communication).

In the Norwegian study, two of the municipalities have natural gas processing plants within their borders. These plants are owned by a Norwegian oil company and are the largest employers in both municipalities, giving them the dual status of being both the main economic contributors and the main risk producers. It is also well established that the company that owns the plants owns the risk. But when it comes to the question of who should communicate on the risks, the picture is somewhat more complicated. In one of the interviews, it became obvious that neither the administrative staff nor the politicians saw it as their responsibility to communicate the possible risks associated with processing and shipping relatively large amounts of oil and gas to and from the plants. This, they claimed, was taken care of by the oil company, in particular when it comes to informing the families living nearby:

> I don't think the municipality has perceived it as a great need among the population, either. As you said, they [the oil company] have a neighborhood committee, and they send out brochures in the neighborhood and have direct contact with many of their neighbors. So, the municipality has thought that the plant handles this well enough itself. And I haven't received any particular (…) requests from the neighbors or things like that, or word of anything questionable in that information. (Municipal employee, Norway)

However, after asking what type of risk this plant represents and what the consequences of a major accident could be, the informants admitted they might have some wider responsibilities for risk communication:

> You have to find a balance. I think people should have the right to know, but there must be a good, well-prepared information base, so to speak. (…) so I don't want to engage in scaremongering, but it might be wise to have internal discussions about what kind of information strategy we should have regarding these plants. Not to scare people, but to have a balanced, nuanced strategy for it. (Municipal employee, Norway)

Hence, when it comes to effective risk management, interorganizational cooperation on risk communication is both part of the solution and part of the problem, as it

tends to fragment the ownership of risk communication. In the two Norwegian cases mentioned above, the municipality's high economic dependence on the oil company adds a dimension of power to the challenge. The informants in both municipalities, mainly employees responsible for risk and preparedness issues, expressed reluctance to communicate the risk of having a large oil refinery in the municipality. This was the case although there had been a number of incidents at both plants over the past 10 years, several of which could have led to serious consequences. It is clear that the municipalities are reluctant to overly encroach on what they consider to be the risk owner's, that is, the oil company's, area of responsibility. As a result, no information has been communicated to all the inhabitants in the municipality about what could potentially happen at the plant, the consequences an incident could have for the inhabitants, and what they can do to protect themselves against this risk. Moreover, in high-trust, corporatist societies (Christiansen et al., 2010), the convergence of private and public interests is deeply institutionalized. Paradoxically, this trust and corporatism can complicate the delineation of responsibility, blurring the boundaries between public and private roles and concealing the role of power in shaping risk communication efforts.

Balancing openness and security: "The fear of fear"

Transparency, openness, and honesty are highly valued ideals within democratic governance and risk management in general (Ihlen et al., 2022). However, informants in both Sweden and Norway expressed worries about generating (unnecessary) fear among the inhabitants through their risk communication. Being too open about dangers and risks was sometimes seen as problematic. For instance, several informants argued that they did not want to be considered "alarmists." Risk communication, deliberation, and the involvement of the public in risk prevention and management might highlight issues, challenges, and problems that the people were previously unaware of, thus creating fear and conflicts.

For the municipalities, the legal and constitutional framework adds to the challenge of balancing secrecy and transparency. For instance, in Sweden, municipalities are obligated by law to ensure transparency and public access to information. At the same time, risk issues can be rife with secrecy concerns. The right way to prioritize between secrecy and transparency is not clear-cut, as the quote below illustrates. Overall, the informants also display great variation in coping with this tension.

> There are issues that we are not allowed to talk about. I mean, with some of the risks, we have even been told "this is within the framework of protection and secrecy." […] Of course, this creates challenges: on what level can we inform the inhabitants, so that we strike the right balance—so that inhabitants understand that it's dangerous without knowing the precise level of threat. Because we cannot, and are not allowed to, say everything. The problem is then that the level of attention among the inhabitants is not high enough. (Municipal communication officer, Sweden)

Determining the appropriate balance between secrecy and transparency is not straightforward. Withholding information, sometimes mandated by law, may hinder the ability to raise citizens' awareness and attention to local risks. However, the overarching goal is generally to draw attention to risks without "giving terrorists free information," as expressed by one interviewee.

Openness about risks can sometimes be exploited as fuel for divisive disinformation campaigns and polarization. Especially in the Nordic countries, the assumptions underpinning communication strategies are that transparency improves risk communication (Ihlen et al., 2022). The informants adhered to the same basic assumption: According to the informants, it is often best to choose strategies that focus on transparency in the form of openness and honesty, even at the cost of initial overreactions.

Hence, our informants highlighted information substantiality as important, even when it entails risks. Furthermore, explaining why risk mitigation measures are taken may dampen the social amplification of risks. It can even inspire the public to take individual measures to reduce the risks (Skotnes et al., 2021). From the perspective of risk communication ownership, however, it is worth noting that different actors can have different ideas about *how open* one should be about municipal risks. The informants perceive the secrecy-openness dimension as a continuum. Significantly, several informants reported a recent shift toward increased secrecy. This change was attributed to the challenges posed by the pandemic, recent geopolitical situations, and the allocation of more resources to the police and armed forces, as perceived by the informants. Moreover, when risks develop into crises, the level of uncertainty decreases, making it easier for the informants to make informed decisions about whether to adopt an open or a secretive approach to communication.

DISCUSSION

The upcoming discussion will explore three core findings. The first relates to the observation of highly blurred lines of ownership and responsibility in municipal risk communication. Subsequently, our second finding highlights the nuanced variations in risk ownership across different phases of risk communication, assets, impacts, and actions for risk mitigation. Lastly, the third core finding underscores the recognition of dependencies and power dynamics as pivotal elements shaping the conditions for effective risk communication.

Despite the important role that municipalities play in risk communication, the results of the current study indicate that there are blurred lines of ownership and responsibility in the area of risks and risk communication. This plays out in different ways: First, risk communication is not clearly defined as an organizational function, and thus there is often confusion about who is responsible for it. Risk communication and crisis communication are often conflated, leading to confusion about the appropriate roles and responsibilities of different actors, in different phases. As areas of municipal responsibility, risk and crisis are seen as similar, and it was difficult for our informants to clearly distinguish between them. Hence, the ownership of communication about potential risks and preparedness, on the one hand, and the ownership of communication about emerging crises, on the other, is unclear. Second, there are several gray areas between authorities when it comes to managing, coordinating, and communicating risk on the local level. This further means that some areas of risk ownership might be subject to more informal arrangements, generating ambiguity among the informants. Third, the amount of inter- and intraorganizational cooperation in risk communication, along with the emphasis placed on it, is adding to this ambiguity. Intra- and interorganizational cooperation can both facilitate effective risk communication but also lead to fragmentation of authority.

Based on the analysis so far, it is possible to distinguish between the various dimensions of ownership for risks and risk communication, as visualized in Table 2.

TABLE 2 Central dimensions of ownership for risks and risk communication.

	Ownership of assets at risk and impacts of risk	Ownership of actions to mitigate and communicate risk
Preventive risk communication	Unclear and conditioned by dependencies and power relations. Cooperation as both a solution and a problem	Formally clear, but ambiguous in practice. The owner of information can be different from the owner of communication
Reactive risk and crisis communication	Relatively clear, although risks localized "outside" the municipality create blind zones	Relatively clear; however; ambiguous regarding when to scale up the response and involve other authorities/stakeholders

This figure summarizes the key findings regarding the organization, structure, and distribution of risk ownership in municipal settings, along with some of the challenges associated with them. As indicated, the degree of ambiguity differs for the different risk communication phases and objectives. It is important to emphasize that ambiguity and gray areas in risk communication ownership are not necessarily problems; they are issues of interest identified in this research. Samimian-Darash's (2022) perspective, which acknowledges and even embraces uncertainty, encourages not only recognizing the uncertainty of external situations but also actively practicing and acting in alignment with an acceptance of uncertainty. In contexts where risk ownership and responsibility are unclear, such an acceptance of uncertainty can be the first step toward a practical framework for addressing risk communication challenges.

Based on these results, Årstad and Engen's (2018, p. 59) perspective of wide framings of risk ownership is particularly relevant, as one "cannot rest on a mechanical top-down approach to risk management, where explicitly appointed risk owners trickle down ideal instructions to non-risk-owners." The results of this study clearly show that municipalities have a large amount of leeway, and this leeway is often conditioned by specific social and political dependencies. It may also be a consequence of the consensus-oriented traditions in Norway and Sweden, where the integration of different interests in policy processes and implementation is viewed as an end in itself. The strong municipal autonomy (Airaksinen & Åström, 2009) in both countries may also contribute to this observed leeway for municipalities. Hence, Ringsmuth et al.'s (2022) claim that "clear ownership of risks" is required might not be possible or even beneficial to realize. Furthermore, practical risk communication is heavily influenced by how risk, as a phenomenon, is perceived. When risks are meticulously defined, and responsibilities and ownership in risk communication are rigidly determined, the broader landscape of uncertainty is often marginalized within the organization's focus, duties, and assignments. What remains, then, is an understanding of risks as phenomena that can be instrumentally controlled. Nonetheless, adapting a wide risk framing, as suggested by Årstad and Engen (2018), poses greater communicative challenges for municipalities. This is primarily due to the acknowledgment and acceptance of uncertainties. In essence, municipalities must recognize that risks are unpredictable, leading to the difficulty of foreseeing the occurrence of events and their consequences, as elaborated by Renn (2006). For municipalities, it is not merely about acknowledging uncertainty, but actively practicing and acting in accordance with an acceptance of the unpredictable nature of risks.

The results also clearly highlight dependencies and power dynamics in municipalities. These dependencies are seldom considered in formal and administrative frameworks (or in research, for that matter), and they are left to the municipalities to deal with ad hoc and in situ. Although municipalities strive to cooperate with risk owners, they are often hampered by the fact that they only own the "communication" and not the "information." Liu & Horsley's (2007) argument sheds light on this situation by emphasizing that communication professionals in the public sector may lack sufficient support and face challenges in asserting their professional role. This issue extends to the perception that they are not always considered the "owners'" of the subject matter, hindering effective risk communication in municipalities. This lack of recognition points to the broader challenge: communication professionals may not always have the authority to decisively influence matters, aligning with Liu & Horsley's notion of the devaluation of communication in the public sector, where the importance of communication is not consistently prioritized by management.

This research has shown that municipal risk communication faces similar challenges in the two national contexts. Both are high-trust societies, characterized by a high degree of mutual trust between citizens and authorities, as well as well-established systems for communication partnerships and high levels of interpersonal trust, institutional trust, and trust in experts. Nevertheless, challenges related to risk communication at the municipal level still prevail. We can therefore expect to find these challenges in other contexts as well. Citizens in high-trust societies are more likely to engage in dialog with public authorities and take an active role in identifying and managing risks; however, this requires a certain level of understanding and acceptance of the responsibilities associated with risks and risk communication. There is often an assumption that public authorities will manage and communicate about potential risks, which can discourage citizens from taking an active role both in risk assessments and risk management. The trust in experts and consensus orientation, as well as the corporatism that characterizes Nordic societies, may also make it difficult to address power imbalances between stakeholders at the local level. The results clearly underscore the importance of social and political factors that can influence risk communication practices within municipalities, factors that are often overlooked in formal administrative frameworks.

CONCLUSION

In light of these findings, we conclude by suggesting three areas of improvement for municipal risk communication. First, there is a need to engage in meaningful definitional clarification. The challenge of distinguishing between risk communication and crisis communication is not limited to the informants alone but extends to the municipalities as a whole. Achieving a shared understanding of the distinctions between these two forms of communication is essential for developing effective communication strategies. Building on these insights, we also emphasize that engaging in internal conceptual discussions is crucial for municipalities. This will not only help the municipalities to determine when transparency is important and when secrecy should be maintained but can also make it easier for the municipalities to reach a consensus on what is to be understood as transparency. Second, a key finding from our research is that municipal risk communication ownership involves ambiguity and uncertainties. Rather than seeing this solely as a problem, it can have its virtues (Samimian-Darash, 2022). Accepting the ambiguity, the dependencies, the importance of power, and the unpredictable nature of risks could be a first step toward

such a perspective. The concept of risk, characterized by its inherent unpredictability and the challenges of foreseeing the future, sets the stage for such a perspective. Third, risk communication is often undervalued or overlooked in municipal administration, lacking priority due to the perception of limited direct benefits. This stems from a broader issue highlighted by Liu and Horsley (2007), where communication functions face devaluation within the public sector. The low recognition results in inadequate support for risk communication, hindering its effectiveness. Municipal decision makers need to recognize this systemic challenge and understand that effective risk communication is integral to building resilient and well-prepared communities.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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