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Abstract

Many situations in public service delivery are characterised by uncertainty about the potential negative consequences following decisions. These risky situations make the behaviour of frontline professionals particularly important. But what shapes the risk perception and subsequent behaviour of frontline professionals in risky situations? This article explores the idea that organisational culture provides part of the answer. To examine this, a comprehensive qualitative study with participant observations and interviews at five public hospital wards was conducted. The findings demonstrate the importance of organisational culture on risk perception and behaviour in risky situations. Basic cultural assumptions related to professional discussion, administering medicine, grading of adverse events, and prioritising follow-up activities matter to behaviour in risky situations. In organisational cultures with high levels of trust and dialogue about decision-making, the health professionals rely on each other and ask for second opinions, when making decisions in risky situations. Conversely, in organisational cultures with little trust and professional discussion, the health professionals are less likely to ask for second opinions and follow up on risky situations, which increases the possibility of unintended, negative consequences. In this way, organisational culture can be a driver of risk-reducing and risk-seeking behaviour among frontline professionals.

Keywords: Organisational culture, behaviour, risky situations, risk perception, frontline professionals, interviews, participant observations
Introduction

Many situations in public service delivery are characterised by uncertainty about the potential negative consequences following decisions. These risky situations make the behaviour of frontline professionals important, because they make many decisions where they rely on discretion. Take the case of a fragile heart patient. The clinical guidelines may advise to conduct a certain procedure on the patient. However, this procedure could trigger complications to the patient, who also suffers from kidney failure. The decision, which is based on an assessment of the patient’s overall condition, can either turn out good, bad, or somewhere in between. The procedure may improve the patient’s heart condition, but it may also lead to an overall health deterioration. This is a risky situation because there is uncertainty about the likelihood of negative consequences following the decision. Often, there are no evidently right or wrong answers to the challenges faced in public service delivery, and the professionals rely on discretion (Lipsky, 2010; Tummers, 2013). The behaviour of frontline professionals is of particular importance in risky situations since decisions can lead to unintended, negative consequences to the service recipients.

Risk is present in public service delivery. From prospect theory, we know that risk perception affects subsequent behaviour (Kahneman & Tversky, 1979), but we lack knowledge of how organisational culture matters to risk perception and behaviour in risky situations (Sitkin & Pablo, 1992). Based on these premises, the core argument explored in this study is that organisational culture matters to how risky situations are perceived and acted upon in organisations that deliver public services. Behaviour is understood as frontline professionals’ assessment of and decision on how to approach a given decision in risky situations.

Current knowledge about frontline professionals is formed by Michael Lipsky (2010), whose work has had a revival in recent years with renewed scholarly attention. Previous research in this field has
studied discretion and its consequences in public service delivery (e.g., Baviskar & Winter, 2017; Evans & Harris, 2004; Harrits & Møller, 2014; Jensen, 2018; Lavee & Strier, 2019). However, what shapes the behaviour of frontline professionals is somewhat overlooked, which is the main contribution of this article.

We know that perception of risk affects how actors make decisions and behave (Kahneman & Tversky, 1979). The question is how risks are perceived and acted upon in organisations that deliver public services and what shapes the perception. As mentioned, the core argument of this article is that organisational culture matters to how frontline professionals perceive risk and, therefore, how they behave in risky situations. Yet, the importance of organisational culture in relation to the behaviour of frontline professionals in risky situations requires illumination (e.g., Brehm & Gates, 1999; Riccucci, 2005). The aim of this article is to do that by answering the following question: How does organisational culture matter to the behaviour of frontline professionals in risky situations?

The research question is studied in an explorative manner. This entails an open approach to how organisational culture matters to risk perception and subsequent behaviour. Organisational culture is a heavily theorised concept, and here, the analytical framework proposed by Edgar Schein (2017) is applied. The role of the theoretical framework is to provide guidance in the data collection and analytical process while leaving room to explore how organisational culture matters to the risk perception and behaviour of frontline professionals in risky situations (Collins & Stockton, 2018; Yin, 2014).

The study examines the organisational culture and behaviour at five wards from three Danish public hospitals, building on 30 interviews and 35 hours of observation. The healthcare sector is a good case for studying the research question, as it is a sector of high gains and high stakes in which health professionals (HPs) handle patients with a range of conditions and matters of life and death.
The findings suggest that organisational culture is important for understanding the behaviour of frontline professionals in risky situations as it enables both risk-seeking and risk-reducing behaviour. For instance, basic cultural assumptions related to discussing professional issues in risky situations are at most wards sustained by high levels of trust, which makes the HPs rely on each other and ask for second opinions, when making decisions in risky situations. Conversely, in organisational cultures with little trust, the HPs are less likely to ask for second opinions and follow up on risky situations, which increases the possibility of unintended, negative consequences from risky situations. The findings do not offer an exhaustive explanation to the behaviour of HPs in risky situations. This is the focus in the discussion of the implications of the findings, which, among other things, addresses how organisational culture can be impediment to organisational learning.

The Role of Frontline Professionals and Organisational Culture

The purpose of this article is to study the importance of organisational culture in relation to the behaviour of frontline professionals in risky situations. This link is not fully developed, although many authors have hinted at how organisational culture matters to subsequent behaviour. Simon (1997) suggests that it is necessary to study factors external to the individual to understand the behaviour in organisations. Sandfort (2000) argues that attention should be directed at how social processes and collective schema shape the behaviour of frontline professionals. Brehm and Gates (1999), Riccucci (2005), and Oberfield (2010) all argue that organisational culture matters and has implications for the behaviour at the frontlines. Sitkin and Pablo (1992) are the most specific when they argue that perception of risk is filtered through the lens of organisational culture. There is thus reason to believe that organisational culture is important in order to understand the behaviour of frontline professionals in risky situations. First, the theoretical framework provides insights into how we can understand the
behaviour of frontline professionals, drawing on the street-level bureaucracy literature and prospect theory. This is followed by a definition and operationalisation of organisational culture.

**Explaining the Behaviour of Frontline Professionals**

In his seminal work on street-level bureaucrats (SLBs), Lipsky (2010) highlights two core characteristics that are important when understanding the behaviour of SLBs: Interaction and discretion. SLBs are “public service workers who interact directly with citizens in the course of their jobs, and who have substantial discretion in the execution of their work” (Lipsky, 2010: 3). The interaction refers to the fact that SLBs have to respond to citizens and their needs and preferences as part of their job. It could be a doctor interacting with a patient in a case of treatment related to a diagnosis. In many cases, there are no evidently right or wrong answers to the problems encountered by SLBs (Lipsky, 2010). In these situations, they rely on discretion – that is, the autonomy to decide what to do in a given situation. An example could be decisions on what type of medicine to give a patient. The concept of discretion implies that SLBs hold a substantial amount of power over citizens’ lives.

There are many ideas regarding what shapes the behaviour of SLBs. Lipsky points to interaction and discretion but does not draw much attention to how the professional background of the SLBs is related to behaviour (Evans, 2011; Harrits, 2019; Nothdurfter & Hermans, 2018). Elsewhere, professional background has been highlighted by scholars who stress the impact it has on the behaviour of frontline professionals (Evans, 2011; Harrits, 2019; Tummers, 2013). This literature emphasises that SLBs, or frontline professionals as they are called, rely on their professional training and norms about how to conduct their work (e.g., Evans, 2011; Freidson, 1994; Maynard-Moody & Musheno, 2003). For the
remainder of this article, the term frontline professional is applied, encompassing the characteristics of interaction, discretion, and professional norms.

*Decision-Making under Risk*

A focal point in this article is the behaviour of frontline professionals in risky situations. From prospect theory, we know that actors do not behave rationally under risk but that their behaviour depends on whether they find themselves in the domain of gains or losses (Kahneman & Tversky, 1979). If an actor perceives a situation as within the domain of losses – that is, a negative outcome – he will behave in a risk-seeking manner. Conversely, he will behave in a risk-averse manner if the situation is perceived as within the domain of gains. This is related to the certainty effect, according to which actors attach more impact to certain outcomes in comparison with outcomes that are merely probable. Put differently, actors prefer certain outcomes and react differently to uncertainty depending on whether they find themselves in the domain of gains or domain of losses. The argument that perception of risk matters to subsequent behaviour is widely acknowledged and applied (e.g., Roberts & Wernstedt, 2019).

However, we do not know if this insight applies to public service organisations. The question is, how risky situations are perceived by frontline professionals when the risks pertain to others than themselves. Organisational culture may provide part of the answer to this question, and many studies have emphasised the need to know more about the relation between organisational culture and the behaviour of frontline professionals (e.g., Brehm & Gates, 1999; Cohen, 2018; Maynard-Moody & Musheno, 2003; Riccucci, 2005). As stated by Sitkin and Pablo (1992: 21), “Organizational members come to view their world through the lens of their organization's culture, which can distort their perceptions of situational risks, sometimes by overemphasizing or underemphasizing risk.”
Organisational culture is an abstract and multifaceted phenomenon (Martin, 2002). There is a substantive literature on specific concepts related to the overall idea of organisational culture, such as patient safety culture and organisational learning culture. The literature on patient safety culture studies whether there is a link between how much hospitals focus on the work with patient safety and how patient safe they work (Kristensen, Bartels, Sabroe, & Mainz, 2014; Morello et al., 2013; Weaver et al., 2013). The literature on organisational learning culture studies how organisations learn from their experience and improve their performance accordingly (Joo, 2012; Korten, 1980; Marsick & Watkins, 2003; Xie, 2019).

The understanding of organisational culture applied in this study is that of Schein. It is an application-oriented concept that has gained footing in studies of public administration and organisations (e.g., Fry, 2003; Ogbonna & Wilkinson, 2003; Riccucci, 2005). Schein defines organisational culture as

> the accumulated shared learning of a group as it solves its problems of external adaption and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, feel, and behave in relation to those problems (Schein, 2017: 6).

There are three levels in Schein’s concept that must be uncovered in order to understand the organisational culture. The three layers cover the tangible, visible cultural manifestations to the deeply embedded, unknown assumptions. Between these two layers are the espoused beliefs and values. This is illustrated in Figure 1.
Dimensions of Organisational Culture

The top layer in Schein’s model is the artifacts. They are defined as the visible products of the group and include the physical environment, dress code, technology and products, manner of address, and the observed behaviour and routines (Schein, 2017). Two components of artifacts are relevant to the study of behaviour in risky situations. The first concerns the manner of address: How do the health professionals (HPs) interact with one another, both in general and, particularly, when they discuss professional issues in relation to risky situations? The second concerns the observed routines: How do the HPs go about everyday routine situations, like for instance morning conferences? These artifacts are components of organisational culture as they illustrate “how things are done” at the hospital wards and visualise some of the taken-for-granted actions and routines that are difficult to uncover in any other way.

The second layer is the espoused beliefs and values. They are defined as the strategies, visions, goals, and values that guide the group in the undertaking of their work (Schein, 2017). In this study, focus is on components regarding 1) what the HPs consider important values and goals to live up to, and 2)
how the HPs perceive risky situations. The espoused beliefs and values are components of organisational culture because they shed light on what the HPs consider key values in their jobs, both in routine and risky situations. In a way, they reflect what the HPs aspire to in their work.

The basic assumptions make up the bottom layer of Schein’s model. They are defined as the unconscious, taken-for-granted beliefs and values that determine behaviour, perception, thought, and feeling (Schein, 2017). The basic assumptions can be thought of as a navigation map subconsciously employed by the HPs in the undertaking of their work tasks. They are difficult to decipher, because they are tacit and exist subconsciously, as illustrated in Figure 1. Schein argues that similarities and discrepancies uncovered when analysing and contrasting the artifacts and the espoused beliefs and values reveal the basic cultural assumptions, and the essence of the organisational culture (Schein, 2017). Further, Schein emphasises how elements of interpersonal trust and follow-up activities are important to study, because they promote and sustain the artifacts and espoused beliefs and values that together make up the basic assumptions. Trust is related to how the HPs relate to, regard, and respect each other in the daily routines, while follow-up activities is related to how risky situations are handled subsequently and whether and how changes are implemented (Schein, 2017). Table 1 summarises the dimensions and components of organisational culture applied in this study.

Table 1 Organisational Culture Operationalised

<table>
<thead>
<tr>
<th>Background concept</th>
<th>Systematised concept</th>
<th>Component</th>
<th>Empirical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational culture</td>
<td>Artifacts</td>
<td>Manner of address: Interaction with colleagues</td>
<td>Observations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines</td>
<td></td>
</tr>
<tr>
<td>Espoused beliefs and values</td>
<td>Important values and goals</td>
<td>Perception of risky situations</td>
<td>Interviews and observations</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>
To study how organisational culture matters to both risk perception and subsequent behaviour in risky situations, we need a design that enables the study of actual behaviour and the underlying perceptions. A qualitative approach is well-suited this inquiry, and therefore, a comprehensive qualitative case study was conducted (Gerring, 2006: 39; Nowell & Albrecht, 2019; Yin, 2014). Furthermore, this inquiry requires a case in which risks are frequently handled by frontline professionals. The healthcare sector satisfies this requirement as health professionals continuously handle risky situations. It is a case of both theoretical and empirical interest as it provides a cocktail of complex tasks, autonomous employees, and a policy area of high electoral salience. The study is conducted among five different wards at three Danish public hospitals.

Selection of Units

The argument explored in this article is that organisational culture matters to the perception of risk and behaviour in risky situations. To test this argument soundly, the case selection must enable identification of risky situations across wards that differ. The five hospital wards are diverse and were selected with the purpose of achieving variation (Seawright & Gerring, 2008). The variation is attained on the grounds of 1) wards that perform different tasks, 2) wards with high and low emergency intakes, and 3) wards of different sizes. Essentially, this strategy puts the argument to a harder test. It will strengthen the case of the proposed argument if organisational culture is found to matter to risk
perception and behaviour in risky situations, across these diverse units. Table 2 provides basic descriptive information about the five wards in the study.

Table 2 Wards in Study

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Ward</th>
<th>Tasks</th>
<th>Emergency intake</th>
<th>Size (number of man-years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ward A</td>
<td>Inpatient clinic, outpatient clinic and surgical</td>
<td>Large</td>
<td>&gt; 175</td>
</tr>
<tr>
<td>1</td>
<td>Ward B</td>
<td>Outpatient clinic and surgical</td>
<td>Small</td>
<td>&lt; 100</td>
</tr>
<tr>
<td>2</td>
<td>Ward C</td>
<td>Inpatient clinic</td>
<td>Large</td>
<td>&gt; 150</td>
</tr>
<tr>
<td>3</td>
<td>Ward D</td>
<td>Inpatient clinic and outpatient clinic</td>
<td>Medium</td>
<td>&gt; 75</td>
</tr>
<tr>
<td>3</td>
<td>Ward E</td>
<td>Inpatient clinic</td>
<td>Large</td>
<td>&lt; 75</td>
</tr>
</tbody>
</table>

The wards are from three different public hospitals, and they all primarily employ doctors and nurses that perform mainstream clinical tasks. Keeping the purpose of the article in mind, there are no expectations as to how these characteristics of the wards might play out in relation to organisational culture, perception of risk, and behaviour in risky situations.

The wards face different kinds of risky situations. This is partly because the wards solve different tasks, but also because they have different emergency intakes. There is simply greater urgency in risky situations at wards with higher emergency intakes. The assessment of a given risk is a product of the degree of uncertainty and the perception of consequences. In this sense, there is no hierarchy of risky situations, and no wards or hospitals face “riskier” decisions than others. Further, the purpose here is not to systematically compare the wards, but to study how organisational culture matters to risk perception and behaviour in risky situations. For these reasons, whether potential differences
between the wards are due to the risks they face or the overall hospital organisation they are a part of is not addressed in great detail.

The perception of risk and behaviour in risky situations was studied with different qualitative approaches. Participant observations enabled the study of actual behaviour in routine and risky situations, while follow-up interviews allowed for the exploration of perceptions underlying the behaviour in risky situations. The data collection is delimited to doctors and nurses that make up the majority of employees at hospital wards, hold significant discretion and autonomy, and, as authorised HPs, are responsible for their decisions. The data was collected from September 2017 to June 2019.

**Participant Observations**

The participant observation approach is explorative in its nature and, therefore, well-suited for the aim of studying behaviour in routine and risky situations (Agar, 2008; Wilkinson, 2013). Observations were conducted at all five hospital wards. At each ward, a doctor and a nurse were followed during a shift each on two respective, random days. The participant observations included observing mundane, routine tasks for hours, which enabled the identification of actual risky situations when they occurred. The observations did not follow a strict observational guide but constrained a focus on 1) how the HPs interact with each other, and 2) how the HPs handle routine situations (cf. Table 1).

The observations proceeded as passive participation, where the observer was present, but did not participate actively in the events unfolding (Spradley, 1980). During the observations, clarifying questions were asked occasionally if it seemed appropriate, such as when walking through the long halls of the wards. Field notes created a condensed account of what occurred in mostly verbatim phrases, short sentences, and accounts designed to trigger memory (Ho, 2009; Spradley, 2016). On
the day of the observation, the field notes were transcribed and transformed into thicker descriptions recalling the days’ events. In total, 35 hours were spent observing at the different wards.

Semi-Structured Interviews

To study the perception of risky situations among frontline professionals and to apply Schein’s (2017) framework of organisational culture, semi-structured interviews were conducted. It is a suitable approach that enabled pre-determined categories and questions reflecting Schein’s framework while also leaving room to follow interesting leads in the conversations and ask questions related to experiences made during observations (Brinkmann & Kvale, 2015). The purpose of the interviews were to further uncover the artifacts, espoused beliefs and values, and basic assumptions underlying the work undertaken at the hospital wards. In line with the operationalisation (Table 1), the focus in the interviews was on the values held by HPs, and how they perceived and handled risky situations. Six one-hour interviews were conducted at each ward: three interviews with nurses and three interviews with doctors, totalling 30 interviews. Schein (2017: 304) recommends interviewing employees with different levels of experience and tenure at the wards, as newer members provide insights that the tenured members take for granted. This recommendation was followed in the selection of interviewees – see Appendix 1 for an overview of the interviewed HPs and their years of experience and ward tenure. The interview guide is in Appendix 2. All the interviews were transcribed and coded using the NVIVO software. To ensure uniformity, a transcription guide assigned exactly how the interviews were to be transcribed. In order to compare the coding and ensure consistency and a valid and reliable outcome, both the author and a colleague coded six interviews.
Data Triangulation

The study was designed as an embedded single-case study with five hospital wards from three different public hospitals in Denmark. The data comprises 30 semi-structured interviews and 35 hours of observations. The research design provides an excellent opportunity for data triangulation. Combining insights on organisational cultures, derived from different data sources collected in different ways, increases the validity of the analysis and the conclusions (Nowell & Albrecht, 2019; Patton, 2002; Yin, 2014). Analysing and applying data from both participant observations and interviews simultaneously enables movement back and forth between the observations of behaviour in routine and risky situations, and the study of organisational culture gives an in-depth understanding of behaviour in risky situations (Schwartz-Shea & Yanow, 2012; Tavory & Timmermans, 2014).

Analytical Strategy

The explorative nature of this study is reflected in the analytical strategy and coding of data. The purpose of the observations was to observe the behaviour of HPs. Routine situations, such as assessing patients, documenting practices, administering medicine, and consulting with colleagues were observed. Observing and analysing routine situations is an integral part of studying risky situations because familiarity with routines is key to identifying risky situations. The coding of the observational data was approached in an open manner that allowed the findings in relation to behaviour in risky situations to emerge. The coding frame in Appendix 3 reflects this approach.

The purpose of the interviews was both to study the organisational cultures at the different wards and to learn about the HPs’ perception of risk. This is reflected in the coding of the interviews, which
proceeded in two stages. First, the data was coded using pre-defined codes reflecting the operation-
alised framework. Second, the data was coded exploratively to discover findings in relation to the
perception of risk among frontline professionals. For instance, this was the case with the grading of
adverse events (AEs), which emerged out of the interview data and clearly revealed something about
how the HPs perceive risk and risky situations. The final coding frame is in Appendix 3.

To disclose the essence of an organisational culture is difficult, because it is tacit. Schein argues that
in order to reveal the basic cultural assumptions and obtain a comprehensive understanding of the
organisational culture, the behaviour, artifacts and espoused beliefs and values must be compared and
contrasted (Schein, 2017). In the analysis, this is followed by an examination of how elements of trust
and follow-up activities sustain and promote the deduced cultural patterns. In a third step, the findings
are tied together, and the basic cultural assumptions at each ward are deduced. This comprehensive
understanding is achieved by triangulating the different sources of data: Insights from the interviews
and observations are continuously compared and contrasted, and it is highlighted whenever a finding
from an interview was either contrasted or supported by the participant observation.

Throughout the analysis of findings, specific examples are given that illustrative common practices
across the wards. The examples are chosen because they clearly depict routine or risky behaviours at
the wards. Further, illustrative statements in displays exemplify the findings and core insights at each
ward. Yet, it is important to keep in mind that the full complexity and all of the nuances cannot be
accounted for within the space of a single article. This process of identifying conflicting findings and
describing converging and diverging patterns strengthens the understanding of how organisational
culture matters to the perception of risk and behaviour in risky situations and increases the validity
of the findings (Jonsen & Jehn, 2009; Mathison, 1988; Nowell & Albrecht, 2019).
The Danish Hospital Context

In Denmark, access to health care is universal through a tax-financed system. The regulatory framework of hospitals is set by the government and parliament, and five regions governed by democratically elected councils are responsible for the service delivery and administration of public hospitals (Mossialos, Wenzl, Osborn, & Sarnak, 2016; Vrangbæk, 2016). Recently, there has been a shift from managing hospitals via economic, activity-based incentive structures towards global budgets and a focus on quality. The declared intent of this shift is to lend the hospitals more leverage in prioritising their resources while maintaining a strong focus on quality (Danish Ministry of Finance, 2018).

Danish hospitals are characterised by a lot of regulation through clinical guidelines from the Danish Health Authorities, formal patient rights, and high degrees of discretion and autonomy for the HPs (Jakobsen, Kjeldsen, & Pallesen, 2017). The Danish healthcare system has relatively little administrative bureaucracy compared to insurance-based and private healthcare systems (OECD, 2017: 232).

There are clear hierarchies at Danish hospital wards. Doctors are at the top given they have the highest degree of professionalisation and are responsible for decision-making in relation to the treatment of patients. Doctors and nurses work closely together on a daily basis in what is often referred to as “joint decision making”, where nurses inform, complement, and qualify the decision-making process of doctors as they spend more time with the patient and have a holistic approach. Regardless, the doctors hold the overall responsibility for the treatment of patients and, therefore, make the final calls.

Adverse events (AEs) can be an outcome of risky situations. In Denmark, there is a learning-based system in place for handling AEs. Reporting AEs is voluntary, and the system is in principle sanction-free to the reporter and those involved in the AE. However, there are means of ensuring responsive-
ness and accountability. As authorised HPs, doctors and nurses are formally responsible for the decisions they make, and their decision-making behaviour can therefore become the subject of scrutiny and sanctions following AEs, of which there are multiple cases.

Lawyers and legal advisors are not prevalent at Danish hospitals. The Danish Patient Safety Authority handles the administration of the reporting system for AEs, and exercises supervision in order to prevent mistakes and enable learning. The Danish Agency for Patient Complaints handles complaints from patients about received health care and violation of patient rights. These two agencies act as watchdogs for the citizens. In this sense, private legal counselling for both HPs and citizens is not needed, which may be in contrast to insurance-based or private hospitals (Mossialos et al., 2016).

Overall, Danish hospitals are financed through global budgets and regulated through clinical guidelines. They have a clear division of power and systems in place for handling AEs. At the same time, the HPs are granted high degrees of discretion, and there is relatively little paperwork. These characteristics are important to have in mind when studying how organisational culture matters to behaviour in risky situations.

Findings

The analysis first explores the behaviour of HPs in routine and risky situations across the wards, based on participant observations. Next, based on both observations and interviews, the artifacts and the espoused beliefs and values at the wards are analysed and linked to the observed behaviour in risky situations. This is supplemented with insights on how trust and follow-up activities promote and sustain the identified cultural patterns. In a third step, the behaviour, artifacts, and espoused beliefs and
values are compared and contrasted, before the basic cultural assumptions are deduced and presented in table 6.

_Behaviour in Routine and Risky Situations_

Based on the coding of participant observations, this section investigates how HPs behave in routine and risky situations. Recall that risky situations are defined as situations in which there is uncertainty about the likelihood of potential negative consequences following decisions.

A core task in hospitals is the assessment of patients’ symptoms. Assessment involves discretion because symptoms can be contradictory and the patient’s description can be hard to interpret. In these situations, there can be a high degree of uncertainty about the likelihood of potential negative consequences for the patient. At morning conferences and ward meetings, the HPs across the wards discussed the patients, their professional assessment, and potential concerns and doubts. However, the professional discussions did not only take place in the formalised settings of conferences and meetings. This was illustrated at Ward C, where an experienced chief physician was in doubt about when to give a patient a blood transfusion as he suspected that it might alter the blood test the following day. He phoned the physician on call and explained his concerns, and they discussed back and forth before arriving at a decision. Similar situations were observed multiple times, both among experienced and inexperienced HPs. When there were high degrees of uncertainty and the HPs were in doubt, they engaged in risk-reducing behaviours by asking their colleagues for second opinions. This insight is applicable to all the wards, except Ward A. Here, the HPs sometimes hesitated to ask for second opinions in risky situations, because they feared to be put on the spot.
The frequent act of administering medicine to patients is an illustrative example of how the HPs perceive risky situations. Giving medicine is not in itself a particularly risky situation. If the clinical guidelines are followed, the degree of uncertainty is low, and the potential negative consequences are mostly known and can be alleviated. At some wards, the door giving entrance to the room with medicine was locked, while at other wards, the door was unlocked – in principle, giving access to everyone from HPs to patients to visitors. When asked why the door was unlocked at Ward C, the nurse casually told that it was quicker to access when the door was unlocked. Inside the room, the nurse unfolded a post-it note with the name of the patient and the medicine she was collecting. She dosed the medicine and did not print and attach a label specifying what type of medicine it was, the dose, or the CPR number\textsuperscript{1} of the patient receiving it. She walked into the patients’ room and, without further ado, said, “Here is your medicine. Please take it” (Ward C). These are clear breaches of the clinical guidelines for administering medicine, and this episode reveals a risk-seeking behaviour. Failing to print a label and identifying the patient before giving the medicine constitutes a risk to the patient, who could have been mistaken for someone else or been given the wrong medicine. Several times during observations, it occurred that the HPs at Ward C either did not print a label for the medicine or did not identify the patient receiving it. The HPs effectively take a risk on behalf of patients, as they can be mistaken for one another when not identified and colleagues are unable to see what medicine is in the IV catheter. This also occurred at Ward A, and the interviews provided insights into the rationale for cutting corners in this way. A recurring explanation was that it saved time, but some HPs also admitted to bad habits at the ward, where it was considered OK with a little slack when administering medicine (e.g., IW6). Both Ward A and C had large emergency intakes, which may explain

\footnote{Civil registration number used for identifying patients.}
why saving time was used to justify the risk seeking behaviour. However, Ward E also had a high emergency intake, and here, the HPs followed the clinical guidelines when administering medicine. When the clinical guidelines are not met, uncertainty is increased. In this way, the routine situation of administering medicine can become a risky situation.

This finding was contrasted by the observations at Wards B, D, and E. The following example from Ward D illustrates how printing labels and identifying patients when giving medicine was an integrated part of the routine. After dosing medicine for a patient and printing a label with all the necessary information, the nurse went into the patient’s room, greeted him and presented herself. She then went on to ask how the patient was feeling and explained that his blood pressure was very high, which they had to take care of. Before asked, the patient immediately gave his CPR number, making it obvious that this is a standard routine at the ward. However, first, the nurse had to adjust the peripheral venous catheter, after which she asked for the patients’ CPR number and then gave him the blood pressure-reducing medicine (Ward D). This example illustrates a different approach to the routine situation of administering medicine. Following the clinical guidelines as a standard operating procedure, the HP printed a label and identified the patient before giving the medicine. This was by far the most common approach to administering medicine, and in interviews, many HPs accentuated the need to always stick to the clinical guidelines in order to reduce uncertainty and potential risk (e.g., IW7. IW21, IW27). In this way, they engaged in risk-reducing behaviours.

The observations of routine situations showed that behaviour varies. HPs at Ward B, D, and E were very aware of following the clinical guidelines and asking for second opinions, and they considered it key in order to reduce potential risk. Contrary, HPs at Ward A and C considered the clinical guidelines as something that could be ignored in order to save time. In this way, situations with a low degree of uncertainty become risky when the clinical guidelines are not met. Among HPs at Ward A
and C, there appeared to be a perceived trade-off between efficiency and reducing uncertainty, because it is possible to save time when cutting corners. The next section dives into how these behavioural insights match the artifacts and espoused beliefs and values at the wards, which will enable the identification of basic cultural assumptions at the wards.

Artifacts: Manner of Address and Routines

Artifacts are operationalised as the HPs’ manner of address and their routines. When studying the artifacts, the visible elements of the organisational culture were observed, such as how the chief physicians interacted with inexperienced doctors in risky situations, or how the HPs were placed around the table during conferences. The daily morning conferences were a good setting for deciphering how the HPs interact and communicate in routine situations, as these conferences are a space for discussing professional issues in relation to the patients. An illustrative example is from Ward D, where the HPs during morning conference discussed patients whose situations were risky. One case was a pregnant woman who, during her last pregnancy, had a subdural haemorrhage. Last time, her symptoms disappeared spontaneously, but this time the doctors saw a recurrence of symptoms, although there was a great deal of uncertainty about the symptoms. The chief physician recommended a CT scan in order to exclude the prospect of a subdural haemorrhage. However, this posed a risk of radiation to the foetus with potential negative consequences. The doctors that discussed the patient disagreed about how they should assess the patient in order to pose the smallest risk to the mother and her unborn child. Some of the experienced doctors interpreted the pregnant woman’s symptoms as preeclampsia, leading to one conclusion, while other doctors with less experience interpreted the symptoms as another subdural haemorrhage, leading to a different conclusion. Despite strong disagreement, the HPs discussed the case in a calm, professional manner without interrupting each other, and everybody –
experienced as well as inexperienced – got a say. This example illustrates how doctors engage in risk-reducing behaviour when they have to make decisions based on discretion in cases with ambiguous and incomplete information that poses a risk to the patient. These professional discussions did not only take place in the formalised conference setting, but also during lunch breaks and the daily course of events. These artifacts of formalised and routine discussions indicate a basic cultural assumption related to the need to discuss professional issues in order to reduce the uncertainty in risky situations.

Ward A is an exception to this finding. Here, the HPs were bickering, rolling their eyes at each other and not taking active part in the professional discussion during morning conference. A couple of the experienced chief physicians were sitting on the other side of the room answering emails on their laptops – clearly not paying attention to the risky situations that were discussed. This behaviour signalled a basic assumption that the HPs, led by the experienced chief physicians, did not perceive risky situations as important enough to merit discussion at the conference setting. In a sense, this behaviour is risk-seeking, as it rebels against the artifact of purposefully discussing risky situations in the formalised conference setting.

The artifacts were quite similar across the wards. The HPs discussed professional issues in relation to risky situations in a formalised setting during morning conferences and informally during the course of the day, with the notable exception of Ward A. Here, the actual behaviour was in contrast to the artifact of discussing risky situations in the conference setting. For all wards, these insights point to basic cultural assumptions related to the necessity and added value of discussing risky situations.

*Espoused Beliefs and Values: Mutually Held Values and Grading of Adverse Events*
The espoused beliefs and values guide the behaviour of the HPs. They are operationalised as what the HPs consider important values and goals to live up to, and how they perceive risky situations. In the interviews, all HPs unequivocally considered it a key value that patients have the best experience possible when they are hospitalised. This finding corresponds well with the existing literature on the values of HPs (Monroe, 2019; Oberle & Hughes, 2001; Twomey, 1989). However, putting the patient first was in some cases compromised and contrasted by the actual behaviour, for instance, by doctors primarily interested in the professional challenge of diagnosing patients (Telléus, Holdgaard, & Thørring, 2018). At times, this came at the cost of the patient’s experience – and was in stark contrast with the espoused value of putting the patient first. This was observed at Ward C. Here, an experienced doctor had to assess an old lady whose blood test results clearly indicated she had leukaemia, although the doctor was not certain. The doctor initially asked the patient about the sequence of events before her general practitioner sent her to hospital. The conversation was followed by an examination of the patient’s lymph nodes and breathing. After the examination, the old lady asked, “Am I alright?” The doctor bluntly stated, “No, you are not, but this is not a disease you will notice. It looks like you have a blood disease. I suspect – justly – leukaemia. Your blood tests are very odd. It is a less-dangerous disease. You die with it, not from it […] Your life has not changed dramatically from today. We need to get you scanned, and then you probably have to come in and be treated on an outpatient basis. Maybe you will go home today” (Ward C). All these news were delivered in a light, optimistic tone, seemingly leaving the patient baffled. A few hours later, the doctor returned with the results from the new blood tests, and said, “We have made a plan, and you will stay until tomorrow. All the tests fit with the initial diagnosis. I think you have had this disease for about a year.” The old lady seemed overwhelmed and asked if she would be OK. The doctor listened to her concerns and replied, “But you are OK, right? I am not an expert on this disease, but if it is like I suspect, it is chronic. You are going to die with this disease, not from it,” after which he informed the patient about what would
happen the following day. While this is not a risky situation, the discrepancy between the espoused belief and value of putting the patient first and the actual behaviour illustrates that the potential basic assumption of always putting the patient first is nuanced. The doctor was not fully aligned with the patient's needs. With his knowledge and experience, the diagnosis was not something to make a fuss about, but he failed to see how this cascade of news affected the patient, who, the day before, was just feeling a little tired and had no idea her life would be changed by a cancer diagnosis. In this way, his behaviour contrasted the espoused belief and value of putting the patient first, underlining that espoused beliefs and values to an extent are aspirational, and not as such telling of actual behaviour.

A second, espoused value across the wards is the work with patient safety, which allegedly was given top priority. This is related to the second component of espoused beliefs and values, namely how the HPs perceive risky situations. The way adverse events (AEs) are handled is indicative of perception of risky situations, because they are the unintended consequences of risky situations. They are concrete situations that the HPs have to assess and subsequently report. In principle, every AE should be reported in order to enable learning. However, the explorative coding of interview data revealed that all HPs, across organisational cultures, attested to grade AEs in terms of their severity. In other words, the HPs actively decided when and when not to report AEs, dependent on the perceived severity of the consequences. In this way, the handling of AEs is indicative of how risky situations are perceived: Some deserve more attention than others, even if this is against the idea of the system for handling AEs, and the espoused belief and value of giving patient safety top priority. Table 3 summarises the attitudes towards reporting AEs with interview excerpts.

Table 3 Display of Statements regarding Grading of Adverse Events

<table>
<thead>
<tr>
<th>Ward</th>
<th>Grading of adverse events</th>
</tr>
</thead>
</table>

24
Ward A  “If I assess that no one got hurt and nothing happened, then I actually think it is a waste of time to report.” (IW6)

Ward B  “You do not report it, because it does not matter and it is expected to happen, right? There is definitely an invisible triviality limit.” (IW7)

Ward C  “In serious cases, where the patient is in danger, we act. But minor incidents, where the patient is not identified… Obviously that is not good, but they do not die from it, you know?” (IW15)

Ward D  “It becomes my own discretionary assessment of, how bad is this? […] In principle, we could report that one, that one and that one. Conversely, what does that matter to the patient?” (IW20)

Ward E  “At this ward, we only report the crude cases because all those near-misses… We just clap our hand they were detected in time.” (IW25)

The grading of AEs is important in the quest to understand the importance of organisational culture, risk perception, and behaviour in risky situations. The rationale behind the grading was that the HPs relied on their professional knowledge, and if there was a learning potential, the AW was reported (e.g., IW2, IW8, IW28). Conversely, if the AE was deemed harmless or as something the HPs already knew the answer to, it was not reported. This rationale clearly goes against the risk-reducing purpose of reporting AEs, which is to aggregate them, identify patterns, and deduce learning at an organisational level. In this sense, it is important to report the harmless ones, as they potentially reveal patterns of practices where there is a need for improvement or revision of the clinical guidelines.

The grading reveals how HPs collectively relied on their professional knowledge when assessing AEs following risky situations. This contrast between the HPs espoused value of prioritising patient safety, and the actual behaviour of grading AE’s, reveal a basic cultural assumption across the wards. Risky situations are perceived as a hierarchy, where the ones reported are the ones with severe consequences to the patients. In a sense, the grading of AEs reveals a risk-seeking behaviour that poses an indirect risk to patients, as it is difficult to learn from the risky situations and AEs that are not reported.
Elements that Promote and Sustain Cultural Patterns: A Step towards Deducing Basic Assumptions

By triangulating the insights from the participant observations and the interviews with HPs, it has been possible to compare and contrast the actual behaviour with the artifacts and espoused beliefs and values. This process was a first step towards deducing the basic cultural assumptions at the wards. The analysis now turns to how the identified cultural patterns are promoted and sustained by elements of trust and follow-up activities. In a final step, the basic assumptions are deduced and presented.

Trust and Discussion of Professional Issues

As illustrated, all wards had both formal and informal settings where they discussed professional issues related to risky situations. The interview-content coded as “trust” and “dialogue” further demonstrate that these settings are a place to ask for help and discuss matters causing the HPs doubt. At Ward B, an experienced nurse explained that “You can always ask, whether you have been here for one day or 10 months” (IW11). This openness to ask questions is representative of the insights from interviews at Ward B, D, and E, and is supported by the observations. For instance, at Ward D, an inexperienced doctor at an outpatient clinic attended to a patient with comorbidities, making it hard to assess exactly what was causing the symptoms and difficult to diagnose. The doctor was in doubt about several things. How should he interpret the different, self-contradictory symptoms? What treatment should be started? What plan should be made for the patient onwards? The doctor decided to confer with a senior colleague who was busy, and explained all the symptoms of the patient and the professional doubt they were causing. For a few minutes, the two doctors discussed back and forth what the different symptoms could mean, and the experienced doctor patiently took the time to ask
clarifying questions. He then concluded the discussion with his recommendation based on their conversation and his initial assessment. This situation illustrates an organisational culture characterised by trust. The young doctor was not afraid or too proud to seek help from a senior colleague, when he faced a risky situation, and the matter was discussed with mutual respect. In this way, the doctors engaged in risk-reducing behaviour.

At Ward A the HPs were more reluctant to discuss professional issues with colleagues in risky situations, as already illustrated by the bickering during the conference setting. A nurse described the tone and dialogue at the ward as “gossipy” (IW5), which was supported by an inexperienced nurse saying that mistakes or professional doubt was “somewhat put on display” (IW6) – at times making the HPs refrain from discussing risky situations with each other. Both nurses later referred to a situation in which a colleague was put on the spot by the manager for reporting an AE that the manager did not consider necessary to report. This lack of mutual trust promoted an organisational culture in which the HPs were concerned about having their own backs free, as opposed to having each other’s backs.

At Ward C, some of the same issues appeared, although not as uniformly. Here, an inexperienced doctor described a sneering and tough tone, dependent on who was at work, which made her reluctant to ask for help in risky situations (IW16). This perception was supported by interviews with colleagues who, on the other hand, did not consider it an issue (IW13, IW17). One nurse at the ward emphasised high levels of trust as key to a patient-safe environment because of the professional discussion in risky situations, where everyone could ask questions (IW15). The HPs at Ward C thus have different perceptions of the degree of mutual trust, which affects their willingness to ask for help and second opinions in risky situations. These somewhat contradictory experiences of trust makes sense, when compared with the observations from the ward. There was both a somewhat direct and blunt
tone when the HPs discussed professional issues in relation to risky situations but, at the same time, an unrestrained, joking tone when they were not.

At wards characterised by low levels of trust, the HPs were less prone to rely on each other when facing risky situations. Consequently, they faced decisions of potentially high impact alone. At wards characterised by mutual trust, the HPs were more prone to discuss professional issues and doubts, and be open about their insecurities and incomplete knowledge in risky situations. In this way, interpersonal trust promotes a risk-reducing behaviour, as it makes HPs comfortable discussing professional issues with their colleagues. The findings are summarised in Table 4 with interview excerpts.

Table 4 Display of Statements Regarding Trust

<table>
<thead>
<tr>
<th>Ward</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward A</td>
<td>“Some are prone to put others on display […] but telling someone off for making a mistake […] I am not sure that is the best way to handle it.” (IW6)</td>
</tr>
<tr>
<td>Ward B</td>
<td>“Sometimes you make mistakes where you need colleagues to see it and say ‘woops, did you just…’. Then we talk about it, and in that way, we can optimise each other.” (IW11)</td>
</tr>
<tr>
<td>Ward C</td>
<td>“We take care of each other and debrief […] It is better to ask one too many times than one too few. Because you do not know what you do not know […] Mistakes are not very well accepted.” (IW14)</td>
</tr>
<tr>
<td>Ward D</td>
<td>“It is not wrong to ask, and it is not wrong to admit it if you make a mistake. Then it is more about learning from the process.” (IW19)</td>
</tr>
<tr>
<td>Ward E</td>
<td>“We are often blamed for being very direct. Things move at a fast pace, messages are short, and sometimes that can seem a little tough. But we are also very good at taking care of each other […]. We confer a lot with each other.” (IW25)</td>
</tr>
</tbody>
</table>

Activities Following Adverse Events

All wards graded AEs, conditioned on the perceived severity of the consequences. Ideally, risky situations and situations in which they lead to AEs are followed up by analyses of what happened and
how it can be prevented from happening again. These analyses are conveyed to the HPs, who, again ideally, collectively discuss and implement correction strategies if needed.

During the observations at Ward B, the HPs were given the opportunity to reflect and talk through an AE and discuss what could have been done differently in the risky situation in order to prevent the AE. The interview-content coded as “follow-up” and “correction strategies” give insights into the role of these discussions. A nurse from the ward explained the perceived benefit of these follow-up meetings: “If you do not take these things up, it will not get better some other time, you know? You have to be careful not to think of it as an embarrassment” (IW10). This illustrates an awareness of the need to follow up, but also to be open about the fact that all HPs sometimes find themselves in risky situations in which AEs may follow. Formalised follow-up activities were prioritised at Wards B, C, D, and E, and they constituted a risk-reducing behaviour, as the HPs both reflected on what has happened and how it could be prevented from happening again.

At these wards, the follow-up activities also happened informally during the course of the day. During observations, the HPs sometimes discussed risky situations that had occurred, shared knowledge and experiences, and reflected on their behaviour. However, the downside to these discussions is that they do not reach further than the two-three HPs partaking in them. The managers at the respective wards tackled the challenge of dispersing knowledge by sending a monthly e-mail summarising the formal follow-up discussions after risky situations and AEs, and providing directions on the correction strategies to be implemented (e.g., IW25, IW13, IW26).

At Ward A, the follow-up activities took place on a more ad-hoc basis. Only the critical AEs were made subject of collective reflection and discussion. A nurse was slightly frustrated with this: “We can report so much, but we do not change anything if we do not follow-up. Then it is status quo” (IW5). This reveals an awareness of the need to discuss the behaviour in risky situations. Yet, as
illustrated, there was no setting for this at Ward A because the HPs had little trust in each other and spent meetings bickering.

The wards differed in terms of how much priority follow-up activities were given. Wards B, C, D, and E worked systematically with the risky situations and AEs in order to prevent them from happening again, while the follow-up activities were scattered at Ward A, which made it difficult for HPs to adjust their behaviour in similar risky situations.

The findings further reveal that efficiency had different meanings at the wards. At Ward A, de-emphasising follow-up activities was considered the efficient way because it did not “waste” time (IW 4, IW6). Here, there seemed to be a trade-off between efficiency and risk parallel to the one made when administering medicine: Reducing uncertainty is time-consuming, while it is possible to cut corners without a risk manifesting itself in a tangible, negative consequence to the patient. Conversely, at the other wards where follow-up activities were prioritised and systematised, this was considered the efficient way because the HPs indirectly invested in the safety of the patients (e.g., IW20, IW29). The attitude was that time invested in discussing risky situations and AEs is returned at a later stage when professional doubt in risky situations is either handled better or reduced. In this way, wards that prioritised follow-up activities engaged in risk-reducing behaviours. The findings are summarised in table 5 with interview excerpts.

Table 5 Display of Statements regarding Follow-Up Activities

<table>
<thead>
<tr>
<th>Ward</th>
<th>Follow-up activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward A</td>
<td>“There is no systematic follow-up on adverse events. [...] It is a matter of priority. I think you have to be careful to not just leave it because then it never gets better.” (IW3)</td>
</tr>
</tbody>
</table>
Basic Cultural Assumptions

The analysis of the behaviour of HPs in risky situations and the cultural components of the wards, leads to the identification of basic cultural assumptions related to four themes: Discussing professional issues, administering medicine, grading of AEs, and follow-up activities. As illustrated in the analysis, these four themes have been dominant across the wards – either when observing routine and risky situations, when studying and contrasting artifacts and espoused beliefs and values with behaviour, or when analysing how trust and follow-up activities promote and sustain the cultural patterns.

At all wards, except Ward A, the artifact of formalised professional discussion of risky situations was in agreement with the actual, observed behaviour, and further sustained by high degrees of mutual trust. In contrast, the espoused belief and value of prioritising the work with patient safety and AE’s was contrasted by the actual behaviour at all the wards, where AEs were graded based on the perceived severity of consequences. At Wards A and C this contrast was further substantiated by the administration of medicine that was against the clinical guidelines. On the other hand, the espoused belief and value of prioritising patient safety was supported by the prioritisation of administering

<table>
<thead>
<tr>
<th>Ward</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward B</td>
<td>“We discuss it [adverse events] at ward meetings and whiteboard meetings if we can see there is an issue in order to see what happened and how to prevent it from happening again.” (IW7)</td>
</tr>
<tr>
<td>Ward C</td>
<td>“Once a month our quality nurse goes through the adverse events we have had. […] I wish it was sooner after the event because we have so many patients, so it almost disappears from you.” (IW14)</td>
</tr>
<tr>
<td>Ward D</td>
<td>“We make a plan in relation to what we must act on now. What tendencies do we see, and what is it concretely that we have to do? […] We have our daily conferences, so it is about repeating things several times.” (IW19)</td>
</tr>
<tr>
<td>Ward E</td>
<td>“In the meeting, those involved talk things through in order to discuss how we can avoid a similar situation. […] Every case is treated related to what we must be aware of moving forward” (IW29)</td>
</tr>
</tbody>
</table>
medicine correctly and systematic follow-up activities at Wards B, D, and E. These differences reveal different basic cultural assumptions, which were manifested in different risk-seeking and risk-reducing behaviours at the wards. However, the organisational culture at all wards promotes some kind of risky behaviour, given the HPs unanimously attested to grading AEs that should be reported.

It is important to keep in mind that risk-reducing and risk-seeking behaviours are not inherently positive and negative, but involve trade-offs. Reducing uncertainty in risky situations is time-consuming and resource-demanding. Relatedly, risk-seeking behaviours may save time, but the level of uncertainty can increase, as illustrated with the example of administering medicine. The point is that in risky situations, you can never completely eliminate the uncertainty-element nor the possibility of negative consequences or AEs. In this sense, it is a matter of striking the right balance between reducing uncertainties and maintaining efficiency in risky situations.

Table 6 summarises the findings related to behaviour, artifacts, and espoused beliefs and values, and deduces the basic cultural assumptions at each ward. As the analysis has showed, there are several nuances to the organisational cultures, and no cultures are completely similar. However, at this stage of the article, an overview is needed in order to get a sense of the bigger picture of how organisational culture matters to risk perception and behaviour. The summarised findings in table 6 are therefore presented in a stylised way, while still reflecting the complexity across the wards. As illustrated, the wards are quite similar in terms of artifacts and espoused beliefs and values. However, the actual behaviour is different, which is what enables identification of the basic assumptions of the different organisational cultures. A key point is that the basic cultural assumptions either promotes (+) or impedes (-) risk-reducing behaviours at the wards. In this way, the wards exhibited different levels of risk-reducing behaviour, dependent on the basic cultural assumptions.
<table>
<thead>
<tr>
<th>Artifacts</th>
<th>Espoused Beliefs and Values</th>
<th>Behaviour</th>
<th>Basic Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ward A</strong></td>
<td>- Formalised setting for discussing professional issues. - Clinical guidelines for administering medicine. - Conflicting attitudes towards how professional issues should be discussed. - Adverse events are graded to save time.</td>
<td>- Bickering at meetings. - Medicine administered against the clinical guidelines. - Adverse events graded according to their severity. - No systematic follow-up after adverse events.</td>
<td>- Discussing professional issues does not reduce uncertainty in risky situations (-) - Administering medicine incorrectly saves time, with only small risk to patients (-) - Grading adverse events is necessary, because reporting is time consuming and only some hold a learning potential (-) - Prioritising systematic follow-up after adverse events is not necessary (-)</td>
</tr>
<tr>
<td><strong>Ward B</strong></td>
<td>- An open and trusting dialogue about professional issues is key to handle risky situations. - Adverse events are graded to save time.</td>
<td>- Discuss professional issues at meetings. - Medicine administered according to the clinical guidelines. - Adverse events graded according to their severity. - Systematic follow-up after adverse events.</td>
<td>- Discussing professional issues reduces the uncertainty in risky situations (+) - Administering medicine correctly prevents risky situations (+) - Grading adverse events is necessary, because reporting is time consuming and only some hold a learning potential (-) - Prioritising systematic follow-up on adverse events is key to prevent future risky situations (+)</td>
</tr>
<tr>
<td><strong>Ward C</strong></td>
<td>- Discuss professional issues at meetings, but sharp tone.</td>
<td>- Discuss professional issues at meetings. - Medicine administered against the clinical guidelines. - Adverse events graded according to their severity. - Systematic follow-up after adverse events.</td>
<td>- Discussing professional issues reduces the uncertainty in risky situations (+) - Administering medicine incorrectly saves time, with only small risk to patients (-) - Grading adverse events is necessary, because reporting is time consuming and only some hold a learning potential (-) - Prioritising systematic follow-up on adverse events is key to prevent future risky situations (+)</td>
</tr>
<tr>
<td><strong>Ward D</strong></td>
<td>- Discuss professional issues at meetings.</td>
<td>- Discuss professional issues at meetings. - Medicine administered according to the clinical guidelines. - Adverse events graded according to their severity. - Systematic follow-up after adverse events.</td>
<td>- Discussing professional issues reduces the uncertainty in risky situations (+) - Administering medicine correctly prevents risky situations (+) - Grading adverse events is necessary, because reporting is time consuming and only some hold a learning potential (-) - Prioritising systematic follow-up on adverse events is key to prevent future risky situations (+)</td>
</tr>
<tr>
<td><strong>Ward E</strong></td>
<td>- Discuss professional issues at meetings.</td>
<td>- Discuss professional issues at meetings. - Medicine administered according to the clinical guidelines. - Adverse events graded according to their severity. - Systematic follow-up after adverse events.</td>
<td>- Discussing professional issues reduces the uncertainty in risky situations (+) - Administering medicine correctly prevents risky situations (+) - Grading adverse events is necessary, because reporting is time consuming and only some hold a learning potential (-) - Prioritising systematic follow-up on adverse events is key to prevent future risky situations (+)</td>
</tr>
</tbody>
</table>

+: Promotes risk-reducing behaviour. -: Impedes risk-reducing behaviour
Discussion

The importance of organisational culture is a significant finding. For long, the literature on frontline professionals has focused on understanding how education, occupational norms, interaction with citizens, work pressure, and autonomy shape their behaviour (e.g., Evans, 2011; Maynard-Moody & Musheno, 2003; van Loon & Jakobsen, 2018). The implications of the findings are the focus of this discussion, which specifically targets what the study adds to our understanding of the behaviour of frontline professionals, how the findings matter to organisational learning, and finally, how the findings are situated in the broader public administration literature.

Organisational Culture as a Driver of Risk-Seeking and Risk-Reducing Behaviour

Organisational culture is a driver of behaviour and commonly shared ideas about what is right and wrong in risky situations. At wards B, C, D, and E, the organisational cultures enable the HPs to discuss professional issues by providing spaces where the HPs ask each other for help and second opinions in risky situations. In other words, the organisational cultures support the HPs in engaging in risk-reducing behaviours. At Ward A, the organisational culture promotes a behaviour where the HPs in some cases run risks on behalf of the patients. Ward A stands out as a ward with social tensions, which, related to risky situations, is manifested in a lack of professional discussion and follow-up activities. In the words of Charles Payne (2008), Ward A resembles a “demoralised environment”. This is a situation in which little social trust lead to low levels of mutual professional expectations in the culture. At Ward A, the lack of interpersonal trust leads to low expectations of how risky situations are handled, which materialised in a risk-seeking behaviour, as we have seen with the administration of medicine, lack of professional discussion, and handling of adverse events (AEs).
Complementary Explanations to Behaviour in Risky Situations

While organisational culture is an important driver of frontline professional’s behaviour in risky situations, it does not provide an explanation to all relevant aspects of behaviour in risky situations. There are indeed findings that may also be explained by other factors than organisational culture. For instance, a common denominator across the wards is that the HPs relied on their professional norms, knowledge and experience when they assessed and graded AEs. This is in line with the literature on the sociology of professions (Evans, 2011; Harrits, 2019; Nothdurfter & Hermans, 2018).

The grading of AEs can also be considered a case of strategic behaviour by the HPs. Anthony Downs (1967) suggests that actors in public organisations pursue their own interests and act in ways that favour these. The findings show that the grading was based on whether the HPs think they can learn anything from the AEs and, consequently, find it worthwhile to report them. The grading is thus a way of controlling what goes into the system for handling AEs. A system that will demand learning activities from the HPs, regardless of whether they believe there is a need to. By utilising their power of discretion, the HPs act strategically and advance their own interests by taking matters into their own hands and deciding what AEs they report and, therefore, which they have to learn from.

Organisational Learning Culture

The findings indicate that organisational culture can be both impediment and conducive to organisational learning. Wards with high levels of interpersonal trust and professional discussing, seemed to follow up on risky situations and AEs more systematically than wards, where these issue were hard to discuss. In this way, basic cultural assumptions can facilitate organisational learning processes. In
a study linking behaviour under risk to culture in high reliability organisations, Van Stralen (2008) illustrates how cultures that hold a stern focus on uncertainty in decision-making support the ability of HPs to identify situations with risk, and further, that cultures with high levels of trust, professional deliberation, and team work support error identification and enable learning. The findings of this study are in line with Van Stralen’s insights, which underlines the importance of understanding how organisational culture matters to behaviour under risk.

Learning from risky situations was limited at wards where systematic follow-up activities were not prioritised. Schein (2017) emphasises that it is difficult to develop an organisational culture fit for learning when it requires re-examination of the basic assumptions. Based on a study of development assistance programmes in Asia, Korten (1980) provides insights into how to promote a learning organisation. Embracing errors, planning with people, and linking knowledge to action are three core ingredients in organisational learning (Korten, 1980: 498). The wards in this study that discussed professional issues and systematically worked with follow-up activities after risky situations and AEs seemed to do these things. They had open discussions about the risky situations and AEs (embracing errors), they utilised the knowledge of the HPs (planning with people), and they systematically followed up on risky situations and AEs, and the insights and experiences from HPs (linking knowledge to action). In this way, organisational culture also matters to how the wards learn from risky situations in order to be better equipped for future ones and prevent AEs.

Generalisability of Findings

A key question is whether these findings are applicable in other contexts and organisational settings. Due to the context-specific characteristics of Danish public hospitals, the dynamics at play in this study may not be present in different contexts, where the HPs face different incentive structures, such
as potential law suits following risky situations or have to make tough priorities in risky situations because of the economic constraint of insurance-based models (Mossialos et al., 2016). However, in contexts with similar health care systems, the insights into how different elements of organisational culture matters to risk perception and behaviour in risky situations may apply.

The data and explorative purpose of the article do not allow for generalisation. Still, it is likely that organisational culture also matters to behaviour in risky situations in other public service delivery organisations that face similar conditions of high levels of discretion and risky situations. This could for instance be the case with social workers assessing at-risk children and families, or police officers who have to comply with rules and regulations for the use of physical power when restraining and arresting suspects. The importance of organisational culture in both enabling and constraining risk-reducing and risk-seeking behaviours is equally relevant in these settings.

**Conclusion**

The purpose of this study was to explore how organisational culture matters to the risk perception and behaviour of frontline professionals in risky situations. The findings show that basic cultural assumptions related to the role of professional discussion, administering medicine, and handling of adverse events (AEs) matter to the behaviour in risky situations. Consequently, organisational culture is a driver of both risk-seeking and risk-reducing behaviour.

Risks are perceived differently across the wards in the study. While all health professionals (HPs) acknowledge that risks are an inevitable condition of their work, the assessment of risky situations and how they should be handled differ. In organisational cultures characterised by high levels of trust, organised professional discussions, and follow-up activities after risky situations, the HPs strictly
follow the clinical guidelines, ask for second opinions in risky situations, and reflect collectively on their behaviour. They do this because they believe that these measures enable them to handle risky situations better. In this way, organisational culture is a driver of risk-reducing behaviour in risky situations.

Conversely, in organisational cultures characterised by lower levels of trust, and little follow-up activity, the HPs are less likely to engage in professional discussions and ask for second opinions in risky situations. In this kind of culture, routine tasks sometimes become risky situations because the HPs take risks on behalf of patients, such as cutting corners when administering medicine or refraining from asking for a second opinion when in doubt. In this way, organisational culture is a driver of risk-seeking behaviour in risky situations.

The importance of organisational culture in relation to behaviour in risky situations is tangible. However, there are also findings that point to interesting aspects beyond this argument, such as the role of professional assessment when HPs grade AEs. These nuances are in line with the literature on how professional background, norms, and experience shape the behaviour of frontline professionals (Evans, 2011; Freidson, 1994; Maynard-Moody & Musheno, 2003). The grading of AEs further demonstrate how HPs act strategically in an attempt to exert influence on which AEs they learn from. As a common denominator across wards, this basic assumption illustrates the importance of acknowledging components of behaviour that are related to HPs advancing their own interests. In this way, individual factors like professional knowledge, experience, risk perception and strategic interests shape behaviour in risky situations parallel to organisational culture.

Reflections on the Research Design and Strategy
The qualitative research strategy has proved fruitful in accommodating the explorative nature of this study. Observing routine and risky situations at the wards and interviewing HPs has permitted a thorough understanding of the risky situations facing HPs and an insight into the organisational cultures. The findings underscore the relevance of studying organisational culture in relation to risk perception and subsequent behaviour. The issue of common source bias is eased by the triangulation, where data from the observations and interviews were applied and contrasted simultaneously in the analysis.

The main contribution of this study to the field of public administration is the insight into how organisational culture is important to both risk perception and behaviour of frontline professionals in risky situations. Basic cultural assumptions can induce both risk-reducing and risk-seeking behaviours. In this way, the study adds important nuance to our understanding of frontline professionals’ behaviour.

An objection to be made is that the study should target if organisational culture and behaviour are a function of the tasks and risks the wards face. These characteristics of the wards have not been utilised to study this, as the purpose was to study how organisational culture matters to risk perception and subsequent behaviour – regardless of ward characteristics. In this way, risk has been treated as a condition objectively facing all hospital wards. However, the nature of the risks facing the wards are different, and the perception of risk and subsequent behaviour may differ accordingly. This source of variation can and should be utilised in future studies.

The findings are case and context specific, which is a limiting factor to the study – and all other qualitative studies for that matter. The findings do not travel to a broader population of frontline professionals in public service organisations. Yet, a qualitative study like this one provides valuable insights into the organisational context and sheds light on the dynamics of how organisational culture is both a driver of risk-seeking and risk-reducing behaviour in risky situations. Our theoretical and empirical understanding of how organisational culture matters to behaviour in risky situations is thus
improved. Future studies of the decision-making of frontline professionals in risky situations are encouraged to take these findings into account in order to determine more specifically how much of the behaviour is shaped by organisational culture vis-à-vis task, risk, risk perception, professional knowledge, norms, and experience.

References


