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# Learning From Failure In Psychiatric Departments Of Norwegian Hospitals

A Comparative Case Study

Masteroppgave i Industriell Økonomi og Teknologiledelse

Veileder: Nhien Nguyen

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Norges teknisk-naturvitenskapelige universitet  
Fakultet for økonomi  
Institutt for industriell økonomi og teknologiledelse



Kunnskap for en bedre verden





## ABSTRACT

This thesis investigates the complexities of failure and how failure may prevent learning in the context of psychiatric departments, a milieu where risk and failure have direct implications for patient safety and the society.

Drawing on in-depth comparative analysis of a high-risk and a low-risk psychiatric department, this study illuminates the group-level responses to failure and the factors that obstruct the process of learning from them. Valuable insights have been obtained from various sources, including interviews of employees in psychiatric departments and reports on deviations.

The findings reveal that the lack of well-articulated procedures often results in failures not being detected or recognized, potentially leading to normalization or overlooking of certain failures. Furthermore, time constraints and administrative burdens can deprioritize thorough analysis of failures and the development of effective solutions, especially within the low-risk department. The inherent complexity of predicting and preventing failures, due to the individualized nature of psychiatric diagnoses, further inhibits learning from failures. Lastly, the initiation of learning from failure is significantly complicated when failures stem from intricate clinical symptoms involving both patients and staff. Blurring the boundary between individual- and expected failures, root cause determination is complicated and the inherent complexities of these scenarios call for a sensitive and nuanced approach to dissect whether the failure was preventable, expected, or simply an inherent risk in such a complex clinical setting.

Addressing the interwoven factors that impede learning from failures, the study underscores the importance of clear procedures, efficient resource allocation, and a nuanced approach to managing the complexities of psychiatric care. The research advocates for transforming these failures into opportunities for driving long-term improvements, fostering a resilient and adaptable psychiatric healthcare system that can continuously enhance its services and patient care. By doing so, the potential of failures as powerful catalysts for change is illuminated, especially in high-stress, high-risk environments like psychiatric departments.

## SAMMENDRAG

Denne oppgaven undersøker kompleksiteten av feil og hvordan feil kan forhindre læring i konteksten av psykiatriske avdelinger, et miljø der risiko og feil har direkte implikasjoner for pasientsikkerhet og samfunnet.

Denne studien bygger på en dyptgående komparativ analyse av en psykiatrisk avdeling med høy risiko og en med lav risiko, og belyser responsene på gruppenivå på feil og faktorene som hindrer prosessen med å lære av dem. Det er hentet verdifull innsikt fra ulike kilder, inkludert intervjuer av ansatte i psykiatriske avdelinger og rapporter om avvik.

Funnene viser at mangelen på velartikulerte prosedyrer ofte resulterer i at feil ikke blir oppdaget eller gjenkjent, noe som potensielt kan føre til normalisering eller oversett av visse feil. Videre kan tidsklemmer og administrative byrder nedprioritere grundig analyse av feil og utvikling av effektive løsninger, spesielt innenfor lavrisikoavdelingen. Den iboende kompleksiteten ved å forutsi og forebygge feil, på grunn av den individualiserte karakteren til psykiatriske diagnoser, hemmer ytterligere læring fra feil. Til slutt er initieringen av å lære av feil betydelig komplisert når feil stammer fra intrikate kliniske symptomer som involverer både pasienter og ansatte. Ved å viske ut grensen mellom individuelle og forventede feil, er det komplisert å bestemme årsak, og den iboende kompleksiteten til disse scenariene krever en sensitiv og nyansert tilnærming for å dissekere om feilen var mulig å forhindre, forventet eller bare en iboende risiko i en så kompleks klinisk setting.

Undersøkelsen tar for seg de sammenvevde faktorene som hindrer læring fra feil, og understreker viktigheten av klare prosedyrer, effektiv ressursallokering og en nyansert tilnærming til å håndtere kompleksiteten i psykiatrisk omsorg. Forsknningen tar til orde for å transformere disse feilene til muligheter for å drive langsiktige forbedringer, fremme et robust og tilpasningsdyktig psykiatrisk helsevesen som kontinuerlig kan forbedre sine tjenester og pasientbehandling. Ved å gjøre det belyses potensialet til feil som kraftige katalysatorer for endring, spesielt i høystressede, høyrisikomiljøer som psykiatriske avdelinger.

## PREFACE

This thesis concludes the author's Master of Science degree in Industrial Economics and Technology Management at the Norwegian University of Science and Technology (NTNU).

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*June, 2023*



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## INTRODUCTION

On Tuesday, 9 November 2021, Oslo police were informed that a man was allegedly chasing people with a knife on Therese's street in Bislett, Oslo (Ali et al., 2021). A police car arrived at the scene shortly after and ran over the man with the knife twice to prevent him from hurting anyone. Despite suffering minor injuries, the assailant opened the door of the police car, trying to attack the police officer inside. In response, the police fired six shots, resulting in the eventual death of the man with the knife on Therese's street.

### 1.1 Motivation

The background of the incident in Therese's street is complicated and provides an example of increasing challenges in the Norwegian health care system (NKTPH, 2022). The murdered man was on a granted leave from treatment under compulsory mental health care, a treatment sentenced by court that is increasingly used. As a result of the court's mandate, the individual, due to their mental illness, is required to undergo compulsory mental health care at a psychiatric ward within a hospital, substituting the conventional prison sentence. Mental health care involves the examination and treatment of individuals suffering from mental illnesses, as well as providing the necessary care and attention that these cases require. Compulsory mental health care refers to the enforcement of such examination and treatment, as per certain conditions outlined in the Criminal Code (Straffeloven, 2005a). The sentencing to compulsory mental health care is a distinct criminal law response applied when the convicted individual does not meet the sanity criteria, as described in Straffeloven (2005b).

Hospitals are constantly investigating incidents to determine and communicate the causes and lessons learned from visible and often tragic healthcare failures. Investigations, however, are frequently limited because failures typically have multiple and complex causes embedded in the organization, necessitating attention to more minor, everyday failures (Edmondson, 2004). Several researchers study different aspects of learning from failure in hospitals, emphasizing importance of a just culture (van Baarle et al., 2022), what types of activities professionals engage in to learn from errors (Smeets et al., 2021), barriers that prevent learning (Tucker

& Edmondson, 2003) and different aspects of medical error management (Tevlin et al., 2013; Soleimani, 2006; Fischer et al., 2006).

Though existing research covers diverse aspects of learning from failure within the healthcare system, notably within hospital settings, a discernible research gap persists in understanding how failure itself impedes the very process of learning from failure in these environments. This study aims to address this research gap, focusing specifically on psychiatric departments, characterized by their inherent complexity and unpredictability. These characteristics render such departments susceptible to an array of failures, which in turn can obstruct their ability to learn and adapt from these incidents.

This study defines a failure as a deviation from set plans or procedures or as a disparity in outcomes compared to expectations, in accordance with Carmeli and Gittell (2009), Leoncini (2017), and Frese and Keith (2015). The emphasis is on failures that inhibit learning from failure, meaning incidents that interfere with either the detection or analysis of the failure, or obstruct the execution of preventative strategies and improvements in practice.

The classification of failure types follow Edmondson (2011)'s differentiation into preventable, complex, and intelligent failures. Preventable failures are operational lapses in known procedures or routines, complex failures result from a confluence of multiple variables in a high-risk environment, and intelligent failures represent unsuccessful attempts that nonetheless yield valuable insights for innovation and exploration. A nuanced understanding of how these failure types influence the learning process is pivotal for devising strategies that enhance learning from failure within psychiatric departments.

## 1.2 Objective and Importance

The broader objective of this study is to unravel the paradoxical relationship between failure and learning: how failure, often seen as a stepping stone to learning, can in certain contexts become a stumbling block. By exploring this dynamic, the study seeks to enrich the theoretical comprehension of failure and learning, and to bolster the development of effective practices within psychiatric departments.

The urgency of this research lies in the pivotal role that failure detection plays in initiating the process of organizational learning from failure. Grasping how failure prevents learning is a key step in achieving successful learning from failures, as different failure types necessitate tailored responses for productive learning (Edmondson, 2019). Even a hospital organization cognizant of the barriers to learning, making proactive efforts to address them, could find their efforts thwarted if the nature of the failure prevents learning in the first instance. Such failures can create a vicious cycle that impedes learning, even when active improvement efforts are underway. It is thus imperative to comprehend the nature of these failures and to unravel the mechanisms through which they obstruct learning.

With these key considerations in mind, a more nuanced exploration of the impediments to learning from failure within psychiatric departments is warranted. This study seeks to grapple with the intricate dynamics between failure and the process of learning from them, focusing particularly on how failures can paradoxically obstruct the very learning process they typically initiate. This understanding could provide significant insights and strategies for improving practices and outcomes within psychiatric departments. To guide this exploration, the study is underpinned by a specific research question and follows a detailed research design. The next section elucidates this research question and describes the research design adopted to address it, demonstrating the ways in which this inquiry seeks to expand our current understanding of failure and learning in high-risk healthcare environments.

### 1.3 Research Question and Research Design

In the quest for a deeper understanding of the dynamics of failure and learning in high-risk environments, a clearly articulated research question, supported by a methodologically sound research design, is indispensable. Seeking to identify why and how failure affect learning from failure in hospitals to explore the mentioned gap in the literature, the following research questions guide the study:

*Why and how does failure prevent psychiatric departments from learning from failure?*

To achieve this objective, this study seeks to test the proposed framework from the systematic literature review in Frøslie (2022)<sup>1</sup> showing how different types of failure prevent learning from failure in hospitals in the context of psychiatric departments. Applying a comparative case study approach as per Yin (2018), this study scrutinizes two psychiatric departments of differing risk levels - one low-risk and one high-risk. The aim is to collate empirical evidence to elucidate why and how failure impede the learning process from failures.

### 1.4 Results and Contribution

The findings illuminate various impediments to learning from failure, particularly focusing on procedure deviations and complex clinical symptoms. Failures resulting from deviations from non-established procedures were often not recognized as failures, thereby obstructing the detection phase of learning from failure. Similarly, when tasks related to failure analysis and solution implementation competed with other administrative duties, learning from failure was de-prioritized, thus also affecting the analysis phase.

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<sup>1</sup>Pre-study for master thesis conducted by author



In cases of complex clinical symptoms and diagnosis', inherent individual variability and unpredictability complicated the learning process in both departments. Despite established frameworks and procedures, such failures are, due to the individuality and complexity in diagnosis' difficult to analyse and learn from, indicating an obstruction in both detection and analysis phase of learning from failure.

By highlighting these obstacles, this study contributes to a nuanced understanding of how and why failure might hinder learning processes, pointing to possible strategies for improving learning from failure in healthcare settings. The analysis of how failures obstruct learning processes in hospitals forms the crux of this research's theoretical contribution, leading to a more informed understanding of the challenges within organizational learning. These insights could pave the way for the conception of a conceptual framework, specifically designed to interpret and explain the intricate process of learning from failure in the realm of hospital environments.

On the other hand, the practical implications of the study provide insights into how psychiatric departments can improve their learning processes and effectively learn from failure. By identifying the factors that prevent learning, the study will assist healthcare organizations in designing interventions to improve the learning process and enhance their overall quality of care.

This introductory chapter presents the motivation, research question and context of the study. Chapter 2 gives a brief introduction to the phenomenon learning from failure in hospitals, and summarises the theoretic background for types of failure preventing learning from failure, forming a theoretic foundation for understanding the data gathered in this study. Chapter 3 presents the methodology applied as well as a presentation of the context, before findings from the two cases are presented in Chapter 4. Chapter 5 discusses the findings before the study is summarized and concluded in Chapter 6.

## LITERATURE REVIEW

This chapter provides an overview of the main themes of the literature relevant for the study. Seeking to map the context for this research and the gap in existing research on the topic, key concepts serving as a foundation for understanding this thesis are presented. This includes organizational learning, learning from failure and different types of failure.

Lastly, a comprehensive literature review was conducted with the objective of understanding why and how different types of failure prevent learning in hospitals. The review adhered to the methodology suggested by Tranfield et al. (2003), striving for transparency, replicability, and scientific rigor. This systematic approach helps to mitigate bias by conducting exhaustive searches of published studies and maintaining an audit trail detailing the review process, decisions made, and the ensuing conclusions.

### **2.1 Learning In Organizations**

Learning at an organizational level is critical, as it has a profound effect on performance and long-term success of organizations (Argote & Miron-Spektor, 2011; Weinzimmer & Esken, 2017). Sessa and London (2006) define organizational learning as changes reflected at the organizational level in aspects such as vision, strategy, policies, rules, structure, and goods or services. Continuous learning entails regular, intentional acquisition of increasingly in-depth and broad knowledge and abilities and applying them to novel activities. Organizations learn from the collective learning of individual groups within them. However, organizational and group learning transcends the mere sum of individual components, with learning at individual, group, and organizational levels interacting and reinforcing each other.

#### **2.1.1 Individual Learning**

Individual learning denotes a lasting change in a person's knowledge, abilities, and attitudes. It involves discerning similarities and differences, patterns, and

possibilities. Intuition, generally considered a form of pattern recognition, is a key element in many definitions of individual learning (Crossan et al., 1999).

### 2.1.2 Group Learning

Group learning involves participants creating shared mental models, actively seeking feedback, and making adjustments to improve or adapt their knowledge. These actions may lead to changes in processes and practices (Sessa & London, 2006). Individuals can affect a group and a group can affect an organization. And at the same time, a group can affect individuals and an organization can affect a group.

### 2.1.3 Organizational Learning

The core of most definitions of organizational learning is that organizational learning is a change in the organization that occurs as the organization acquires experience (Argote & Miron-Spektor, 2011). Organizations, unlike other groups, have established subsystems for production, support, maintenance, management, and more. Therefore, organizations can be viewed as evolving patterns of interactions, rules, and procedures emerging from the collective learning of individuals. This evolution involves continuous improvement, the shaping of organizational culture, innovation, and system operations.

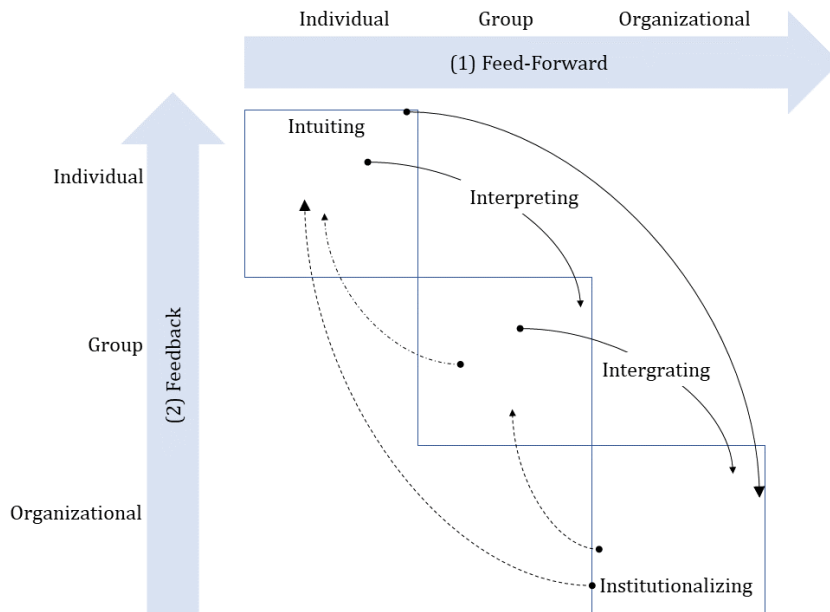
### 2.1.4 The Four I's

Crossan et al. (1999) suggest that organizational learning comprises four processes: intuiting, interpreting, integrating, and institutionalizing. These processes connect individual, group, and organizational levels. The authors propose a framework based on four key premises supporting a central proposition:

1. Organizational learning involves a tension between assimilating new learning, exploration, and using what has been learned, exploitation.
2. Organizational learning occurs on multiple levels: individual, group, and organizational.
3. These levels of organizational learning are connected by social and psychological processes: intuiting, interpreting, integrating, and institutionalizing.
4. Cognition affects action and vice versa.

Organizational learning is an intricate, dynamic process, occurring over time and across the different levels of an organization. It is characterized by a constant tension between assimilating new knowledge, shown by the horizontal, blue arrow numbered (1) on Figure 2.1.1, and utilizing what has already been learned, shown by the vertical, blue arrow numbered (2). In the feed-forward process, novel ideas and practices traverse from individual to group and ultimately to the organizational level. Simultaneously, established learning is disseminated from the

organization to group and individual levels through feedback, thereby influencing actions and perceptions. This dual-natured, concurrent system results in a fascinating tension, which is depicted in Figure 2.1.1.



**Figure 2.1.1:** Dynamic Organizational Learning  
Crossan et al. (1999)

Figure 2.1.1 showcases the interplay between feed-forward and feedback processes. It illustrates how learning permeates upwards from individuals and groups to the organization while institutionalized learning reciprocates in a downward trajectory, thereby impacting individual and group learning. Two critical yet challenging relationships are highlighted in this context: interpreting-integrating, feed-forward, and institutionalizing-intuiting, feedback.

Transitioning from interpreting to integrating necessitates moving from individual learning to shared learning among individuals or groups. This involves transforming personally constructed cognitive maps into a shared understanding among group members. Multiple challenges arise in altering an existing shared reality. The foremost is the necessity for individuals to articulate their cognitive maps, both verbally and through their actions. As these cognitive maps often encompass tacit knowledge, making them explicit necessitates a process of revealing and verbalizing ideas and concepts.

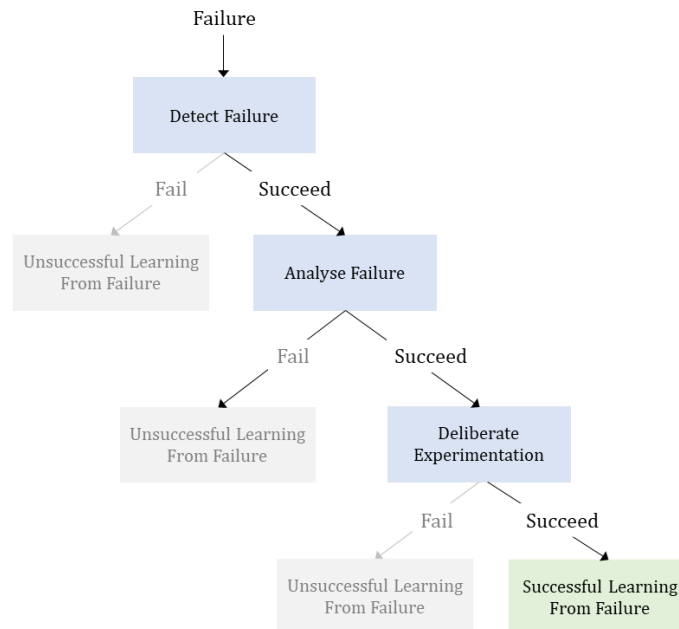
## 2.2 Learning From Failure

Failure in organizations is often defined as unintended or unexpected deviations from plans (Carmeli & Gittell, 2009; Leoncini, 2017; Frese & Keith, 2015). Failures can lead to important insights and breakthroughs, providing feedback about

what does not work and enabling individuals and organizations to adapt and innovate (Cannon & Edmondson, 2005). Learning from failures has gained increasing attention in both academia and business, and it's broadly recognized that failures, though often costly and undesirable, can provide valuable opportunities for learning and improvement (Edmondson, 2011). Organizations that learn from their failures are found to be extraordinarily rare, and previous research has attempted to investigate both barriers that prevent organizations from learning from failure and how to successfully learn. An organisation's ability to learn from failure is measured by how it deals with both large and small failures, not just by how it handles major, highly visible crises or accidents (Cannon & Edmondson, 2005).

### 2.2.1 The Process Of Learning From Failure

Edmondson (2011) posits that learning from failure is a process that requires psychological safety within the organization. In order for individuals to share, and the organization to learn from failures, a culture of trust, openness, and acceptance of failure must be established. With this culture as a ground, the process involves the detection of the failure, analysis of its causes and effects, and the development of corrective measures (Edmondson, 2011; Cannon & Edmondson, 2005), as summarized in Figure 2.2.1.



**Figure 2.2.1:** The process of successful learning from failure adapted from Edmondson (2011)

Figure 2.2.1 shows the process of learning from failure, where succeeding in all stages, illustrated by the blue boxes, results in successful learning from failure. The grayed out boxes illustrate how failing to either detect, analyse or deliberate experimentation would result in unsuccessful learning from failure.

Detection involves identifying failures early on before they escalate into disasters. High-reliability-organization (HRO) practices can also help prevent catastrophic failures in complex systems by detecting them early. However, employees may be reluctant to report failures to their superiors, which can hinder detection. To encourage open communication about failures, managers should respond to them with humility and curiosity and encourage open discussion.

Analysis involves a thorough examination of failures in order to understand their causes and identify potential solutions. This can be achieved through root cause analysis, the use of failure mode and effects analysis, and other methods.

Lastly, experimentation involves testing solutions to failures in order to determine their effectiveness. This can be achieved through small-scale pilot tests and other methods. By engaging in these activities, organizations can learn from their failures and prevent them from happening again in the future.

Learning from failure has been studied with emphasis on several different aspects (Tucker & Edmondson, 2003; Edmondson, 2011; Cannon & Edmondson, 2005; Edmondson, 1996). In the study of Cannon and Edmondson (2005), emphasis is placed on how organizations can use the mistakes they make to innovate and improve. The study recommends that these be put into practice by leaders who can make the right decisions and work to change the managerial mindset so that failure is redefined away from its negative connotations and seen as an essential first step in a process of discovery and learning.

Several studies on learning from failure have focused on the domain of health care in particular (van Baarle et al., 2022; Tucker & Edmondson, 2003; Tabrizi & Masri, 2021; Rafter et al., 2015). Few hospitals systematically analyse medical errors or process flaws in order to capture failure's lessons (Edmondson, 2011). In hospitals, learning from failure is often studied in the context of medical errors (Soleimani, 2006; Fischer et al., 2006; Tabrizi & Masri, 2021; Nowotny et al., 2019; Kuehster & Hall, 2010). Edmondson (1996) investigates the impact of organizational and group-level variables on medication administration errors in hospitalized patients. Findings from patient care groups in two hospitals reveal systematic differences in error frequency as well as group members' propensity to identify and learn from errors.

## 2.2.2 First- And Second Order Problem Solving

In an effort to deepen the understanding of the dynamics of learning from failure within psychiatric departments, it is crucial to engage with the concepts of first- and second-order problem-solving. These concepts, grounded in the field of

organizational learning and change, offer valuable insights into how organizations respond to failures and other performance discrepancies (Tucker & Edmondson, 2003).

Problem solving is defined as short-term remedies that "patch" problems or more detailed responses that seek to change the underlying organizational routines to prevent recurrence (Tucker & Edmondson, 2003; Repenning & Sterman, 2002). First-order problem solving is largely about immediate, reactive measures taken to address the symptoms of a problem, such as a specific failure (Tucker & Edmondson, 2003; Tucker, 2003). This might entail revising procedures or reinforcing existing rules and guidelines. In the context of a psychiatric department, if a failure occurs, the immediate response might involve procedural changes like altering shift patterns or reinforcing safety protocols. This form of problem solving is crucial for maintaining routine operational efficiency and ensuring immediate safety and functionality. However, first-order problem solving often addresses the symptoms rather than the underlying causes of failure, which may result in the recurrent manifestation of the same or similar failures. First-order problem solving behavior occurs when a worker compensates for a problem by obtaining the supplies or information required to complete a blocked or interrupted task. The worker fails to address underlying causes, increasing the likelihood of a similar problem occurring in the future. Argyris (1991) refers to this type of learning as single-loop learning, defined as when errors are corrected without questioning or altering the underlying assumptions or policies.

Contrastingly, second-order problem solving focuses on a deeper, systemic level of analysis and change (Tucker & Edmondson, 2003; Tucker, 2003). This involves questioning and often transforming underlying norms, policies, and assumptions within the organization that may have contributed to the failure. In the context of this study, this might mean re-evaluating the approach towards patient care, examining departmental culture or communication practices, or questioning prevailing assumptions about risk and safety. Second-order problem solving aids in learning from failure more effectively by addressing root causes and facilitating more substantial and lasting improvements. Second-order problem solving behavior occurs when a worker takes action to address underlying causes in addition to patching the problem so that the immediate task at hand can be completed. Examples can be communication with the person or department responsible for the problem, bringing it to the attention of managers, sharing ideas about what caused the situation and how to prevent recurrence with someone in a position to implement changes, implementing changes or verifying that changes have the desired effect. Argyris (1991) refers to this type of learning as double-loop learning, defined as challenging and modifying the underlying values, assumptions, and policies when errors are detected.

An organization's capacity to learn from failure significantly hinges on the interplay between first and second-order problem solving. By integrating these terms into the investigation, a more nuanced understanding of how psychiatric departments respond to, learn from, and ultimately prevent failures is achieved.

## 2.3 Types Of Failure

Understanding the intricacies of learning from failure necessitates a comprehensive grasp of what failure entails within an organizational context. Consequently, an exploration of the different types of failure represents a fundamental component of our literature review. By examining the multifaceted nature of failure, this review aims to shed light on how different categories of failure could influence the process of learning within psychiatric departments.

According to Edmondson (2011), failures can be classified into three categories: preventable failures in predictable operations, unavoidable failures in complex systems, and intelligent failures at the frontier. Preventable failures, which occur when employees deviate from established processes, can be deemed unnecessary because their occurrence is avoidable through proper training and support. These failures often happen due to deviance, inattention or lack of ability (Edmondson, 2011). An example of how to successfully learn from preventable failures is the Toyota Production System, where a team member on a Toyota assembly line who spots a problem or even a potential problem is encouraged to pull a rope, which functions as a signal to immediately initiate a diagnostic and problem solving process. If a solution is found in less than a minute, production continues, if not, production is halted until the failure is understood and resolved. Productive responses to preventable failures include training, retraining, process improvement, system redesign, and, if repeated or otherwise blameworthy actions are found, sanctions or terminations of employees (Edmondson, 2019).

Unavoidable failures in complex systems, called complex failures in this research, are considered a natural part of working in unpredictable situations. They are often due to the inherent uncertainty of work, and appear in familiar contexts when a confluence of factors, like needs, people, and problems, come together in a way that may never have occurred before (Edmondson, 2011). Common causes of complex failures are complexity, variability, and novel factors imposed on familiar situations. Productive responses include failure analysis from various perspectives, identification of risk factors to address, and system improvement.

Intelligent failures, occurring in the course of necessary experimentation, might be seen as beneficial since they yield valuable new insights that foster organizational growth and improvement. (Edmondson, 2011). They are still results that no one wanted, like preventable and complex failures, but unlike the two other categories, they happen due to the thoughtful venture into unknown territory. Common causes of intelligent failures are uncertainty, experimentation, and risk taking. Productive responses include failure parties, failure awards, thoughtful analysis of results to determine implications, brainstorming of new hypotheses, and design of next steps or additional experiments (Edmondson, 2019). Table 2.3.1 shows definition, common causes, descriptive term and example of productive responses for the different types of failure.



**Table 2.3.1:** Types Of Failure  
Edmondson (2019, p. 163)

	Preventable Failures	Complex Failures	Intelligent Failures
Definition	Deviations from known processes that produce unwanted outcomes	Unique and novel combination of events and actions that give rise to unwanted outcomes	Novel forays into new territory that lead to unwanted outcomes
Common Causes	Behavior, skill, and attention deficiencies	Complexity, variability, and novel factors imposed on familiar situations	Uncertainty, experimentation, and risk taking
Descriptive Term	Process deviation	System breakdown	Unsuccessful trial
Context Where Each Is Most Salient	Production line, manufacturing, fast-food services, basic utilities and services	Hospital care, NASA Shuttle program, Aircraft carrier, Nuclear power plant	Drug development, New product design

## 2.4 Failure Preventing Learning From Failure

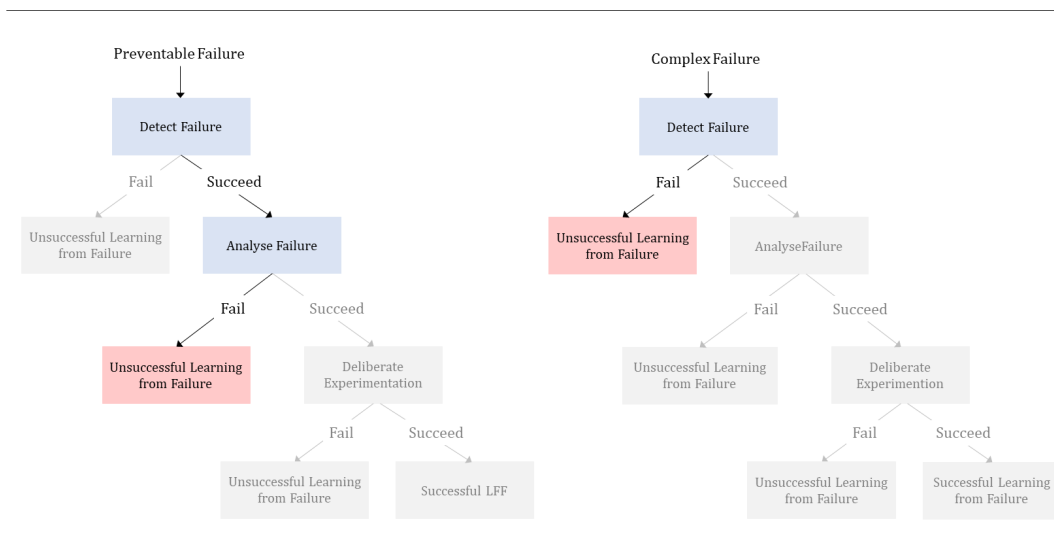
To effectively address the study's research question on how failure prevents learning from failure in psychiatric departments, it is paramount to comprehend the interplay of different types of failure and the barriers they present to the learning process. This analysis is all the more significant given that little existing research has focused specifically on this. This section therefore discuss the findings from a systematic literature review of why and how different types of failures impede learning within hospital contexts.

As psychiatric departments are embedded within a larger organizational structure, that of the hospital, these findings are relevant for this study's objective. The policies, culture, systems, and practices at the hospital and broader organizational level often dictate or at least influence what occurs at the departmental level (Crossan et al., 1999). Understanding the hospital context can provide critical insights into the conditions and constraints under which the department operates.

Successfully learning from failure is found to be highly context-specific, in line with the research of Edmondson (1999), and the literature review finds it vital to see the reasons hospitals fail to learn from failure in the context of the situation. When hospitals fail to learn from failure, it is often due to different barriers found in the literature to prevent learning from failure. These barriers affect the organizational learning from failure process and lead to reasons why hospitals fail to learn from failure. Some of these reasons also directly influence barriers or the

organizational process of learning from failure. The literature review discusses the barriers and reasons for not learning from failure to determine what types of failure prevent learning from failure in hospitals.

By delving into the specifics of preventable and complex failures, and how they obstruct the learning process, a more nuanced and context-specific strategies for managing failure and fostering learning within psychiatric departments is provided. The implications of these insights extend beyond immediate troubleshooting, shaping the understanding, approach, and navigation of the complex landscape of failure in high-stakes healthcare environments. A proposed framework incorporating the the findings is present in Figure 2.4.1



**Figure 2.4.1:** Framework showing how different types of failure prevent learning from failure in hospitals

Figure 2.4.1 shows how the different types of failure, preventable and complex failure, was found to impede the process of learning from failure in hospitals. The organizational learning from failure process is, like in Figure 2.2.1, shown as the boxes labeled "Detect Failure", "Analyse Failure" and "Deliberate Experimentation", and shows how the process of learning from failure starts by the identification of the failure, then analyzing the failure and lastly deliberation of experimentation. By following this process and successfully participating in these activities, organizations, and in this case hospitals, can achieve successful learning from failure, preventing failures from happening again. If the organization does not detect or analyse the failure, or fails to deliberate experimentation, the organization will fail to learn from failure, illustrated by the arrows pointing to the red boxes "Unsuccessful Learning From Failure".

The figure to the left shows how hospitals usually succeed in detecting failure preventable failures. However, as the figure shows, when failing to analyse failures, it is usually due to preventable failures. The rightmost figure, where "Complex Failure" is on top, the figure shows how it is usually due to complex failures when failing to detect failures. However, both these interruptions of the process of learning from failure must be seen in the context of the failure (Edmondson, 2011).

### 2.4.1 Preventable Failures

Research has illustrated that a failure's type significantly impacts how it interferes with learning. Preventable failures, being identifiable and rectifiable, do not typically obstruct the initial identification phase of learning from failure. Instead, they present hurdles during the analysis phase, like shown in Figure 2.4.1, ending in the red box titled "Unsuccessful Learning From Failure". For example, a hospital worker's inaction to find the underlying causes of a problem due to a lack of perspective can be seen as a preventable failure. Routines or standardized systems could replace the need for the worker to find the underlying cause, thus replacing the need for a broader perspective. This is in line with Edmondson (2011) observation that failure analysis in healthcare settings can often be inadequate and ineffective, with many institutions failing to examine medical errors or process flaws to extract lessons systematically.

Understanding this pattern allows planning strategies to combat such failures. Managers, for instance, could focus on mitigating barriers linked to preventable failures, ultimately enhancing the organization's capacity to learn from such failures. Knowledge of the typical obstruction point—analysis phase—may also provide valuable insights into why hospitals fail to learn from such failures.

### 2.4.2 Complex Failures

On the other hand, complex failures, due to their inherent unpredictability and intricacy, can prove challenging to identify, making them likely disruptors of the learning process at the identification phase, shown by the red box titled "Unsuccessful learning" in Figure 2.4.1. For example, when a doctor fails to communicate

a medical error due to fear of public backlash (Soleimani, 2006), which arises from the complexity and unpredictability of the hospital environment (Edmondson, 2011), it classifies as a complex failure. This directly impacts the process of learning from failure by preventing the identification and detection of medical error. This necessitates a unique approach: instead of simply attempting to eliminate the failure, it might be more fruitful to concentrate on weakening the barriers associated with complex failures.

In this context, understanding the nature of these failures, their impact on learning processes, and the barriers from which they often stem can facilitate targeted strategies to enhance an organization's ability to learn from failure.

### 2.4.3 Intelligent Failures

Lastly, based on the review of the available literature, the author did not find intelligent failures to prevent the learning from failure process. There can be several reasons for this, but the most obvious is that a relationship can be seen between intelligent failures and factors that facilitate learning from failure. An example is seen in the study of Kuehster and Hall (2010), where hospital environments learn from failure through simulation, allowing workers to make potential errors in a safe environment. This example of training as a facilitator of learning from failure does not prevent learning from failure. In other words, research shows that intelligent failures often advance the learning process. However, some intelligent failures might impact the process in an obstructive way, and thus no further conclusion is drawn in this research.

## 2.5 Theoretical Propositions

The systematic literature review culminated in two critical theoretical propositions that direct this research. The first proposition posits that when the learning from failure process encounters interruption in the identification of failure phase, it typically implicates a complex failure. The second proposition suggests that a preventable failure often hampers the process in the analysis of failure phase.

These propositions have their genesis in the comprehensive distillation of extant literature on learning from failure. Prominent scholars such as Edmondson (1999) advocate that the complexity and preventability of failures can significantly influence the respective phases of failure identification and analysis, thus providing the rationale for these propositions. Drawing on the insights gathered from the literature review affords a solid theoretical foundation upon which a robust research design, aimed at scrutinizing these propositions further, can be constructed.

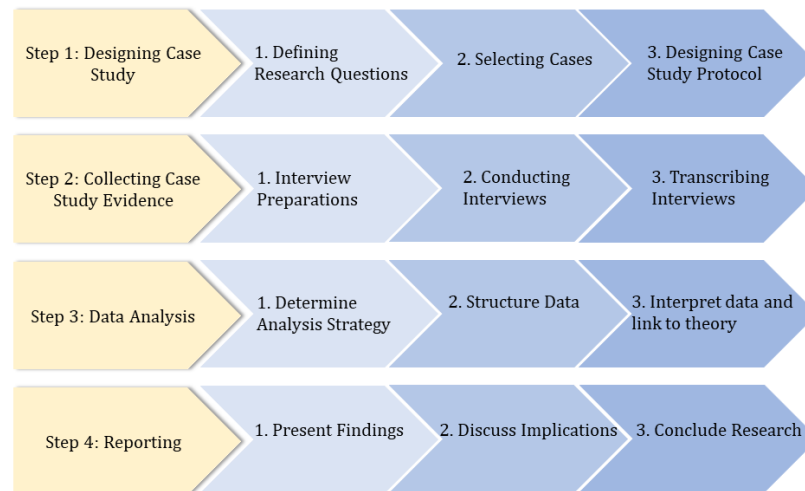
Chapter 3 presents the research design and methods guided by the propositions to answer the research question. The chosen design employs a comparative case study approach and leverages qualitative data to explore the multifaceted nature of failure identification and analysis in depth. The theoretical propositions inform

every aspect of this research, from the data collection process and the development of research instruments, to the analytical procedures and the interpretation of results.

By harmonizing theoretical groundwork and methodology, the study aims to create a rigorous investigation that expands knowledge of learning from failure in high-stakes healthcare settings, and also informs and improves practice. This seamless interplay between theory and methodology ensures a coherent and systematic approach to this research endeavour.

METHODOLOGY

This chapter outlines the methodology and research steps of this study, including designing the case study, data collection, data analysis and reporting. This study follows a research process similar to the research steps described in Yin (2018), adapted to fit the research questions and objective of this project. The research process is illustrated in 3.0.1, showing four steps of designing case studies, collecting case study evidence, data analysis and reporting, each with corresponding sub steps.



**Figure 3.0.1:** Case Study Research Process adapted from Yin (2018)

Figure 3.0.1 presents the four primary stages of a case study research process encapsulated in the yellow boxes. These stages are the design of the case study, collection of case study evidence, data analysis, and reporting. Each of these primary stages is further divided into three sub-stages, depicted in the blue boxes

vertically aligned below the corresponding main stage.

## 3.1 Designing Case Study

This study uses an inductive case study approach to understand how failure prevent psychiatric departments in hospitals to learn from failure. A comparative case study is used as research method, involving for specific study two cases, that are similar in some ways but differ in others. The goal is to identify similarities and differences between the cases and use them to develop insights and explanations about the phenomenon being studied. According to Yin (2018), a case study can be defined as an empirical inquiry that investigates a contemporary phenomenon within its real life context especially when the boundaries between phenomenon and context cannot be drawn clearly or unambiguously.

### 3.1.1 Defining Research Questions

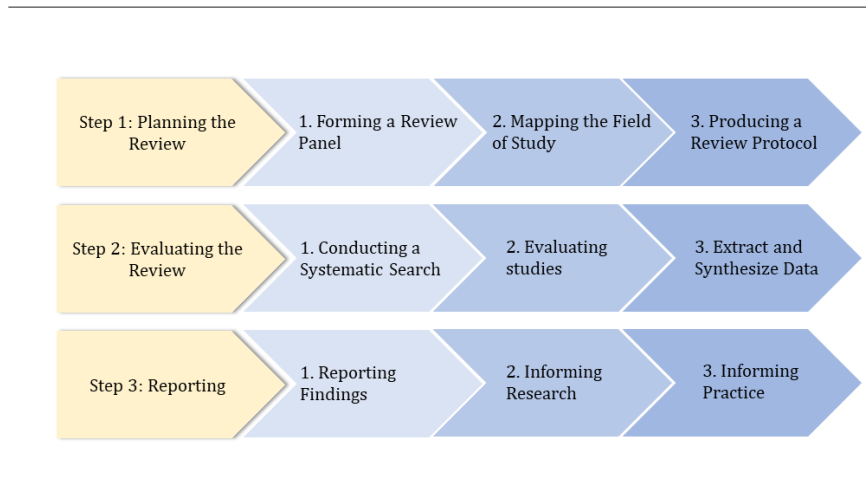
#### 3.1.1.1 *Theoretical Foundation*

The research in this thesis uses the literature review summarized in Section 2.4 as basis for developing a theoretic framework guiding the development of research questions. The expanded framework is then used to analyse the data gathered through interviews with personnel from different psychiatric departments. The author conducted a systematic literature review as an important step in the case study research design to help identify the research question, theory and methods to be used, and to place the case study findings in the context of existing research (Yin, 2018; Tranfield et al., 2003). It allows for gaining a comprehensive understanding of the existing literature on the topic of the case study that can help to identify gaps in the existing research, as well as to identify key concepts, theories, and methods that are relevant to the case study. By reviewing the existing literature, the author identified key theories and concepts that are most relevant to the case study, and use these to develop the research questions and hypotheses. Finally, a systematic literature review help to provide context for the case study results. By reviewing the existing literature, the findings of the case study relate to the broader field of research on the topic.

The summarized findings from literature on learning from failure in hospitals stems from a comprehensive systematic literature review of 43 journal articles, as documented in the original study of Frøslie (2022). The review employed a detailed methodology, which is outlined in the source document. Its focus was on identifying barriers to learning from failures, revealing preventable and complex failures as the main obstacles to such learning. The review's outcome was the development of a framework, illustrated in Figure 2.4.1, how various types of failures impede learning from failure. Specifically, the framework posits that when hospitals fail to analyse failures, it is usually due to preventable failures, while when failing to detect the failure, it is usually due to complex failures. These findings form the

basis of the case study questions in this thesis.

Figure 3.1.1 shows the systematic review process.



**Figure 3.1.1:** Systematic Review Stages and Phases adapted from Tranfield et al. (2003)

Figure 3.1.1 shows the three main stages of a case study research process encapsulated in the yellow boxes. These stages are the planning of the review, evaluating the review and reporting. Each of these primary stages is further divided into three sub-stages, depicted in the blue boxes vertically aligned below the corresponding main stage.

### 3.1.1.2 *Research Question*

Based on the findings from the systematic literature review summarized in chapter 2, research questions for the case study was developed, aiming to be clear, specific, focused, and achievable within the context of the case study (Tranfield et al., 2003). The framework proposed in the literature review suggests what and how different types of failure prevent learning from failure in hospitals the case study, which is the foundation for the development of the research question.

Aiming to look into the context of psychiatric departments, the following research question guide the study:

*Why and how does failure prevent psychiatric departments from learning from failure?*



### 3.1.2 Selection Of Cases

Applying purposeful sampling, the selection of case projects was carried out to address the research question. This strategy involves selecting cases that are most likely to provide the rich, detailed information needed to answer the research questions (Yin, 2018). This was done by selecting cases based on specific criteria or characteristics that are relevant to the research question.

#### 3.1.2.1 *Context*

The context in the comparative case study is defined as departments, specifically psychiatric wards in Norwegian hospitals. This was a deliberate decision to ensure relevance, manageability, and accessibility in the research. By focusing on failure in psychiatric wards, investigating the topic in a specific and relevant context could potentially increase the impact and actionability of the findings (Yin, 2018). Psychiatric departments are specialized units providing care and treatment to patients suffering from mental health disorders. Mental health care is the examination and treatment of such disorders, and takes place in the specialist health service, either in hospitals or in district psychiatric centers. Units includes drug abuse units, child and youth psychiatry, geriatric psychiatry and high security and forensic psychiatry, with staff typically including psychiatrists, psychiatric nurses, social workers, psychologists, and other mental health professionals.

Mental health care in Norway is, as a general rule, voluntary, but may in some cases be compulsory. For serious mental disorder, healthcare personnel may recommend that admission to hospital for a period to get the best possible help. Both examination and treatment must initially be voluntary. Compulsory confinement or other forms of coercion are only permitted when absolutely necessary, and the law sets stricter requirements for when coercion can be used (Helsenorge, n.d.). An offender deemed legally insane under certain sections of the law may be placed in compulsory mental health treatment if they have committed or attempted to commit a crime that endangers the life, health, or freedom of others. This measure aims to protect society from further serious breaches of integrity. Transfer to compulsory mental health treatment can also be ordered for repeat offenders involved in harmful or disruptive offenses, when other measures have proven ineffective.

The functioning of a psychiatric department is characterized by several factors that make it a uniquely challenging context. This includes for example the complexity of care, patient vulnerability, the stigma and misunderstanding and interdisciplinary collaboration. The nature of psychiatric care is inherently complex and unpredictable, given the myriad factors that can impact a patient's mental health, including their physical health, social circumstances, and genetic predispositions. Further, the patients in psychiatric departments are often highly vulnerable, with potential for self-harm or harm to society. This places an additional burden of care on the staff and intensifies the potential consequences of any failures. The field of mental health care still also faces significant societal stigma and misunderstanding, which can impact everything from resource allocation to the implementation of best practices (Tyerman et al., 2021; Lyngstad, 2000). Lastly, effective psychiatric

care often requires close collaboration between various professionals from different disciplines, increasing the potential for communication gaps or misunderstandings.

Choosing a psychiatric department as the context for the study allows for an exploration of learning from failure in a highly challenging, high-stakes environment where the consequences of failure can be severe. Additionally, given the aforementioned complexities, understanding and improving the process of learning from failure in this context can lead to significant improvements in patient care and outcomes. It's also an area where research can make a substantial impact, given the current societal emphasis on improving mental health care delivery.

### **3.1.2.2 *Defining Potential Cases***

By narrowing the scope to psychiatric wards, the number of cases became manageable, enabling to conduct more detailed and in-depth analyses of each case. This approach can lead to richer insights and more nuanced conclusions. Selecting psychiatric wards as potential cases also ensured accessibility, which facilitated data collection and the acquisition of necessary resources. Lastly, interviewing staff from psychiatric departments, with the variety of roles and responsibilities, could diverse perspectives, holistic understanding, interlevel analysis and enhancing validity.

Different perspectives are essential for comprehensively understanding failure within psychiatric departments. Clinical staff, at the forefront of patient care, can elucidate the immediate causes and consequences of failures, and describe their individual attempts to learn from these instances. Managers, however, provide a strategic overview of the department's functioning, highlighting system-level factors contributing to failures and impeding learning.

Gathering insights from both these groups enables a nuanced comprehension of the issue, allowing for a determination of whether learning barriers stem from individual behaviours, systemic issues, or a blend of both. This also facilitates understanding interlevel dynamics affecting the learning process from failures.

Moreover, data collection from multiple sources enhances the credibility of findings. Similar themes emerging across interviews can strengthen the results' validity, while divergent views may reveal significant misunderstandings or disagreements acting as barriers to learning. This combination of reasons, and the context's relevance, underpin the selection of potential cases for this research. To ensure eligibility of included cases, criteria for psychiatric departments, availability and different perspectives of interviewees was set to identify potential cases.

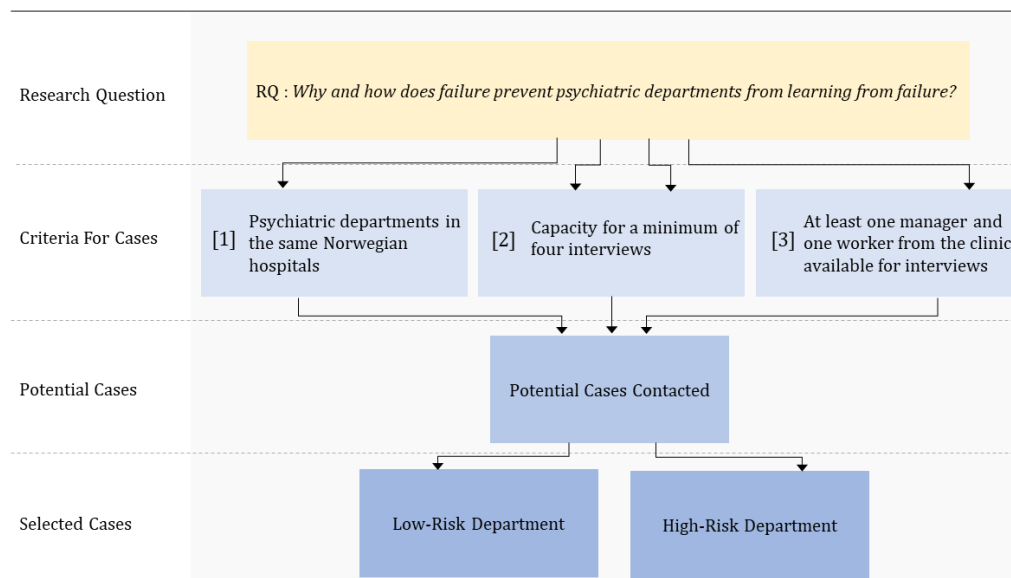
### **3.1.2.3 *Selecting The Final Sample***

After defining criteria for potential cases, an email to potential cases were sent with an information letter for the project. These documents can be found in Appendix A. Of the departments that wanted to participate, two cases were selected

as the final sample to be studied in depth.

In the case of this study's research question, a comparative case study could be an effective way to investigate how failure prevention and learning from failure are addressed in psychiatric departments with different levels of security in Norwegian hospitals. By selecting two psychiatric departments with different levels of risk and security, comparison and contrasts of how staff in these departments approach failure prevention and learning from failure can be done. This approach can help to identify the impact of security levels on these processes and provide insights into how to improve learning from failure in different contexts.

Lastly, the study's selection of two psychiatric departments in Norwegian hospitals enables an investigation into how failure prevention and learning from failure are addressed in a specific cultural context. This is important because cultural factors can influence how people approach failure and learning, and can affect the effectiveness of interventions aimed at improving these processes. Overall, the choice of these two departments is a relevant in addressing the research questions and provides a rich context for exploring how failure prevention and learning from failure are addressed in psychiatric departments in Norwegian hospitals. The process of selecting the final sample is shown in Figure 3.1.2.



**Figure 3.1.2:** The relationship between research questions, criteria for cases, potential cases and chosen cases.

Figure 3.1.2 shows the relationship between the research questions, criteria for cases, potential cases and chosen cases. To answer the respective research questions on top shown in the yellow rectangles, arrows are pointing to certain criteria for the selection of cases that would allow for the respective research question to be answered. The criteria are numbered 1 to 3. All criteria must be met for a case to be potential, shown with arrows pointing from all four criteria to the potential cases. Lastly, the chosen cases, which are one of the potential cases, are shown in the rectangles with the darkest blue color. Here, risk refers to the level of severity and the potential harm or impact failures could have on patient- and society safety.

This differentiation is crucial in your study because high and low risk departments may face different types and levels of failures, which could influence how they learn from these failures and what barriers they face in doing so.

The following cases were selected:

1. Department of Low Risk
2. Department of High Risk

A high-risk department refer to a department where consequences of failure are more severe due to the nature of the conditions being treated, the fragility of the patients, or the complexity of the tasks being performed. This could include departments dealing with highly unstable patients, those employing complex treatments or interventions, or those handling patients with severe diagnoses. The potential for significant harm to occur from a failure in these departments would categorize them as high risk.

Conversely, a low-risk department refers to a department where the nature of the work being done or the conditions being treated mean that the consequences of a failure are less severe, the likelihood of severe failure is lower, or failures when they occur are easier to manage or rectify. This might be departments where patients are more stable, the diagnoses are less complex and easier to manage, or the potential for harm from a failure is generally lower. However, as a psychiatric department, the department is still not without risk.

Two cases are examined in order to achieve broader and more general results for the psychiatry as a whole. Findings stemming from a comparative case design are regarded as more robust than those from single-case designs, strengthening the overall study and its conclusions Yin (2018). Multiple cases also increase the probability for both insights in cases with a history of failing to learn from failure, and successful learning from failure. Additionally, the successful events would provide a point of comparison and enable identification of factors that contribute to the success of learning from failure.

According to Yin (2018), a case study can be defined as an empirical inquiry that investigates a contemporary phenomenon within its real life context especially when the boundaries between phenomenon and context cannot be drawn clearly

or unambiguously.

### 3.1.3 Designing The Case Study Protocol

The author designed a case study protocol to provide a clear and detailed plan for conducting the case study. This served as a roadmap for the research process, outlining the specific steps that will be taken to collect and analyse data, and providing a clear understanding of the research question and objectives. The case study protocol helps to ensure that the research is conducted in a consistent and systematic manner, and that the data collected is relevant and sufficient to address the research question. It also serves as a guide for the research project, ensuring that all relevant data is collected and that the analysis is conducted in a way that addresses the research question. Additionally, it is a way to document the process and make it transparent and replicable (Yin, 2018). The case study protocol can be found in Appendix B.

## 3.2 Data Collection

In this section, the author presents the sample, structure and methods used to collect data for this study. Of the six mention sources of data mentioned by Yin (2018), documentation and unstructured interviews are used as a data collection method in this case study.

The frequency of registration in documentation in the departments was collected, giving a stable and unobtrusive source of data to analyse. This data was used as a basis for finding topics to explore in the interviews and the analysis. Interviews was then chosen to allow for more flexibility and spontaneity during the interview process. A fixed set of questions was not prepared but instead, working as a guide to the conversation by discussing topics that they find relevant to the research question. This allows exploring new avenues of inquiry that may not have been considered beforehand and can lead to a more in-depth understanding of the case (Yin, 2018). Additionally, unstructured interviews are useful for collecting data on complex, multifaceted phenomena that may not be fully understood by the researcher, and are useful when the researcher wants to obtain a rich, detailed description of the case that can be used to support the researcher's interpretations and conclusions. This allows obtaining a more complete understanding of the case by collecting data on a wide range of topics, which can be later analysed and coded.

### 3.2.1 Interview Preparations

To enhance comprehension of the interview data, two types of contextual information were gathered and organized. The first type pertains to the field of psychiatry, presented in Section 3.1.2.1, while the second is linked to the specific cases under investigation, presented in Section Section 4.1.1 and 4.2.1.

Including this contextual information facilitates the development of a deeper understanding of the environment in which the projects were executed, and thus

the information conveyed during the interviews. This, in turn, aids in devising more precise questions for the interview guide, identifying salient details during the interviews, and drawing conclusions with broader applicability.

Leading up to the interviews an interview guide was prepared to conduct semi-structured interviews. To understand why and how different types of failure are preventing hospitals from learning from failure, exploration of factors such as organizational culture, communication and information sharing, and policies and procedures. The interview guide was developed to include a list of open-ended questions and potential follow-up questions to collect data that could explore these topics and answer the research questions presented in Section 3.1.1.2. The interview guide is found in Appendix C

A pilot interview was first conducted to test and improve the developed interview guide. Under this interview, the author also discussed the matter of how to approach the interviewees in a way they feel comfortable participating and talking about this phenomenon. As a reason for why failing to learn from failure is failing to identify or talk about failure (Edmondson, 2011), then both finding interviewees, as well as the interviews themselves, can be challenging.

### 3.2.2 Conducting Interviews

This study relied on qualitative data gathered from a series of interviews conducted with a total of seven participants. These individuals were engaged in 10 interview sessions, of which three were follow-up interviews, contributing to a substantial dataset of 10.5 hours of raw interview material. All interviews, bar two, were conducted face-to-face within the context of the participants' respective departments. This method allowed for an immersive understanding of the department's environment and dynamics. Prior to participation, all interviewees granted their consent by signing a physical consent form, ensuring that they were fully informed and comfortable with their involvement in the study. The consent form is found in Appendix D.

The study involved conducting five standard interviews in English and two in a hybrid language or Norwegian, adhering to the interviewees' preferences. Three follow-up interviews took place in Norwegian. To ensure an accurate record of each session, all interviews recorded using a sound recorder, which offers superior accuracy compared to note-taking (Yin, 2018). The default audio recording software on iPhones served as the recording tool. Following the interviews, all recordings were transcribed and, where necessary, translated for further analysis.

### 3.2.3 Transcribing Interviews

Following the interviews, a verbatim transcription was conducted within a one-week time frame, resulting in a corpus of raw data amounting to 173 pages. The transcription was generated using the transcript software integrated in MS Word,

and subsequently underwent manual proofreading for quality assurance. In order to facilitate comparative analysis, the data was sorted according to each department, thus allowing for both common and distinctive features to be identified across the two departments.

## 3.3 Data Analysis

### 3.3.1 Analysis Strategy

Upon completing the transcription, the analysis method chosen involved following one of the four general strategies provided by Yin (2018), which relies on theoretical propositions. The propositions was developed as a result of the systematic literature reviewed on the topic, as presented in Section 2.4

- When the learning from failure process is interrupted in the identification of failure phase, it is usually due to a complex failure.
- When the learning from failure process is interrupted in the analysis of failure phase, it is usually due to a preventable failure.

These propositions shaped the data collection planned and have therefore yielded analytic properties. The proposition helped to organize the entire analysis, pointing to relevant contextual conditions to be described as well as explanations to be examined.

### 3.3.2 Structure Data

The analysis strategy was then followed by systematically coding the interview data. This process involved identifying patterns and themes in the data, and the coded data was then categorized into thematic categories with the aim of reducing the volume of data and facilitating the identification of the most salient findings. Several readings of the transcriptions allowed for the identification of important passages and the emergence of themes. Both deductive and inductive coding strategies were employed, reflecting prior knowledge and research questions, as well as emerging patterns in the data.

The author used two different digital tools for data extraction and analysis, MS Word and MS Excel. Word was used to go through the transcriptions and take note of specific important messages that were conveyed. Excel was then used to have a clear overview of the data for data synthesis and to develop a coding template.

To provide a foundation for addressing the research question, the author established specific key concepts and themes. Failures were categorized based on an analysis of secondary data, which revealed the frequency of reported deviations. Furthermore, failures identified from the interviews were documented to facilitate a comprehensive understanding and analysis of the patterns of learning, or lack

thereof, from failure. As learning from failure is found to be context-specific (Edmondson, 1999), author also took note of the underlying causes and impact levels associated with these failures to grasp the contextual factors and the nature of the failures themselves. Additionally, the response to failure was examined to identify situations where learning is both sufficient and not. Finally, instances of successful learning, facilitating factors and challenges related to learning from failure were identified. The coding template included columns similar to Table 3.3.1.

**Table 3.3.1:** Coding Template For Interviews

Interview	Failure Category	Underlying Cause For Failure	Failure Description	Impact Level	Failure Type	Failure Response	Learning And Facilitating Factors	Challenges To Learning
1								
n								

### 3.3.3 Interpreting Data

In the final stage of analysis, the author interpreted the results and presented them as themes and sub-themes. In addressing the research question, process of learning from failure was examined through different lenses. The author considered various facets of failure such as whether it's a process failure or yields negative outcomes, and whether it's an individual or systemic issue. The author also distinguish between preventable and complex failures. Subsequently, a comparison of similarities and differences between the departments was conducted. This comprehensive examination from different perspectives was considered necessary as each type might impede learning in unique ways. By understanding these nuances, the study may provide a more complete answer to the research question by giving a more in-depth view of how learning processes respond to failure.

The findings were discussed in relation to the research questions and objectives of the study, and recommendations for future research were made. The use of a qualitative approach facilitated a rich and nuanced understanding of the research topic, allowing for an in-depth exploration of the experiences and perspectives of the participants. In summary, the data analysis process employed in this study followed a rigorous and systematic approach to analyzing the interview data, resulting in the development of insightful findings that contribute to the existing literature on the research topic.

## 3.4 Reporting Case Study

### 3.4.1 Present Findings

The findings from the case studies are reported in a detailed format that provides a comprehensive and nuanced account of each department's experiences and practices. The reporting includes descriptions of the departments, frequency of reported deviations, description of the failures and their responses, learning and



facilitating learning factors and challenges to learning. Direct quotes from interviewees are used to provide first-hand accounts and lend credibility to the findings. The findings are then discussed in terms of existing research and the research questions.

### 3.4.2 Discussing Implications And Conclusion

In order to translate the academic insights into practical applications, this research also includes a discussion on the implications of these findings for healthcare practices and policy-making in psychiatric departments. Furthermore, recognizing the need for continuous exploration and understanding in this field, this research provides considerations and suggestions for future studies. The culmination of this report is a conclusive summary, weaving together all the research elements and encapsulating the contributions of this study.

## 3.5 Methodological Limitations

This study utilizes a comparative case study design with semi-structured interviews as the primary data collection method. While this approach provides valuable insights into the research questions, highlighting the richness and depth of the data collected through semi-structured interviews, it is important to acknowledge the study's limitations, such as incomplete data, limited generalizability, potential bias, limited scope, reliance on self-report data, data analysis challenges and time and resource constraints.

Firstly, one limitation of the study is the possibility of incomplete data. In the context of a comparative case study, the availability of data may be insufficient for one or both cases, thus constraining the extent and comprehensiveness of the analysis. This limitation is particularly relevant as the study primarily relies only on interviews and secondary data as sources of information. Ideally, observations within the departments would have been conducted to address the specific topic of detecting failure and learning from it. However, due to security measures and the project's time frame, such observations were not feasible, presenting a limitation to the study.

Additionally, the selection of cases and participants may introduce bias into the study. The cases may have been chosen based on convenience or availability, rather than representativeness, leading to a biased sample. This is present as some of the potential cases either did not respond or did not want to participate in the study, and that it is highly dependent on those who volunteered to be interviewed. Participants may be more willing to participate due to a particular interest in the topic, resulting in a biased sample (Yin, 2018). The use of self-report data from the semi-structured interviews may limit the validity of the findings as the participants may recall information inaccurately or provide socially desirable responses, increasing the potential of bias in the data.

Another limitation of a comparative case study is how it may only be able to address the specific research question, and the findings may not be generalizable to other contexts or populations. While the study provides an in-depth understanding of the cases studied, other cases or perspectives may exist, which may not be captured in the study, leading to a limited understanding of the phenomenon under investigation.

Lastly, a major limitation to the study is related to the complex and time-consuming analysis phase of the data. Synthesizing data across cases, identifying patterns and themes, and interpreting the data requires advanced analytical skills, which may limit the accuracy of the findings. As the analysis is conducted mainly by one person, the presence of this limitation may be critical. Conducting a comparative case study with semi-structured interviews can be resource-intensive and time-consuming, and adequate time and resources must be devoted to collecting, analyzing, and interpreting the data accurately (Yin, 2018). As the time frame for the study was limited, this is a limitation which can limit both the quality of interviews, analysis, interpretation of data and reporting.

In conclusion, it is essential to recognize the limitations of this study when interpreting the findings. Acknowledging these limitations contributes to the transparency and integrity of the study. These limitations include limited generalizability, potential bias, limited scope, reliance on self-report data, data analysis challenges, and time and resource constraints.

## RESULTS

This chapter presents the findings from the interviews for each case. The descriptions will focus on key elements thought to be important in the context of learning from failure, based on the literature reviewed and the research questions. For both cases, this section first presents the department structure followed by an overview of reported deviations from secondary data. The categories are then supported with specific examples context from the interviews, and causes for each failure are presented. This is followed by the corresponding responses to the failures, before learning situations and challenges to learning are identified.

### **4.1 Department 1 - Low security**

#### **4.1.1 Department Structure**

The low security department consists of several components that work together to provide care, assessment and treatment for older adults experiencing mental health issues. The department consists of a 24-hour unit with 17 beds and an Outpatient Clinic. The department is usually led by a medical director, who is responsible for overseeing the clinical operations of the department and ensuring that high-quality care is delivered to patients.

Within the 24-hour unit, which was the relevant unit for this study, there are two sections of beds each assigned a team of personnel per shift responsible for specific aspects of patient care. For example, each section has a group of nurses and health workers, while both sections has a team of psychiatrists, occupational therapist, physiotherapists and an activist. The psychiatrists are responsible for assessing and diagnosing patients, prescribing medication, and providing ongoing treatment. The nurses work closely with the patients to monitor their symptoms, administer medication, and provide emotional support.

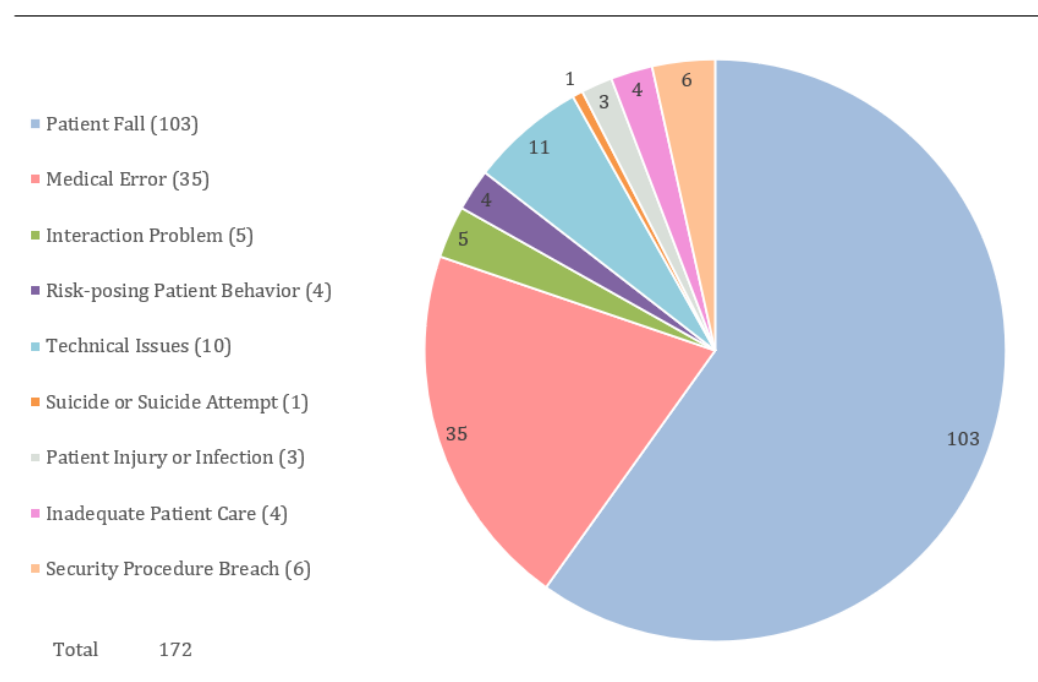
The department also work closely with other healthcare providers and community organizations to ensure that patients receive comprehensive care. For example, the department partner with other departments within the hospital, the municipality and local service providers such as taxi to provide support to patients who require

assistance with housing, transportation, or other daily needs.

The department also have administrative and support staff who are responsible for managing the day-to-day operations of the department. These staff may include receptionists, medical records specialists, and billing and coding professionals. Overall, the structure of the low security department is designed to provide a comprehensive and holistic approach to patient care. By bringing together multiple teams and resources, these departments are able to provide patients with treatment, support and care.

### 4.1.2 Frequency Of Reported Deviations

From 2019 to today, there are in total 172 reported deviations in the department. The following categories of patient falls, medical errors, communication problems, patient violence, technical failures, suicide attempts, patient injury or infection, lack of necessary care and breaches of safety procedures are listed. Figure 4.1.1 shows the frequency for each category.



**Figure 4.1.1:** Frequency of reported deviations 1/1/2019-25/5/2023.

Patient falls represent a significant deviation category in the department, with 103 registered reports from 2019 until today. These incidents pose risks of physical harm and prolonged hospital stays. Additionally, medical errors have been reported 34 times, primarily indicating procedural failures in medication handling. Technical failures contribute to 10 deviations, disrupting patient care and operational efficiency. Security procedure breaches have been reported 6 times, reflecting lack of access to technical software such as the patient journal or problems

with alarms, telephones or other technical aids. Furthermore, cases of inadequate patient care, violence or dangerous patient behaviors, communication failures, preventable patient injuries or infections, and suicide attempts have been reported 4, 4, 5, 3, and 1 times respectively since 2019. Analyzing the frequency and nature of these deviations provides valuable insights into areas that require improvement to enhance patient safety and healthcare protocols.

### 4.1.3 Failures

In this section the author categorize and describe the failures based on the reported deviations and collected insights from the interviews. Underlying cause, impact and responses are described based on information provided by the interviewees. The responses will be further discussed in Section 4.1.4. The categorization of failures is not mutually exclusive; a single event may fit into multiple categories, while some failures pertain to specific incidents and others depict more general, ongoing challenges. Furthermore, certain failures may act as both cause and consequence within a chain of interconnected events, illustrating the intricate dynamics of the system.

The designation of impact levels into low, medium, or high is based on the severity of the consequences of the failure. Low impact is attributed to failures that entail little to no significant effect. Medium impact pertains to failures that yield noticeable implications on daily operations, or instigate harm to patients, staff, or society. High impact refers to failures that produce substantial or life-threatening harm to patients, staff, or society.

These impact levels are ascertained in conjunction with hospital staff, who determine the average severity of potential consequences for each failure. For instance, patient falls, despite their frequency, seldom result in patient harm, thereby classifying them as low impact. In contrast, suicide attempts and severe technical failures, such as malfunctioning patient journals, pose life-threatening risks and substantial disruption to daily operations. These scenarios are therefore categorized as high impact due to their grave potential consequences.

**Table 4.1.1:** Summary Of Results In Low-Risk Department - Identified Underlying Causes, Failures and Responss

Category	Underlying cause	Failure	Impact	Response
1. Patient Falls	No supervision	Patient falling while walking, standing up or sliding from bed/chair	Low	Daily patient exercises, provide walking equipment, prioritize incident reporting
	Lack of equipment	Patient falling while walking, standing up or sliding from bed/chair	Low	Daily patient exercises, provide walking equipment, prioritize incident reporting
	Old patient group, medicament use, clinical symptoms,	Patient falling while walking, standing up or sliding from bed/chair	Low	Daily patient exercises, provide walking equipment, prioritize incident reporting
2. Medical Errors	Not reading sufficiently	Incorrect medicine or timing for patient	Medium	Incident Reporting
	Misdiagnosis	Wrong medicament over time	Medium	Prescribe New Medicament
3. Technical Failures	System down or not working sufficiently	Failing to use patient journal system	High	Incident Reporting
	Out of battery, broken or unavailable	Technical software or equipment not working sufficiently	High	Incident Reporting, immediate corrections to ensure patient safety
4. Security Procedure Breaches	Neglect	Not closing doors/windows	High	Lock door/window, incident reporting, communicate breach via email or in staff meeting

Continued on next page

Table 4.1.1 – continued from previous page

Category	Underlying cause	Failure	Impact	Response
	Neglect	Leaving prohibited items in reach for patient	High	Remove item, incident reporting, communicate breach via email or in staff meeting
5. Interaction Problems	Time pressure, neglect	Insufficient communication with other instances	Medium	Incident reporting
6. Inadequate Care	Incorrect evaluation of patient condition	Incorrect department transfer leading to patient death	High	Investigation, reviews, new transfer procedures
	Misunderstanding, time pressure	Patient not receiving daily care	Low	Incident reporting, provide daily care
	Full hospital	Increase of queue leading to patients not receiving care	High	Prioritize daily operations and patient safety
7. Risk-Posing Patient Behavior	Complex clinical symptoms	Personnel exposed for Violence	Medium	Incident reporting
	Complex clinical symptoms	Patient exposed for Violence	Medium	Incident reporting
	Complex clinical symptoms	Patient Attempting to Damage facilities or Building	Medium	Incident reporting
8. Patient Injury or Infections	Inadequate patient risk assessment	Patient harmed in department	Medium	Incident reporting, review
9. Suicide or suicide Attempts	Misdiagnosis	Patient committing suicide	High	Investigation, reviews, increased focus on diagnosis

Continued on next page

Table 4.1.1 – continued from previous page

Category	Underlying cause	Failure	Impact	Response
	Unpredictability/complexity in risk factors	Patient committing suicide	High	Investigations, reviews, individual emotional responses
10. Other	Time pressure, neglect	Not re-filling medicament or equipment	Low	Re-fill medicament



### 1. Patient Falls

During the interviews, staff members in the geriatric psychiatry department consistently identified medical errors and patient falls as the most frequent types of failures they encountered. Specifically, they reported that patient falls were a persistent problem as the patient group is elderly and often with mobility issues. They attributed these falls to a variety of factors, including insufficient staffing or supervision of the patients and lack of (use of) proper equipment, but mostly due to the patient high age such that a low frequency of falls may be inevitable.

*The patient group are above 65 years old. We have on average around 2 falls a month. [...] Having less than 1 or 2 falls a month is very hard.*

Interview 2, Department 1

Despite the inherent connection to the patient and the relatively high frequency, nearly no falls result in injury and it therefore warrant a low impact evaluation.

### 2. Medical Errors

Being the secondly most reported deviation, staff members in the department identified medication errors as one of the most frequent failures in the interviews. Medical errors refer to preventable mistakes or oversights that occur during medical treatment or healthcare delivery and may result in harm to a patient. The interviews identified this type of failure as giving the wrong dosage, give the wrong patient the relevant medicine or forget to hand out medicines. There are various factors that can contribute to the occurrence of these medical errors. In general, these are individual failures, such as inadequate reading of instructions or fatigue.

*The most common mistakes in all wards are that patients get their wrong medicines, and that's nearly always an individual's failure. So that people don't read the text properly or they take the wrong patients or some individual mistake. It's at a low frequency, but it's still the most common mistake. It can be tiredness, it can be lots of factors. The reasons behind those mistakes are very many, and it's difficult to control [...].*

Interview 1, Department 1

Typically, this particular category of medical errors does not lead to highly severe events and rarely poses a life-threatening risk. Nevertheless, these medical errors are directly associated with patient harm, potentially resulting in adverse effects or the lack of essential medications on which patients depend. Therefore, a risk evaluation has been conducted, assigning a medium level of risk to this assessment.

In addition to medical error as a frequent failure, one interview identified misdiagnosis as a significant type of medical error that could have serious consequences for patients. One interviewee shared a personal experience in which a patient was misdiagnosed with a psychiatric disorder and received the wrong medication

for an extended period of time, leading to negative worsening of symptoms. For some diagnosis', this failure could be life-threatening, and the failure's impact is therefore evaluated to high. For both types of identified medical error, we see a deviation from known procedure, resulting in the classification as a preventable failure.

### 3. Technical Failures

Technical failures refers to incidents where technical software or equipment is not working sufficiently. One possible reason is the implementation of a new patient journal system which may introduce unfamiliar processes or user interfaces that can potentially lead to mistakes. However, as a completely new system, new shortcomings and limitations of use are constantly being uncovered. For example, the system does not allow departments to receive patients admitted to other departments.

*Here they had done everything according to our procedures and the knowledge platform of the health platform, but it does not work in practice. We have now found out that we only have to discharge patients when they are going to other departments in order for them to be able to admit them.*

Interview 4, Department 1

Furthermore, it is impossible to cancel registered medicines, which proves problematic for situations such as when medicines should not be taken before examinations. This failure is complex due to the unforeseen and newly uncovered shortcomings and limitations that arise with the novel system. It has a high impact as these limitations directly interfere with the admission of patients and the accurate management of medications, posing substantial risks to patient safety and efficient operation of the departments.

### 4. Security Procedure Breaches

Due to the department being a psychiatric ward situated on a floor other than the first, it is necessary for the windows to be securely locked. Hospital staff members are expected to remain vigilant and monitor any instances where a patient may be near an open window.

*It happens sometimes that we forget to lock windows. [...] Not everyday, but it's something that's repeating.*

Interview 4, Department 1

Furthermore, within this department, there may be patients who are going through a suicidal phase. Since there are no designated stripped rooms, the workers themselves are responsible for taking necessary precautions. However, it is not an ideal situation, as the ward is a regular hospital ward rather than specifically designed to cater to psychiatric needs. One concern that arises from this is the potential presence of prohibited items, such as knives, which can pose a problem.

These situation constitutes a preventable failure because the process of ensuring the windows are locked is a simple, known procedure, which if followed correctly, would avoid the failure. It carries high impact due to the significant risk it poses to patient safety, especially with a patient group where suicidality is likely, as an unlocked window in a higher floor of a psychiatric ward could potentially enable harmful or fatal incidents.

### **5. Interaction Problem**

Examples of deviations in the Interaction category are related to insufficient communication with for example other departments, the municipality or local service providers such as taxis. With the hospital reaching its full capacity, this problem has become increasingly prominent.

The interviewee provided a specific example, where a patient declared ready for discharge by a nurse before the official discharge summary, the epicrisis, had been completed by the doctor. The issue gets more complex when these patients, supposedly ready for discharge, are taking up beds because they are awaiting further services from either the municipality or rehabilitation. In such cases, the original admitting department must complete the necessary documentation and coordinate with the subsequent care provider.

A deviation occurs when a patient is transferred to this psychiatric department with the assumption from the mother department that all necessary arrangements have been made for after-care. However, in reality, the patient might not have a confirmed spot with the municipality or rehabilitation, contrary to what was communicated. This situation then leaves the psychiatric department managing these patients who technically have completed their treatment but lack a follow-up care plan, leading to the identified deviations.

This issue emphasizes the need for effective coordination and clear communication between various entities involved in the patient's care journey, from in-hospital departments to external service providers. Misalignment in this process can lead to inappropriate patient care and inefficient resource utilization, particularly when hospital capacity is at a maximum. Hence, the impact of this failure is medium. As the workers are deviating from procedures for coordination and interacting with other instances, this is considered a preventable failure.

### **6. Inadequate Patient Care**

Inadequate patient care can manifest in various ways within a psychiatric department, and one example is patients not receiving receiving for example the necessary help in the morning. This is registered once as a deviation, and is most likely due to a misunderstanding between personnel. This failure is of low degree of severity as no patient is harmed. It is also a preventable failure, being a deviation from known patient care procedures.

*There may be a misunderstanding, that they do not know the patient and think he or she will take care of themselves. [...] I would think it*

*is a misunderstanding. The consequence of that failure is very low.*

Interview 3, Department 1

Another case present at the time of the interviews is how the hospital capacity is reaching its maximum. This leads to the occupation of beds by patients who have completed treatment but are awaiting transfer to another healthcare service. This situation, often due to backlog in the emergency department or a lack of available space in other departments or municipal services, effectively diminishes the hospital's capacity to admit new patients promptly.

The interviewee highlights a cascade of issues stemming from this problem of a full hospital. As these beds are occupied by patients awaiting transfer, it increases the wait time for incoming patients to the department who urgently need care and treatment. The inability to accommodate these incoming patients expeditiously might result in a deterioration of their condition, further burdening the already overwhelmed emergency department.

Moreover, this situation forces the staff to prioritize only necessary work task shifting the department's focus from striving for excellence to merely maintaining adequacy in treatment. The problem is further compounded when the municipal services are unable to take in discharged patients, leading to longer patient queues in the hospital. This chain of events underscores a significant flaw in patient care management, contributing to inadequate patient care. Such instances not only delay the treatment for incoming patients but also expose those who are ready for discharge to an extended stay, both situations ultimately reflecting a compromise in the quality of patient care. This is an example of a serious complex failure in the department with possibly high degree of severity.

*So what is happening with us now is that the patients who are done with treatment really have nothing to do here. They take places so that our waiting list becomes longer, which leads to our patients getting sicker and worse, ending up in the emergency department, which again becomes full. So it's inadequate patient care, that's what it is.*

Interview 4, Department 1

Another example which recounted was a case where a patient died after an incorrect transfer between departments. The patient's condition was underestimated by the staff and the transfer should have been avoided. This specific example had a high impact as the consequence resulted in death.

Another failure identified during the interviews was related to the hospital being full and its impact on the department's operations. Although this does not have a direct effect on the patient safety, one interviewee noted that due to the situation in the emergency ward, the department is receiving patients who are finished with treatments on other medical wards and are not psychiatric patients. This has resulted in a higher level of administrative work than usual for the department. This failure impacts the department's ability to provide care for their usual psychiatric

patients, and highlights the need for hospital-wide solutions to address the issue of overcapacity and patient flow. This situation is a high impact complex failure as the hospital's overcapacity, outside the control of the department, disrupts standard operations, impedes their ability to provide adequate care to their usual psychiatric patients, and demands significant additional administrative work.

### **7. Risk-posing Patient Behavior**

Risk-posing patient behavior emerges as a notable deviation in a psychiatric department, although it is not as common in this specific low risk unit. The nature of such behaviors, which can involve instances of patients acting violently or exhibiting threatening behavior towards personnel or other patients, or engaging in dangerous actions such as attempting to start a fire, create an environment that can compromise safety and the overall standard of care within the department. While these deviations were reported only four times and weren't a significant focus in the interviews, their presence and potential implications cannot be overlooked. They represent significant breaches of safety norms and procedures, posing tangible risks to both the individual involved and others within the department. Moreover, they can create an environment of fear and anxiety that impedes the effective delivery of care and disrupts the therapeutic milieu necessary for patients' recovery and wellbeing. Therefore, it's important to maintain vigilance over such behaviors, ensuring their prompt identification, accurate recording, and appropriate intervention.

Risk-posing patient behavior in psychiatric departments often stems from various underlying factors including, but not limited to, the severity of psychiatric symptoms. Patients may act out due to delusions, hallucinations, or paranoia, or they may be attempting to communicate unmet needs or express distress in an environment they perceive as overwhelming or threatening. These situations constitutes a medium impact complex failure as such instances, although highly infrequent, significantly breach safety norms, pose tangible risks to individuals and the department, disrupt therapeutic environments, and stem from various intricate factors such as the severity of psychiatric symptoms.

### **8. Patient Injury Or Infection**

In this psychiatric department, the full reporting of all infections, as seen in standard somatic wards, isn't practiced - a situation that some staff members have questioned. The absence of registered infections as deviations may result in an incomplete representation of the actual statistical situation. Therefore, the number of recorded deviations could potentially increase significantly if all infections were recorded following the same protocols as in somatic wards. Hence, despite no infections being currently reported in the database, it's important to maintain the 'Infection' category for a more accurate reflection of deviations in patient care.

Recently, an incident in this category led to discussions around its categorization as a deviation. It involved a patient during an exercise session who, while holding onto a chair, accidentally struck her knee, resulting in an injury that needed stitching. This patient was particularly vulnerable to such injuries due to her frail health condition, including being underweight, possessing delicate skin, and being

on blood thinners. Incidents of this nature are relatively rare. Though her frail skin condition was the immediate cause, the situation might have resulted from various factors such as staffing levels during the session or the appropriateness of her participation given her health status. Therefore, even though the patient's frail skin condition was the direct cause, the incident draws attention to possible systemic issues that could contribute to similar deviations. Such injury incidents represent a medium impact preventable failure, as it instigate noticeable harm to the patient that could have been avoided by for example better considering the patient's health status, and ensuring adequate staffing levels during such activities.

### 9. Suicide Or Suicide Attempts

The most memorable adverse event consistently identified are patient suicide. One case discussed was regarding a patient that was not diagnosed with postpartum depression and subsequently did not receive the appropriate mental health care. Tragically, this patient died by suicide. These examples highlight the serious consequences of misdiagnosis and underscore the importance of accurate diagnosis in providing appropriate and effective treatment for patients. The findings suggest that misdiagnosis may be a significant failure in the department and warrant attention in efforts to promote patient safety and improve outcomes.

However, besides these two single cases of suicide resulting from the mentioned misdiagnosis, all interviewees were unsure if other experienced suicides constituted a failure as usually every routine is followed. This finding highlights the complexity of identifying failures in healthcare and suggests that even when protocols are followed, adverse events can still occur. And while these events are the ones getting the most attention, interviews show that these are often events that could not be prevented given the hospital's possibilities for treating the patient.

*The field where the authorities would very much like us to acknowledge failure and learn from mistakes is when patients commit suicide in the hospital. That has not been very helpful because all the suicides are very unique, and it's difficult to pinpoint which of the thousand patients per year, who are in a very risky situation, that will commit suicide. So you can learn and make procedures and stuff, but there are still lots of risk factors we cannot control. There have been systematic work for years, which has not influenced these suicide numbers in Norway at all. [...] It's not working because the factors that predict suicide is so complicated and so unpredictable.*

Interview 1, Department 1

Patient suicide, especially as a result of misdiagnosis, represents a complex high-impact failure due to the severe and irreversible outcome. Despite adherence to protocols and procedures, the complex and unpredictable factors contributing to suicide make it difficult to prevent such incidents, underlining the intricacy of managing risk within psychiatric care.

### 10. Other

The interviewees identified another failure related to medication administration,

which was not formally recorded as a deviation. It was observed that staff members, possibly due to time constraints or inattentiveness, may fail to refill a medication after administering the last dose. Consequently, this oversight can worst case lead to medication shortages, with patients being unable to receive necessary medication when it is not available in other wards and the pharmacy is closed, causing potential gaps in the continuity of care. Notably, although the interviewees had not personally experienced this outcome, these findings underscore the significance of effective communication and robust medication management protocols in promoting patient safety and preventing adverse events within healthcare settings. While not usually causing immediate harm, this failure represents a preventable low-impact failure as it could potentially lead to medication shortages, interrupting continuity of care due to inattentiveness or time constraints.

#### 4.1.4 Failure Response

Through conducting interviews, the author aims to understand how the departments respond to various failures. These responses, summarized in Table 4.1.1, are gathered from interview insights and subsequently categorized into first-order or second-order problem-solving strategies. Similarly to the classification of failures, the categorization of failure responses is not mutually exclusive. Certain responses directly address specific incidents, while others represent general strategies or practices within the department. Furthermore, a single failure can elicit multiple responses, just as a single response can address multiple failures.

First-order problem solving is understood as the definition by Tucker and Edmondson (2003), immediate response strategy addressing the symptoms or immediate consequences of a failure. This approach seeks to mitigate the issue at hand, restoring standard functioning without necessarily investigating the root causes. In contrast, second-order problem solving conducts an in-depth exploration into the systemic issues and root causes that prompted the failure. This analytical method focuses on rectifying these fundamental issues to avert similar failures in the future.

By distinguishing failure responses into these two strategies, the author can differentiate between responses that offer short-term solutions and those that engage in a more thorough, systemic resolution aimed at long-term improvements.

##### 4.1.4.1 *First-Order Problem Solving*

First-order problem solving involves promptly addressing the immediate symptoms or consequences of a failure to restore normal functionality. The emphasis is on rectifying the immediate problem without necessarily delving into the underlying causes. In the department, this approach is evident in low-risk situations where failures arise from events beyond their control, such as technical failures with the patient journal system or the hospital operating at maximum capacity. It is also observed in infrequent circumstances, such as misunderstandings that

result in task execution lapses or harm to patients within the department. Additionally, emotional responses to suicide can unintentionally hinder department efficiency.

An example of first-order problem solving is observed when failures arise from events that are beyond their control, such as technical failures with the patient journal system or the hospital operating at maximum capacity. The department may prioritize troubleshooting the system or seeking assistance from technical support to rectify the immediate problem, and make the very best of the situation. Similarly, when the hospital reaches its maximum capacity, the department may focus on implementing measures to manage patient flow, such as arranging temporary accommodations or coordinating with other departments for alternative arrangements. These first-order problem-solving responses demonstrate the department's ability to swiftly address the immediate challenges posed by events beyond their control. By prioritizing the resolution of symptoms and consequences, the department aims to restore normal operations and ensure continuity of patient care. Further engagement in problem solving, which involves a deeper analysis of the underlying causes, may require additional time and resources that could further delay the resolution of the immediate problem, but more importantly, is out of the departments control, competence area and responsibility.

In response to the failure where a patient did not receive the necessary assistance in the morning, likely occurred due to a misunderstanding between personnel, the department reports the incident. However, given that the frequency of occurrence is only once in three years, there appears to be limited exploration of the underlying causes. The emphasis on first-order problem solving is evident, with the focus primarily on addressing the immediate symptoms or consequences of the failure without extensive analysis of the root causes. The department's response in this case is to report the incident, recognizing the importance of documenting deviations from established procedures. The relatively low frequency of this particular failure may contribute to the limited exploration of underlying causes, as immediate resolution takes precedence in maintaining patient care.

An unintended consequence that is seen after a suicide is how some workers may become overly strict, and the threshold for sending patients home become very high. This can be seen as a first-order problem solving response, as its emphasis is on rectifying the immediate problem to prevent it from happening again, but without necessarily delving into the underlying causes. This response could potentially lower the department efficiency as the staff get more to do. This approach may stem from a desire to avoid future incidents and mitigate risk, but it primarily focuses on tightening control and limiting actions in response to a specific event. Consequently, this resulted in certain adverse consequences, including restrictions on patients' ability to go out unaccompanied, which elicited dissatisfaction among some patients. The interviewee highlights the individuality of patients, emphasizing that what may be suitable for one person may not be appropriate for another.

Certain informal failures were evident, such as in the case of medication administration. Here, staff members might neglect to refill a medication due to factors



like time constraints or inattentiveness, particularly after dispensing the final dose. Consequently, this oversight can worst case lead to medication shortages, with patients being unable to receive necessary medication when it is not available in other wards and the pharmacy is closed, causing potential gaps in the continuity of care. Notably, although the interviewees had not personally experienced this outcome, these findings underscore the significance of effective communication and robust medication management protocols in promoting patient safety and preventing adverse events within healthcare settings.

To summarize, first-order problem solving is observed in situations where the department faces factors beyond their control, encounters low-frequency occurrences, or deals with procedures that are not well-established or formally documented as deviations. Additionally, emotional responses among the department's staff can also prompt first-order problem solving. This approach focuses on addressing immediate issues and symptoms without extensive analysis of underlying causes, prioritizing prompt resolution and aiming to maintain operational efficiency.

#### 4.1.4.2 *Second-Order Problem Solving*

The forthcoming section sheds light on the proactive measures undertaken by the low-risk department, as it engages in second-order problem solving to address operational failures. It emphasizes the department's strategies for handling both common and severe incidents, demonstrates their dedication to preserving safety and minimizing risk, and reflects their commitment to fostering a culture of continuous learning and improvement.

In the case of discovering an open window in the department, one interviewee explained that the normal action was to close and lock it and then report the deviation through the established reporting process. The interviewee also noted that staff members are particularly diligent in reporting deviations related to windows and patient falls. In general, the hospital has a well established a non conformance system for reporting and addressing deviations from established protocols or standards. This concerns all deviations such as patient falls, medical errors, security procedure breaches and risk-posing patient behavior. When discovering a deviation, the worker reports the deviation through the established reporting process. It appears that this reporting process is taken seriously by the staff, as the interviewee stated that everyone is very good at doing this. The section manager and educational responsible go through the reports if it is considered a serious event, it is brought back to the staff through e-mails or at meetings. Overall, it seems that the hospital has implemented an effective nonconformance system for identifying and responding to failures and deviations in its operations, allowing for identifying underlying causes and develop solutions.

When asked about how the department addresses the risk of patient falls, one interviewee provided a detailed response outlining the various measures that are taken to prevent falls. These proactive measures include mapping the risk of falling upon admission, ensuring that all furniture wheels are locked, providing assistive

devices such as pulpit or wheelchair if needed, and using anti-slip socks and bed alarms. In high-risk cases, briefs with hip protection are also used. This response highlights the proactive steps that the department takes to prevent failures and promote patient safety, showing effort put into reducing the underlying causes, the risk factors for patient falls, rather than the patient fall itself.

*We are a lot of people at work so we can be close to the patient, we map the risk of falling on arrival, we make sure that all the furniture's wheels are locked. Those who need a pulpit or a wheelchair can borrow one if they do not have one. Most falls tend to happen at night when the patients need to go to the toilet, so we attach the ring cord above the bed, so that if they move a bit, or get up, the alarm goes off. They also wear anti-slip socks. In cases where there is a high risk of falling, we sometimes also use briefs with protection on the hips to avoid hip bone fractures.*

Interview 2, Department 1

Other second-order problem solved failures are seen in the case where incorrect transfer between department resulted in patient death. The patient was not given the proper treatment and the condition was underestimated. This failure was acknowledged by the hospital, and the underlying causes were looked into to develop the procedures and transfer between departments. These were reviewed and improved to prevent similar incidents from happening in the future. Although the patient's death may not have been prevented, the hospital learned from this mistake and implemented corrective actions to ensure that the proper procedures are followed in the future.

*We did the work on the the procedures and the transfer between this department, and that I think was a good outcome for the hospital in terms of learning. Obviously, the patient died and the parents were not happy, but we learned from this that was a mistake, I think.*

Interview 1, Department 1

The same case is observed for the misdiagnosis leading to the patient committing suicide. The focus on that type of diagnose is believed to be increased, and hence it is not considered to be a big problem.

Recently, an incident classified under 'Patient Injury' led to discussions around its categorization as a deviation. It involved a patient during an exercise session who, while holding onto a chair, accidentally struck her knee, resulting in an injury that needed stitching. This patient was particularly vulnerable to such injuries due to her frail health condition, including being underweight, possessing delicate skin, and being on blood thinners. Incidents of this nature are relatively rare. Though her frail skin condition was the immediate cause, the situation might have resulted from various factors such as staffing levels during the session or the appropriateness

of her participation given her health status. Therefore, even though the patient's frail skin condition was the direct cause, the incident draws attention to possible systemic issues that could contribute to similar deviations.

In the rare case of suicide, the staff implements a meticulous and multi-faceted review process to thoroughly investigate the incident. This involves a comprehensive examination of all relevant case reports and medication records, coupled with collaborative discussions with therapists, doctors, colleagues, and relatives connected to the patient. Moreover, the police conduct interviews with the on-duty staff, ensuring a third-party perspective in the investigation.

A critical element of the department's response strategy is the support provided to those affected by the incident. Recognizing the emotional toll that such a situation can have on relatives and staff members alike, the department collaborates with the hospital's chaplaincy service and call service to provide necessary emotional support and counselling. This network of support includes psychologists and doctors who are equipped to help manage the emotional aftermath of such a tragic incident.

Overall, the department's response to a suicide reflects a comprehensive and thoughtful approach, balancing both the need for a thorough investigation and the essential provision of emotional support to those affected. The process underscores the department's commitment to learning from these tragic occurrences and providing care to its community during these difficult times, even though the incidents was not constituted a failure as usually every routine is followed.

To summarize, the department engages in second-order problem solving when addressing deviations, preventing patient falls, reviewing and improving procedures, evaluating incident categorization, and investigating suicides. These failures are characterized either by a high frequency of occurrences, such patient falls, or potential significant patient harm. These instances reflect the department's focus on understanding underlying causes, improving systemic factors, and fostering a culture of learning and continuous improvement.

#### **4.1.5 Learning And Facilitating Factors**

An example of learning is seen in the event where the incorrect transfer between departments lead to a patient's life being lost. Acknowledging this error, the hospital critically examined the underlying causes that contributed to this failure. The in-depth investigation resulted in a comprehensive review and subsequent improvement of the existing procedures for inter-departmental patient transfers. Despite the irreversible loss, the incident provided a valuable learning opportunity. The hospital acted upon this learning, ensuring that robust measures were implemented to enhance patient safety during transfers. This event underlines the process of learning from failure, where a systemic error led to significant process improvements aimed at preventing recurrence of similar incidents in the future.

The department is also seen making a systemic change in response to an unfor-

tunate incident involving a patient with severe lung disease who passed away in the ward. The patient passed away suddenly within the department, leading to an evaluation of care practices. Prior to this incident, there had been disagreements among medical professionals on the intensity and manner of follow-up required for patients with such severe conditions. However, in the wake of the incident, the department implemented a new policy mandating close monitoring of all patients with serious respiratory conditions. The decision was reached with the intention of improving care for similar patients in the future, despite understanding that such conditions carry inherent risks.

Another example of successful learning from failure is for handling B preparations medicament. The department have a section manager or professional development task to look at wastage for A and B preparations. Occasionally, they also involve a nurse in these tasks. As a result of this involvement, they observed a significant reduction in accounting errors. This demonstrates the effectiveness of involving employees directly in managing and understanding the consequences of their actions, fostering a sense of ownership that aids learning and improvement, and shows an example of successful learning strategies, specifically emphasizing the role of employee involvement and ownership in improving outcomes and reducing errors.

#### 4.1.6 Challenges To learning

One common challenge that emerged from the interviews was the risk of making mistakes due to overwork and exhaustion. One interview revealed that several nurses reported feeling very tired because of the high workload and demands of their job, which increased as the hospital is filled up and patients became more demanding. As a result, some nurses reported feeling afraid of making mistakes and becoming overly cautious, which could also increase the risk of errors. This highlights the importance of managing workload and stress levels to ensure that staff can perform their duties safely and effectively. We see this as a present underlying cause for several of the identified failures, such as medical errors or security procedure breaches.

Time pressure, especially during times of full hospital, limits time to work with learning from failure and quality work. This emphasizes how the demands of administrative work and time constraints can inadvertently lead to the de-prioritization of learning from mistakes and improvement efforts.

We go through all the mistakes and we try to find solutions and implement it. We should have just had more time to work on it, mainly for the implementation.

Due to the restricted time to implement changes, staff is not sufficiently involved in the process of learning and developing solutions. The demands of administrative work and time constraints can inadvertently lead to the de-prioritization

of learning from mistakes and improvement efforts from the staff responsible for quality work.

*My tasks are very much eaten up by administrative work. Then things get de-prioritised. [...] But there is no time to get it out to the people who work in the department, they don't have time. So improvement work and learning from mistakes are downgraded, but not on purpose of course.*

Interview 4, Department 1

The research data highlighted yet another challenge to learning from failure, namely, the diversity in the way individual nurses structure their work and the differences in employee compliance with protocols and systems in place. One interviewee underscored the significance of structured work habits in both preventing and learning from failure. They pointed out that nurses' approaches to work organization varied considerably, and they suggested a correlation between low structuring and a higher incidence of errors. A further nuance to this challenge is introduced by differing employee personalities and their impact on the implementation of procedures.

*But employees are very different personalities, some follow everything and make it easy to implement, while others are not.*

Interview 4, Department 1

Another challenge to learning expressed by one interviewee was their perspective on the organization of patient treatment within their psychiatric department, highlighting the need for a more specialized and tailored approach to patient care. They propose that patient treatment should be hierarchically structured based on the complexity and severity of the patient's condition. This would mean that patients with more common conditions, who are likely to respond positively to most treatment options, could be treated by less experienced psychologists. On the other hand, patients who are non-responsive or more unpredictable would be treated by the most specialized and experienced doctors.

Currently, the interviewee observes that there is no such organization in place. Both inexperienced psychologists and highly specialized doctors are equally likely to be assigned any patient, regardless of the complexity of the patient's condition. The interviewee believes this to be partly an organizational problem. They draw a parallel with somatic medicine, where more complicated cases are handled by the most experienced and specialized surgeons, as opposed to the newest and least experienced doctors. They suggest that psychiatry could learn from this practice to improve patient care.

*If you have an early complicated somatic disease, you get the most experienced surgeon, the most experienced specialized, and not last arrived junior doctor. I think psychiatry has something to learn about from the somatic in this area.*

Interview 1, Department 1

## 4.2 Department 2 - High Security

### 4.2.1 Department Structure

The high security department specializes in providing a range of services in the areas of mental healthcare, the judiciary, and correctional services at the national, regional, and local levels. Specifically, it offers specialized services that cater to the unique needs of these sectors. In addition, the department conducts research and professional development activities aimed at improving the quality of its services and advancing knowledge in the field. Its overarching goal is to enable the individual to receive treatment at a lower level of care by reducing behavioral deviations and promoting public safety.

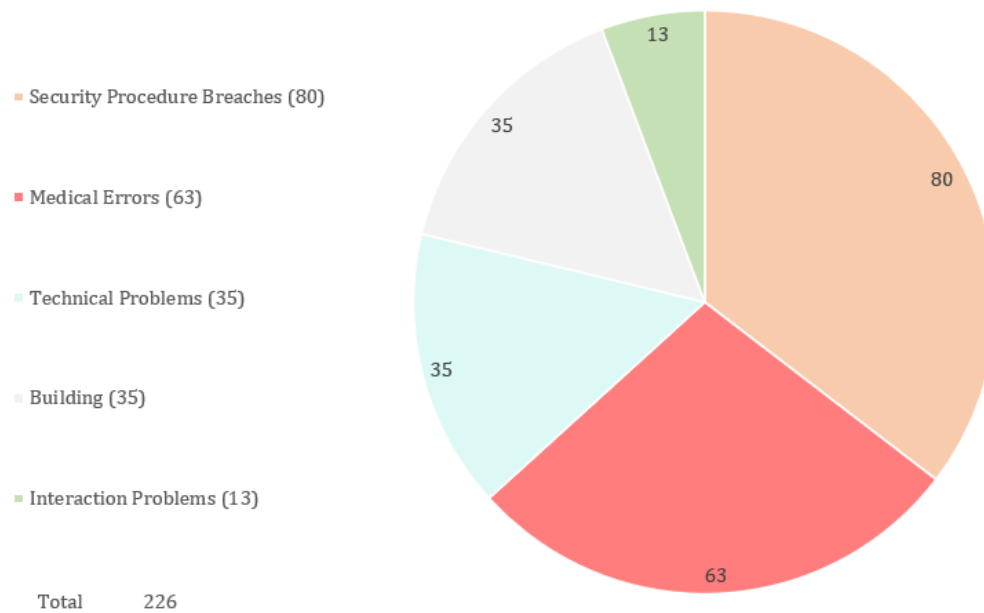
The department consists of four units, where three are responsible for providing specialized psychiatric treatment of persons with serious mental disorders, or suspicions of such, with concurrent risk behaviour. The fourth unit is responsible for patients with a violent threat that are assessed to be mentally retarded.

They also receive patients for investigation to determine whether the person in question can be held responsible for the offenses they have committed. Pursuant to Section 167 of the Criminal Procedure Act, the court can, on request from the prosecution or the defense, decide that a person must be subjected to judicial observation in order to clarify whether the person in question is mentally ill or developmentally disabled. This clarification is then used as support for the court's assessment. What the patients have in common is that they have a psychiatric disorder and that there is a risk of violence.

The department offers a range of services, including diagnosis, treatment and rehabilitation of the patients. The staff in the department consists of psychiatrists, psychologists, nurses and other health personnel who are specialized in the field. Patients have access to individual therapy, group therapy, medication, environmental therapy and other customized treatments.

### 4.2.2 Frequency Of Registered Deviations

This section presents statistics of deviations registered in the high-risk department in 2022. The deviations found under the categories of security procedure breaches, medical errors, technical failures, building and interaction problems. The frequency for each individual category is shown in Figure 4.2.1.



**Figure 4.2.1:** Frequency of reported deviations 1/1/2022-31/12/2022.

Among the reported deviations, the most prominent category is Security Procedure Breaches, accounting for 80 registered instances. These deviations include incidents like forgetting to lock doors or allowing a patient to be unaccompanied when two workers should be present. Medical errors constitute 63 registrations, technical failures 25, deviations related to the new building 35, and interaction problems 13.

### 4.2.3 Failures

This section outlines the failures in the high-risk department, drawing on reported deviations as well as insights gathered from interviews. Similar to the low-risk department, the categorization of failures here is intricate. Some failures represent specific events, while others denote more pervasive systemic issues. Furthermore, these failures are not mutually exclusive, and certain failures may serve as underlying causes or consequential effects of others, underscoring the interconnected nature of failures within the department. Each failure's underlying cause, impact, and type are delineated based on the information provided by interviewees.

The designation of impact levels into low, medium, or high is done in the same way as for the low-risk department, where low impact is attributed to failures that entail little to no significant effect, medium pertains to failures that yield noticeable implications on daily operations, or instigate harm to patients, staff, or society and high impact referring to failures that produce substantial or life-threatening harm to patients, staff, or society.

The impact levels are ascertained in conjunction with hospital staff. For instance, personnel being exposed to violence at work can result in significant harm to the worker such as injuries and psychological problems after the trauma, resulting in a high impact level.



**Table 4.2.1:** Summary Of Results In High-Risk Department - Identified Underlying Causes, Failures and Responses

Category	Underlying cause	Failure	Impact	Response
<b>1. Security Procedure Breaches</b>	Neglect	No supervision of patient leading to patient running away	High	Review of incident, new procedures
	Neglect, poor body search, poor zone check	Prohibited items in reach for patients	High	Collect item, incident report, process improvements, zone security checks
	Risk considered low by employee, employee gratification	Flexing the security procedures leading to increase of risk of patient bringing illegal drugs	High	No response
	Risk considered low by employee, flow in daily operations	Flexing the security procedures	Medium	No response
	Neglect	Not locking doors	High	Incident report, card readers on doors
	Risk considered low by employee	Not locking doors	Low	No response
<b>2. Medical Errors</b>	Neglect	Incorrect medicament, dosage or timing	Medium	Incident report depending on personnel
<b>3. Technical Failures</b>	Technical failures or improper use of alarm	Alarm not working	High	System testing, offer psychological help
<b>4. Building</b>	New building	Deficiencies in the facilities	Low	Incident report
<b>5. Interaction Problems</b>	Time pressure, neglect	Lack of documentation	Medium	Incident report, contact responsible for the documentation

Continued on next page

Table 4.2.1 – continued from previous page

Category	Underlying cause	Failure	Impact	Response
<b>6. Risk-Posing Patient Behavior</b>	Complex Clinical Symptoms	Personnel exposed for Violence	High	Risk assessment of patient, incident reporting, offer psychological help, individual emotional responses
	No supervision, no locks on door	Personnel exposed for Violence	High	Risk assessment of patient, incident reporting, offer psychological help, individual emotional responses, system improvements
	Patient having a lighter	Patient trying to damage building or facilities	High	Incident report, review in competence area, system improvements

## 1. Security Procedure Breaches

According to the interviews, the high risk of violence among patients in the department has led to the implementation of numerous security rules, further resulting in a number of reported deviations. These can be instances where doors are left unlocked or lighters are not retrieved from patients after they go for a smoke. The failure of forgetting to lock doors could possibly result in adverse events as the patients with high risk of violence freely could move around in the building and access areas they should not. The consequence of not locking doors is depending on what door it is.

*Because of the violence risk for the patients, we have a lot of security rules, so a lot of the reported deviations are related to mistakes of forgetting to lock doors or someone forget to get the lighter back from the patient when he's been outside smoking and stuff like that.*

Interview 2, Department 2

Another security procedure involves gradually increasing a patient's freedom level. For the lowest level, patients are confined to a shielded area within the department. As their risk is assessed to decrease, they are first allowed to go outside, supervised by two employees. With continuous mental health improvement, the patient can eventually venture outside with one employee, and later, alone for a limited time. The ultimate goal is to allow the patient to spend time at home, facilitating their gradual reintegration into society. This phased approach balances patients' recovery with safety and security considerations.

An incident occurred where a patient had a freedom level of which he was allowed to venture outside supervised by two employees. As two employees followed the patient to the shops, this ended up with the patient running away as the workers were not paying attention. As this is a deviation from the procedure of supervising according to level of freedom, this is a preventable failure, and the potential impact is high due to the harm the patient in the given condition could inflict on society.

In a former facility a notable failure in the high-risk psychiatric department was identified in an instance where a highly dangerous patient almost escaped from the facility. The patient, previously involved in a homicide, took advantage of a security lapse where a wooden plank was ignored by the staff near the fence. This piece of material served as a tool for the patient's attempted escape. This is a high-impact preventable failure because timely measures such as zone checks could avoid the failure, while neglecting increase risks, and even lead to fatalities.

In some instances, staff members choose to navigate procedures based on their immediate assessments and practical concerns, rather than strictly adhering to the established protocols. For instance, staff member might choose to leave a door open, despite protocol dictating otherwise, if they personally deem it safe and are only stepping away briefly. Other situations they might purposely flexing the security procedures on purpose aiming to build trust and a human relation

to the patient - an important factor when to reduce risk. The interviewee use her experience to evaluate risk factors for when it is safe to take the risk, such as how many people are around and how well she knows the patient. She claims it is necessary to be flexible in order to get the patient back to society. Usually, no accidents happen due to this, but once she brought a disco ball to the work place to be nice to the patient, which may have triggered him to get illegal drugs and bring them to the department. This is considered to be a high impact failure as the violence risk for the patient is highly attached to drug use. However, it is not necessarily the disco ball that caused this specific incident, and it is the intake of illegal drugs that is the failure. This specific failure is considered to be a complex failure.

Other situations where the risk is considered very low, the personnel may also not follow the security procedures to the fullest. For example, one may not lock doors if they are getting something quickly and there are other employees nearby. In these cases, the staff does not report the unlocked door as a deviation.

Poor body searching was identified as a failure that could result in patients bringing prohibited items, such as illegal drugs, into the hospital. As one interviewee reported, they had brought a disco ball for the patients, not knowing that one of the patients had acquired drugs outside the hospital. The patient was high when they received the disco ball, and the staff member felt good of their good deed. However, the patient's behavior worsened the next day, prompting a doctor to question the disco ball's presence and the person who had brought it into the hospital. This incident illustrates the potential risks of inadequate body searches and highlights the importance of ensuring that prohibited items are not brought into the hospital to promote patient safety and well-being, and presents a preventable, high-impact failure.

Prohibited items are also involved in other types of failures that occur in the department. For example, staff may forget items that could be used by patients to harm themselves or others inside their rooms or in common areas. Lighters are one such thing that is identified to be easy to forget. It has happened that someone has forgotten a lighter and that the patient in question has taken it into their room and tried to set fire. As smoke detectors and safety are good, the ignition had no further consequence. This is a preventable failure, deviating from the procedures of collecting lighters after use, potentially resulting in patient harming others. Therefore, it is assigned high impact.

## **2. Medical Errors**

Medical errors constitute a significant category of failures in the high-risk department. These typically include incorrect prescription of medicines in terms of type or dosage, or instances where the patient either receives an incorrect dose or does not receive their prescribed dose at all. Such failures can potential have health and safety implications for the patients and pose a medium impact preventable failure.

Furthermore, an element of system-related failure is observed in the tracking of controlled substances. There are cases where discrepancies between computer

systems and manual accounts of these substances occur. This can lead to situations where the wrong quantity of medication is recorded, which might impact the availability and correct administration of these drugs to patients. The necessity for accurate and consistent documentation systems to prevent such errors is highlighted by these failures, posing a low impact preventable failure.

### 3. Technical Failures

An episode has occurred where the alarm did not work as desired and a patient hit the employee. The employee pushed the alarm, but due to the alarm not working or was not used properly, no one was noted. The patient being violent is a complex failure, as no procedures could prevent the incident occurring in the inherent uncertainty of working with this patient group. However, the failure that the alarm did not work, or was not used properly can be considered a preventable failure. This failure has high impact due to the potential harm and accidents that can happen if the staff are not able to use the alarm.

*So there was an employee who was attacked and she raised the alarm.  
She pressed the alarm and it didn't work.*

Interview 2, Department 2

### 4. Building

An increase in deviations are noted in the department as they recently moved to a new building. This is the cause for several deviations, such as problems with the ventilation, water supply or locks on the doors.

*Since we moved in to this new building, there was for example no hot water in the showers, the ventilation system was poor and there was too little lighting.*

Interview 1, Department 2

The issues arising from transitioning to a new building represents a complex failure with low consequences, as while these issues affect the overall environment, they do not directly compromise patient safety or result in substantial harm.

### 5. Interaction Problems

In the high-risk department, interaction problems manifest mainly in the context of documentation and interdepartmental coordination. For instance, there are instances where the stipulated six-week period between each patient risk assessment is exceeded, thus marking a failure in adhering to the internal documentation protocols. The lack of daily reports on patients is another example. The failure to perform timely patient risk assessments and maintain adequate documentation constitutes a preventable failure with medium impact. This is because such failures can be mitigated with diligent adherence to protocols, and they have a considerable impact on the continuity of patient care and potential risks, without directly causing immediate harm to the patients.

Furthermore, interdepartmental coordination issues are apparent in instances where the department experience deviations that are caused by other units. Despite these errors originating outside the high-risk department, they still impact the unit and emphasize the need for seamless coordination and stringent safety checks across all hospital departments.

### 6. Risk-Posing Patient Behavior

A serious incident that occurred in a previous setting involved a failure in patient safety and security within the department, as reported by one of the interviewees. The failure resulted in putting the interviewee at risk of harm. The incident appears to be a combination of structural and human factors, as the area was not designed to guarantee safety and privacy. In particular, there were two doors to the access the given area, one leading to the women's wardrobe and one leading to the men's wardrobe, but the door leading to the women's shower area did not have a lock. This flaw enabled the patient to enter the women's shower area and assault the individual present. On the human aspect, the employees who supervised the patient also failed in their conduct. According to the interviewee, the employees should have taken more measures to prevent the patient from accessing the women's shower area. Specifically, they should have ensured constant supervision of the patient, rather than allowing the patient to shower alone in the men's shower area. Therefore, this is considered a preventable failure with high impact.

*So in this situation there was both a problem with the structure and the individuals. It should have been possible to lock from my side, and the employees who followed that patient should also have done something more, but they didn't know because they thought he was showering.*

Interview 1, Department 1

Other failures with serious consequences mentioned in interviews are often linked to employees who are exposed to violence. It can be hitting, kicking, spitting or clawing or threats of violence. When violence occur, the employees can raise their alarm to summon the other employees.

An interviewee from the high-risk department recounted a significant failure in the ward where a patient, without warning, assaulted a nurse, leading to severe injuries. Despite the patient's violence checklist indicating low risk, the sudden and unexpected outburst resulted in considerable harm. These are complex failures with high impact as they are results of complex clinical symptoms in the patient group that can result in serious harm to others.

#### 4.2.4 Failure Responses

The responses to failure are critical components to understanding the dynamics of how failures hinder the learning process within psychiatric departments. A summary of identified responses is presented in Table 4.2.1. These responses, whether they are specific reactions to individual events or more general strategies employed across various failures, shed light on the department's approach to mitigating and

learning from mistakes. By investigating the responses and actions taken post-failure, potential weaknesses or obstacles in the learning process can be identified. Hence, understanding these responses provides a window into the department's overall adaptability and its capacity for continuous improvement.

The responses are, like for the low-risk department, categorized into first- and second-order problem solving. By exploring and categorizing these responses, a more nuanced understanding of why certain failures may be recurring and why lessons aren't effectively learned or implemented. This understanding is essential to answering our research question and finding strategies to enhance learning from failure within these departments. This distinguishing allows differentiating between responses that offer short-term solutions and those that engage in a more thorough, systemic resolution aimed at long-term improvements.

#### 4.2.4.1 *First-Order Problem Solving*

Immediate, reactive measures taken to address the symptoms of a failure are identified in the high-risk department in situations related to security procedure breaches, medical errors, violence and the alarm system not working.

In instances such as the case where a lighter was left within a patient's reach, the high risk department takes immediate steps to mitigate the immediate risk associated with the failure. Upon discovery of the deviation, the response is prompt - the lighter is collected to immediately rectify the situation. Following this, the deviation is reported to ensure that it is documented for future reference and potential policy changes.

Examples of instances where established procedures were knowingly not followed fully were observed, reflecting an approach akin to First-Order Problem Solving. In one case, staff members would occasionally leave doors open when they deemed it safe for a brief period, prioritizing immediate efficiency over adherence to security protocols. These actions, while not recognized or reported as deviations by those involved, could potentially introduce risks and hinder the process of learning from failure.

Similarly, staff handling B-preparates occasionally chose not to report discrepancies between the systems when they considered the discrepancies not severe enough to warrant a deviation report. This decision suggests that staff are addressing these issues at the level of the immediate problem, focusing on first-order problem solving, rather than exploring their broader implications or potential for systemic improvement. These instances highlight the staff's focus on immediate problem-solving, potentially at the cost of valuable opportunities for learning and system-level improvement.

In a particularly striking incident, a patient managed, when the department was located in other facilities, to enter the female wardrobe, the immediate response was to install locks on the doors to prevent unauthorized access as well as the staff

members who failed to supervise the situation left their positions. These instances highlight the immediate and reactive responses to extreme events, underscoring the potentially serious personal and organizational consequences of failures in the high-risk psychiatric environment.

This type of immediate, personal reaction are also found in other examples from the interviews. For example, some of these employees have quit their jobs as a result of the incident, leading to loss of knowledge at group level.

*We have cases where employees have been beaten so badly that they have not returned to work.*

Interview 1, Department 2

After the incident in which a worker was attacked and the alarm did not function properly, immediate responses included offering psychological help to the attacked worker and initiating testing of the alarm system by its technical providers.

#### 4.2.4.2 *Second-Order Problem Solving*

As for responses to failures that are done as a proactive measure, several examples are identified within the department. These are risk assessment of the patient, installation of locks, regular zone checks, new procedures and investment in new equipment.

The department carries out regular risk assessments of patients as a way to proactively manage and mitigate risks associated with violence. As one interviewee stated,

*So when we do that assessment, we identify risk factors and then our job becomes to manage the risk. We don't actually have a lot of violence in our ward because we do this*

Interview 2, Department 2

This signifies a sustained effort to continuously improve patient management strategies. However, incidents were identified where patients assaulted a nurse even though the risk was considered low. The department's response indicated an active effort to learn from the incident, even though the initial failure to anticipate and prevent the violence occurred. All the psychologists, psychiatrists and the nurses got together to come up with hypotheses' that could explain the incident. This underlines the constant learning process in response to failures in the high-risk department. Nevertheless, the incident also served to highlight the challenges in predicting and preventing such unpredictable instances of violence, despite established safety protocols.

Furthermore, the department has taken proactive measures to mitigate the risks associated with forgetting to lock doors, a failure previously identified. To counteract forgetfulness or negligence, card detection readers have been installed on some doors.



*It's not a stressful ward. [...] Staff just forget. Because of this deviation we have implemented the card readers on some doors so we don't, we don't get the problem of the open doors.*

Interview 2, Department 2

This technology serves to ensure that doors remain secure, thereby reducing the likelihood of this failure recurring in the future.

In response to the challenge of poor body searching and the risk of patients bringing in unauthorized items, the department has implemented zone checks once a month, during which various security groups systematically search the rooms and surroundings for unwanted objects. According to one interviewee, these checks have been effective in detecting items that shouldn't have been there, such as drugs or weapons. However, even with strict security measures in place, some patients may still manage to bring in items due to their freedom and the potential for employee oversight. The interviewee noted that employees sometimes forget to search thoroughly or confiscate all prohibited items, such as deodorants or glasses. Nevertheless, the department views the monthly reviews as a quality assurance tool and a learning opportunity to improve its processes and protocols for ensuring patient safety and security. Despite these efforts, the interviewee acknowledged that every month, some unauthorized objects are still found during the zone checks, underscoring the ongoing challenge of maintaining a safe and secure environment in a healthcare setting.

This is also seen in the aftermath of the incident where the patient attempted to escape from the backyard. The department undertook an important learning process, recognizing the need for increased vigilance. A new policy was put into place for daily checks of the facility's backyard to prevent the presence of any objects that could aid in a future escape attempt. The implementation of this new practice demonstrates the department's ability to learn from their mistakes and make necessary improvements to their processes.

*So after that, it was a decision that the backyard should also be daily checked for any objects of any kind.*

Interview 3, Department 2

Other proactive measures in the department are the body searching of patients as they are coming in to the clinic to avoid prohibited items such as weapon or illegal drugs. After realizing that this was not sufficient, changes to this procedure has been done.

*In order to better prevent the smuggling of illegal drugs, we have not been good enough at body searches. So now we have made changes there, small details such as opening snuff boxes, cigarette packs or the like*

Interview 2, Department 2

We also see examples of procedures being updated to avoid similar failures reoccurring for when the patient ran away. To avoid similar unauthorized leaves, rules such as not being allowed to shop when following a patient to the shops have been implemented.

Another example of second order problem solving is seen for the failure of forgetting to collect lighters from patients. When it happens, it is documented and then reviewed by the safety group. In this particular case, the failure was related to the safety risk of handing out lighters to patients. As a response to the incident where a patient tried to set fire, the department plans to replace the lighters with a safer alternative - electric lighters with a glow effect that can be hung up. This response is viewed as an improvement and a learning point for the department, moving beyond immediate corrective actions to implement systemic changes that enhance patient and worker safety.

*It is a vulnerability that people forget. It can be easy to forget. Therefore, we would rather invest in a solution that is secure.*

Interview 2, Department 2

When discovering a deviation, the worker reports the deviation through the established reporting process. There is one designated worker outside the clinic, working together with a nurse that is working in the clinic, who handles the reports. In addition to this, the department has groups consisting of workers from the clinic dedicated to improving and evaluating relevant deviations for their group. These areas include a systematic survey of violence, preventive handling of the risk of violence, coercion, security, forensic psychiatric observation, and a psychoeducational treatment method. These groups are called areas of competence and is functioning as a proactive response to failures.

When a deviation occurs, it is documented in the non conformance system which is later reviewed by a quality advisor as well as a nurse from the clinic. If the quality advisors feel the need they take it to the meeting with the areas of competence. For the incident in the female wardrobe, there were mounted locks on the ladies side of the doors subsequently. When the new current building for the department was built, they installed the locks so that this is not possible to happen.

#### **4.2.5 Learning And Facilitating Factors**

Based on the identified failure responses, some examples of learning as well as factors seemingly important for learning is identified. Specific examples of learning is identified in some of their responses, such as in situations where the workers are prone to neglect and forgetfulness. Identified important learning factors are the non conformance system for reporting, areas of competence, the closeness between decisions and the clinic, regular meetings and emphasis on measuring, qualified staff and culture and management.

Being a department under the same hospital as the low-risk department, the high risk department is also subject to a well established a non conformance system for reporting and addressing deviations from established protocols or standards. The interviews highlights the high reporting culture in the department, referring to an increase in numbers of reported deviations in the period from 2014 until now.

*Here people have a high reporting culture. And it has only gotten better and better. In 2014, we had a round where very few deviations were reported that year. But last year there were 120-140 deviations of various formats. [...] There was no culture for that as we had no focus on that. Then we had an inspection in 2014 which noted that there was little deviation. Then we reviewed it, and gradually a good culture around reporting deviations has spread. This may involve security breaches, deviations in the building, drug handling and such.*

Interview 2, Department 2

The establishment of the five areas of competence is seemingly crucial for the non conformance system to result in implementation of changes. This has provided a clear framework for implementing quality improvement, which helps to focus efforts and ensure that everyone is working towards the same goals. This clarity has been a key factor in the success of the department's quality and safety practices. Each competence area has a group dedicated to improving and evaluating their work. These areas include a systematic survey of violence, preventive handling of the risk of violence, coercion, security, forensic psychiatric observation, and a psycho educational treatment method. In these groups, they regularly meet to discuss relevant topics within their area of competence, helping to find out what is working, what they are not doing well enough, and use a lot of checklists to ensure they are following the process. The interviewee measures their success using parameters in all areas of competence to check whether they do what they say they do. This strategy has helped them to improve their quality and safety practices, and it may be useful for other departments to consider similar approaches.

*By having these areas of competence we will have a easier way of implementing changes in new procedure because we are close to the ward know how it works in the daily life. So it's easier for these areas of competence to make the changes instead of a boss who doesn't know what it's like and what is actually the problem here make decision about how to fix it.*

Interview 2, Department 2

A significant example is the response to the lighter incident, where the department not only immediately seized the lighter and reported on the deviance, but also reviewed the situation in the security area of competence. This review is likely to lead to the introduction of electric lighters. This adaptation illustrates a key learning point, where the department acknowledged the risk of human forgetfulness and decided to invest in a solution that eliminated this risk. Additionally, their response to the episode of patient violence in the shower area indicates a

learning process. By installing locks on doors, and changing staffing policies after the responsible staff members left, they implemented preventative measures aimed at ensuring such an incident would not recur. These instances display a clear process of learning from failure, where reactive actions to immediate incidents are supplemented with long-term changes to prevent similar future failures.

The fact that the members of the competence groups work in the clinic has been crucial to their success. Because they are intimately familiar with the day-to-day workings of the department, they are well positioned to identify opportunities for improvement and develop strategies that are practical and feasible to implement. Further, regular meetings, that are prioritized by the members within each area of competence have created a space for ongoing discussion and reflection. This helps to identify areas for improvement and develop strategies for addressing them. By engaging in this process of continuous learning, the department has been able to refine its practices and adapt to changing circumstances over time.

The emphasis on measuring status using specific parameters has helped to create a culture of accountability within the department. By regularly monitoring their performance against these benchmarks, the department is able to identify areas where they are falling short and take steps to address them. Paying attention to detail emerged as a critical element, particularly evident in the use of safety checklists, has been identified important. This tool was not merely a perfunctory exercise, but was given importance at management meetings, with a focus on even seemingly insignificant deviations. The following quote from an interviewee illustrates this point:

*Another point that I noticed when I was new to the department, as I came from another department in the system, and where the risk of violence was negligible, was the great focus on safety checklists being very carefully reviewed at management meetings, and even seemingly insignificant deviations were mentioned in the meetings. This focus means that employees develop a 'pay attention to details' behaviour, and that you actually check whether things are locked/take a round of the air yard to check carefully whether there are objects there.*

Interview 3, Department 2

This focus on careful, meticulous review and response to safety checklists fosters a culture of vigilance and conscientiousness, influencing employee behavior and highlighting the importance of preventive measures and anticipation of potential risks.

The qualified staff is also pointed as an important factor to avoid failure. Interviews identified that there has been an increase in educated staff over the years, as well as the department having all positions filled.

*If I was to start working here tomorrow, I would do lots of small mistakes as I would not be so trained in routines. But also maybe it will*

*be harder for me to admit that I forget things.*

Interview 1, Department 1

Lastly, the hospital's culture and leadership play a critical role in facilitating or hindering the ability to learn from failure. A culture that encourages open communication, transparency, and learning from mistakes can foster an environment where staff members feel comfortable reporting failures and where the organization can learn from them. We see this in the high-risk department where the system for reporting deviations is further set in the system by having a separate responsible employee to handle the reporting as well as areas of competence where meetings are regularly held to discuss learning points and recurring errors that occur.

*Deviations should of course always be a focus area for management, but in departments where the consequences are small or negligible, I know from previous workplaces that it quickly disappears from the manager's "horizon". Here, the consequences can be significant and serious, and therefore the management is also concerned with the topic. The head of department attends all meetings where we review safety deviations.*

Interview 3, Department 2

#### 4.2.6 Challenges To Learning

One interviewee discussed the challenge of creating engaging and productive meetings. The interviewee emphasized that people need to prioritize the meetings over other tasks, and that boring and repetitive meetings will not be effective in engaging participants. The interviewee highlighted the importance of having a clear purpose and vision for the meetings, and providing a sense of enthusiasm and proactivity. The interviewee noted that creating lively and engaging meetings can be a challenge, and that maintaining participation and involvement over time can be difficult. However, the interviewee observed that new employees tend to be more committed and fluent in participation, and suggested that distributing tasks between meetings, trying out new ideas, and involving more people can help to maintain engagement and enthusiasm.

Furthermore, two significant challenges to learning emerged from the interview data: first, the lack of a shared understanding of what constitutes a deviation among staff members, and second, the complexity and ambiguity of the reporting system. Even though the department These factors may contribute to hesitancy or errors in reporting deviations, subsequently impeding learning from these failures. The department initially has a well-established system for handling deviations and accidents, there may still be ambiguities in what constitutes a deviation. At the same time, there are different systems that handle system deviations than, for example, patient injuries.

*If you ask employees, I don't think everyone, nor do I have a clear idea, where do I register what, how and when.*

Interview 1, Department 2

Another major obstacle to learning from failures identified in the high-risk department involves the inherent complexity and unpredictability of patient behaviors, particularly those with a history of drug abuse. These patients often present complex clinical symptoms, making their behaviors difficult to predict and consequently, challenging to manage.

Drawing from this, another challenge revolves around the fear of personal consequences that may accompany the registration of deviations. This fear tends to be more prevalent in situations involving patients, where the actions of the employees in 'acting out' situations come under scrutiny.

Even though deviation registration is generally perceived as a positive action within the hospital, staff members may hesitate to initiate this process due to concerns that it might be perceived negatively by the involved employees. This fear does not only present a challenge to the analysis phase of learning from failure, but also affects the detection phase as it could prevent the initiation of the learning process.

Furthermore, a challenge identified in the high-risk department pertains to differences in attitudes towards deviation reporting. Some staff members consistently report certain types of deviations while others choose not to report what they perceive as low-risk situations. This was captured by one interviewee who shared that they personally refrain from reporting certain incidents if they consider the risk to be low.

DISCUSSION

The results of this study provide a rich overview of failures that occur within psychiatric departments in hospitals, forming the basis for the subsequent discussion. Given the complexity and the variable nature of these failures, it is essential to dissect and understand them from various perspectives: process versus outcome, system versus individual, and the type of failure.

Understanding failures from these different angles provides a richer, more nuanced view of why and how learning from failure is impeded. Every failure carries unique characteristics and contexts that impact learning differently. For instance, system failures may raise different learning challenges than individual failures, or process failures may generate different responses compared to outcomes. Thus, viewing the failures from these different angles equips the study to comprehend the various ways in which these failures influence learning processes and outcomes.

This chapter will delve into a thorough discussion of the study's findings, contextualizing them within the broader landscape of existing research on the topic. The initial focus will be on exploring different perspectives of failures and examining their consequent impact on learning within the two departments under study. This analysis will pave the way for a comparison of the commonalities and differences between the two cases, elucidating the main points that unite or separate these shared and unique aspects influence learning from failure within psychiatric departments.

Finally, the chapter will revisit the theoretical propositions that underpinned this research. Unpacking these complexities moves the study closer towards building resilient healthcare systems that continuously learn and improve from their failures.

## 5.1 Process Versus Outcome And Its Impact On Learning

Understanding how process versus outcome affects learning from failure is crucial in a healthcare settings, where both factors play a significant role. The outcome of a situation can often shadow the process leading to it, leading to an unbalanced learning experience (Baron & Hershey, 1988). However, both aspects should be thoroughly examined to ensure comprehensive learning and improvement. Process failures such as not locking windows do not pose an immediate consequence, but patient fall is a negative outcome itself. Looking into how the departments learn from both may give valuable context to understand how failures prevent learning from failure.

### 5.1.1 Process Failures

Process failures, or disruptions or deviations from set routines or procedures may not necessarily lead to immediate or observable negative outcomes. For example, the issue of communication gaps with other departments for the low risk department, forgetting to lock windows or improper classification of patient's conditions, are primarily failures in processes. These issues might not always cause immediate harm, but they can create conditions that make harmful outcomes more likely. Attention to small, everyday organizational failures may be the key to avoiding catastrophic failure in the future (Cannon & Edmondson, 2005). This includes everything from routine procedures and protocols, to communication patterns, to decision-making processes. Therefore, when a failure occurs, it's essential to dissect the process that led to it, as this often uncovers key areas for improvement.

For medicament management and security procedures, these processes seem to be well implemented in the work flow of the staff in both departments, making the deviation from the procedure a failure itself that the staff recognize. By paying attention to these process failures, the department is taking proactive steps to prevent more significant problems before they occur, enhancing learning from failure.

The high risk department naturally have more well-established processes and routines, suggesting that high-risk environments often necessitate a more proactive approach towards learning from failures. High-risk departments, due to the severe consequences of potential failures, are compelled to prioritize process-focused learning, often honing their ability to detect and address weak points in their systems before they result in severe outcomes. This proactive and process-oriented approach aligns with the five core principles for high-reliability organizations described by Weick and Sutcliffe (2007), which emphasizes the importance of preoccupation with failure, reluctance to simplify, and sensitivity to operations as key principles for organizations dealing with complex, high-stake operations. High-reliability organizations, like the high-risk department, recognize that even seemingly minor process errors can lead to severe outcomes, and hence, prioritize vigilance and continuous improvement in their everyday operations.



However, when procedures are not well-established or clearly defined, it can be more challenging to identify process failures. Disruptions may go unnoticed because there is no clear benchmark or standard to measure against (Rafter et al., 2015). In the absence of a strong and well-understood procedure, it may be unclear what constitutes a failure. This is supported by Rafter et al. (2015), who found that learning from failure enables through standardized and systematic measurement of adverse events. This lack of standardization may result in the failures not be recognized as learning opportunities until a significant problem or consequence arises. For instance, a potential example of this is when staff in the department of low risk fail to refill medication after using the last dose. This can lead to a shortage of medication for patients, especially during nighttime when the pharmacy is closed and there are no alternatives available on other wards. Since this outcome is not previously experienced, it is not considered a deviation from a well-established procedure that should be reported. A similar situation is also seen in the high-risk department, where the staff may or may not report on disagreements between the systems handling B-preparates, as their subjective estimation of this error is considered low. This aligns well with Leicher et al. (2013), claiming lack of standardization a barrier for learning from failure as the staff will make subjective estimations of errors. Consequently, these types of failure may not be fully recognized as a deviations, hindering the learning from such failures, possibly explaining how failure prevent learning from failure as they are not detected.

Furthermore, the lack of a well-established procedure could potentially create an environment where such process failures become normalized. The normalization of deviance represents a gradual process where safety boundaries are progressively pushed back. This is discussed by Dechy et al. (2018), explaining how a series of small, often inconspicuous deviations that accumulate over an extended duration, frequently go undetected due to their marginality. Dechy et al. (2018) argues that such small deviations pave the way for the establishment of a series of "new normals". If deviations from the procedure are common and don't immediately result in consequences, there may be a perception that these deviations are acceptable or even part of the usual way of doing things. This can further inhibit learning from these failures, again due to non-detection. This was mentioned in an interview for the low-risk department, where less than two patient falls per month is considered nearly impossible, and the high-risk department where no disagreements between the systems handling B-preparates is considered unlikely.

This type of process failure is also evident for the situation where a patient attempted to escape using a material piece outside. The ignorance of the small, hidden deviation resulted in an escape attempt, highlighting the need to act promptly on minor deviations to prevent escalation into serious issues. Edmondson (2019) argue that small problems that routinely occur, present early warning signs that the company's strategy may be falling short and needs to be revisited. The ignorance of the material piece is an example of how such small problems can result in damage, as when the patient managed to reach the top of the fence. Such failures exemplify the importance of identifying and addressing even minor deviations, as they could spiral into critical situations. This is an example of a process failure, which was not acted upon until it resulted in an outcome.

Moreover, when process failures aren't detected or reported, it becomes difficult to identify patterns or systemic issues that may be contributing to these failures. This aligns with the study of Baron and Hershey (1988), finding that when the outcomes of the process were favorable instead of unfavorable, people tend to scrutinize the process to a lesser extent and rate the thinking as better, the decision maker more competent, or indicated greater willingness to yield decisions for themselves. This can prevent the organization from addressing the root causes of the failures and implementing effective solutions, further preventing learning from failure. In the case where a patient gained unauthorized access to the female wardrobe, the outcome became a catalyst for revealing a process failure relating to weaknesses in, and compliance to, security measures. Without this adverse outcome, the underlying process failure might have remained unnoticed, leading to a continued risk of similar incidents. It's crucial to understand that although the incident's outcome was negative, it became an opportunity to learn and improve. By examining the process leading to the incident, the department was able to identify the root cause, the lack of adequate security measures, which is a process failure. This led to actionable changes in the form of introducing door locks and revising staffing policies to enhance patient management and ensure safety.

As pointed out by Carroll (2018), paying continuous attention to process failures is important because as risks evolve and change over time, so do the conditions leading to failures. For instance, a particular team might handle an acutely agitated patient perfectly well under normal circumstances, but might struggle when a key staff member is off-shift or when dealing with a patient with a particularly challenging diagnosis. These dynamic risks create shifting 'windows of vulnerability' that can open and close based on various factors.

The implication of this perspective is that learning from failure isn't simply a matter of identifying and remedying static problems. Instead, it requires a vigilant, proactive stance towards risk. This is further emphasized by Hailwood (2016), suggesting that a lack of proactive searching for potentially relevant accidents within organisations may prevent learning from failure. Risks call for an ongoing effort to detect and appreciate the shifting vulnerabilities within the department and then act upon them swiftly. The proactive reporting of deviations observed in the departments studied is a testament to this approach. The idea is not just to react to failures after they have happened, but to anticipate and prevent potential failures by understanding and addressing these dynamic vulnerabilities.

This makes the barriers to learning from failure identified, from unestablished procedures and time constraints to the complexities of psychiatric care, all the more critical. These barriers, if unaddressed, can allow the system to do what Carroll (2018) calls "drift towards failure". However, if they are recognized and acted upon, they become opportunities for self-correction and improvement.

Furthermore, to proactively handle process failures and the dynamic nature of risks, systems must be in place. Rafter et al. (2015) states in their study that patient safety and quality are an acknowledged part of healthcare delivery, but

there remains a lack of consensus on how to collect and measure adverse events. In the departments studied, well-established systems for registering deviations are seen, and in the high-risk department, this is further developed with the areas of competence. However, as one interviewee stated, there are different systems for different types of adverse events, which may contribute to confusion and prevent learning from failure.

### 5.1.2 Outcomes

Unlike process failures, outcomes provide immediate noticeable consequences. Negative outcomes are especially noticeable and could provide significant learning opportunities (Edmondson, 2011). Examples of this are seen in both department, for instance in situations of serious violence or significant harm caused to a patient or staff member in the high-risk department. These failures often lead to immediate corrective actions, in-depth investigations, and potentially significant changes to protocols or procedures.

For the incident where a staff member was attacked and the alarm system failed to function, the immediate response included providing psychological support to the affected worker and testing the alarm system. This instance reveals the seriousness with which the department treats major failures and the significant effort put into learning and implementing changes in the aftermath of such events. For other severe incidents, such as patients consuming illegal substances, a comprehensive set of measures is enacted. These include zone security checks, body searches upon entry to the department, and consistent reporting of any unauthorized items discovered. When it was recognized that the body search protocol was inadequate, a rigorous review was undertaken, leading to substantial procedural enhancements. The same is seen in the case where a patient ran away during a visit to a shop. This aligns with Park et al. (2023), stating that failures that are more recent, more costly in terms of injuries and fatalities or financial losses, or more visible in terms of media exposure tend to be more salient and, thus, more likely to capture organizational attention.

The failures identified in the low-risk department that have potentially high severity are related to the categories of technical failures, security procedure breaches, inadequate patient care, and suicide or suicide attempts. In the context of the low-risk department, the high severity failures appear to be met with a robust response in terms of learning and subsequent systemic change. For example, in response to suicide or suicide attempts, a meticulous and multi-faceted review process is carried out to understand the incident thoroughly. The department refers to examples of implementation of a thorough review process involving a comprehensive examination of all relevant reports, medication records, discussions with related parties, and collaboration with support services for emotional aftermath management. Examples are seen in the aftermath of the incorrect transfer between departments of a patient who later passed away and in all cases of suicide. The severity of such events seem to instigate strong responses and present clear opportunities for learning, primarily because of the acute impact it has on the

patients, staff, and the overall system.

On the other hand, the severity of these failures can also impact the hospital's ability to learn from them negatively. Negative outcomes, such as patient suicides, can result in emotional distress and trauma for staff members, making it challenging for them to reflect on the incident and learn from it (van Baarle et al., 2022). We see this in the interviews from the low-risk department, where the workers were strictly following all security rules and also overdid security measures after a suicide in the department. Becoming overly strict after a traumatic incident such as suicide could potentially hinder learning because it might result in an overcorrection obscuring the underlying issues that need to be addressed. This reactionary measure may not allow for a thorough, objective analysis of the incident, thereby limiting the scope of learning. Raising the threshold for discharging patients may prevent thoughtful examination of the circumstances that led to the suicide. Additionally, it could precipitate new challenges, notably compromising patient care quality, especially under the circumstances of full hospital occupancy. In the specific context of the low-risk department, grappling with a shortage of available beds, such reactions to incidents might aggravate capacity issues, impeding both the operational function and the standard of healthcare service provision. These evidences show that high-consequence outcomes can prevent or limit learning from failure in the department as they can misfocus workers, and the degree of an individual's emotional affection affects their actions after the incident. This shows how failure with severe consequences can limit learning as it obstructs the analyzing phase of learning from failure.

Major outcomes have a high learning potential due to the serious consequences they present, prompting a deep review of existing systems and procedures. The department's response to these failures demonstrates a commitment to continuous learning and improvement, underscoring the willingness to adapt and make systemic changes to enhance safety and prevent recurrences. However, the fact that staff members continue to shop for themselves while with a patient, despite the new rules implemented after a serious failure incident, suggests a few potential issues. Firstly, if the rules are difficult to adhere to due to practical reasons, for example, due to workload or time constraints, then staff may be more likely to bend them. If this is the case, it may be necessary to reassess the rules. The department might consider other measures that can ensure patient safety without causing undue burden to staff, such as scheduling shopping activities during times when staff can be fully attentive to patients. Secondly, this scenario speaks to the complex relationship between the size of failure and learning. While the runaway patient incident was serious, the continued non-compliance suggests that the size of the failure may not always correlate with the extent of learning or behavior change. This could be due to desensitization to risk, disconnect between rules and daily practices, or lack of effective learning processes following failure incidents.

In summary, process failures may go unnoticed, especially without well-established benchmarks. But they often reveal underlying system issues when a failure occurs, providing learning opportunities. High-risk departments tend to proactively identify and address process failures due to potentially severe consequences. However,

lack of standardization and normalization of deviance may prevent recognizing failures, hindering learning. Addressing even minor process failures is crucial as they can escalate into serious issues. Unnoticed process failures make it challenging to identify systemic issues contributing to these failures, preventing root cause analysis and learning. Outcome failures, providing immediate noticeable consequences, often trigger immediate corrective actions, investigations, and changes. Major incidents like violence or patient harm lead to significant learning opportunities and systemic changes. However, the emotional distress and trauma from severe failures, like patient suicides, can obstruct objective analysis and learning, possibly causing overcorrections obscuring the actual issues. Notably, the size of the failure doesn't necessarily correlate with the extent of learning or behavior change, highlighting the complexity of learning from failure.

## 5.2 System Versus Individual Failure And Its Impact On Learning

In analyzing failures within the healthcare setting, it is crucial to distinguish between system and individual failures. Park et al. (2023) find that failures caused by human error often absorb significant attention, potentially leaving other system-related issues under-addressed. System failures are often the result of complex factors within the larger organizational and institutional context, while individual failures typically refer to errors made by a single person or a small group. The results show it is evident that both system and individual failures occur within the department, each with unique implications and lessons for improvement.

A clear example of a system failure in the low-risk department described in detail during the interviews are the failures categorized as inadequate patient care due to hospital overcapacity. This issue is rooted in the broader healthcare system, including factors like hospital admission policies, discharge procedures, or availability of care options in the community. In such cases, it's less about individual mistakes and more about processes, policies, and systemic bottlenecks. These kinds of system failures highlight the need for broader, institutional-level changes to address the underlying causes, and is thus an example of how failure prevents learning from failure in the department. This can explain why such a failure with high severity is not enhancing learning like previously discussed and might rather disrupt the analyzing phase of the learning phase.

### 5.2.1 System Failure

The research points to a key consideration in this discussion: When system failures are outside of a department's control, competence, and responsibility, they might shift their focus in their daily operations such that learning from failures might still occur, but it is limited as time pressure will prevent implementation. This shift in focus can be understood as a pragmatic response to the reality of the complex, interdependent nature of hospital operations. This aligns well with

insights from research in organizational behavior and management. For instance, Tucker et al. (2002) found that employees often engage in first-order problem solving when faced with system failures - they fix the immediate problem but do not address the underlying system issues, using first-order techniques that allow the nurse to continue caring for the patient. This is mainly because these system issues are beyond their immediate control and purview, like when the hospital is full. The observation that the department swiftly addresses the immediate challenges and focuses on restoring normal operations aligns with this notion of first-order problem solving.

However, scholars have also argued that while this kind of reactive problem solving is crucial in high-pressure, high-stakes environments like hospitals, it may limit the potential for deeper learning from failure. Without an examination of the system issues that contribute to failures, the same or similar issues may reoccur (Carroll et al., 2002). As system failure may prevent learning from failure as the focus of the staff may shift, the challenge is balancing the immediate operational needs of the department with the longer-term goal of systemic improvement. Research suggests that this can be achieved through a combination of strategies, such as promoting a culture of learning, improving interdepartmental communication and collaboration, and advocating for systemic changes at the organizational or even policy level (Weick & Sutcliffe, 2007).

The establishment of "areas of competence" demonstrates proactive measures to address system failures. These groups focus on evaluating and improving different aspects of the department, such as violence prevention, security, and forensic psychiatric observation. This systematic approach promotes systemic learning from failures, fostering improvements in the overall operational standards and patient safety measures of the department.

### 5.2.2 Individual Failure

The findings reveal how some situations encourage staff members to rely on individual judgment or workarounds in situations where there are no well-established procedures, like deciding whether to re-fill medication or register indifference in B-preparates. While these decisions might seem to address immediate efficiency needs or convenience, they underline a concerning reliance on individual vigilance, which may unintentionally obfuscate larger system issues. This aligns well with Tucker and Edmondson (2003), introducing individual vigilance as an encouragement for independence, where each caregiver thus tends to work on completing her or his own tasks without altering common underlying processes. An important point here is the variations in work structuring and employee compliance discovered in the results. This underscores the complex interaction between system and individual failures and their impact on learning. Drawing from Fischer et al. (2006), it is evident that an individual's response to error, heavily influenced by personality traits, significantly affects learning opportunities.

Regarding individual failures in the high-risk department, the implementation of

electronic lighters in response to the failure of an employee forgetting to collect a lighter from a patient demonstrates how the department has learned from individual failures. By replacing traditional lighters with electronic ones, the department has learned from past mistakes and proactively mitigated the risk of recurrence.

Even though deviation registration is generally perceived as a positive action within the hospital, the department may hesitate to initiate this process of learning from failures when the incident concerns that it might be perceived negatively by the involved employees. This is evident in cases where it is difficult to distinguish between expected behavior from psychiatric patients and whether employees could have acted differently in the situation. This complexity makes the topic sensitive. For example, initiating a conversation with a staff member who has been exposed to violence by a patient about whether they could have done anything differently can be a delicate matter. The ambiguity surrounding such incidents could lead to defensive reactions, inhibiting open discussion and learning. This emphasizes how individual failures related to patients may prevent learning from failure and indicates a need for a supportive culture that encourages open and non-judgmental discussions of failures, as well as training that equips staff to deal with the unique challenges of their roles. This phenomenon aligns with existing research on organizational learning and safety culture, finding that the fear of blame or punishment can discourage individuals from reporting failures or near-misses (Singer et al., 2009), hindering the collective learning process.

Findings also reveal situations that can reflect both system and individual failures. This may be the case in which the patients who are deemed ready for discharge by nurses before the completion of the official discharge summary by doctors, creating deviations when patients are transferred without confirmed after-care arrangements. While some cases may result from individual miscommunications or errors, these could also be indicative of larger system issues like lack of proper coordination mechanisms, ineffective communication channels, or misaligned responsibilities among departments or services, specifically for the ongoing situation with a full hospital. Here, failure prevents learning as it is hard to analyse the failure of individual mistakes under pressured conditions of the staff. Individual failure may also happen in the transferring department, which makes it difficult to find underlying causes.

Similarly, while patients falling can be seen as individual failures where staff are not present or providing sufficient support for the patient, their frequency suggests that they might also be symptomatic of larger system issues, such as understaffing, inadequate training or flaws in the physical environment. By addressing these systemic factors, the department can not only reduce the occurrence of falls but also improve patient care in a more holistic way.

Overall, both system and individual failures may impact learning from failure within the hospital setting. System failures in the low-risk department, especially those beyond the control of the department's personnel, may inadvertently derail learning from failure. The urgency of maintaining patient safety often compels the workforce to redirect their focus toward immediate problem solving, overlook-

ing the need to engage in deeper systemic learning. This shift in focus, though necessary for immediate patient care, may unintentionally suppress opportunities for comprehensive, long-term learning from system failures.

On the other hand, individual failures that are sensitive in nature, especially those involving patient incidents, can also impede learning from failure. The sensitive nature of these cases can make it challenging to initiate the learning from failure process. The fear of negative consequences or personal backlash can deter the reporting and analysis of such failures, consequently stifling learning opportunities. These findings highlight the importance of managing both system and individual failures effectively to foster a conducive environment for continuous learning and improvement in patient care.

### 5.3 Preventable Versus Complex Failure And Its Impact On Learning

Bearing in mind the theoretical propositions that guide this research, this section will summarize the discussion by looking into the types of failure preventing learning from failure. The initial propositions suggested that complex failures commonly interrupt the learning from failure process in the identification phase and that preventable failures usually cause interruptions during the analysis phase in hospital settings.

In this section, preventable- and complex failures become the focus of analysis. Re-examining the theoretical propositions through the lens of the collected data allows an assessment of their applicability and relevance. This integration of empirical evidence with theoretical concepts aids in building a comprehensive understanding of how and why failure hampers learning in psychiatric departments.

#### 5.3.1 Preventable Failures

In Section 4.1.3, the author presents several examples of preventable failures impacting learning from failure. For example, in the low-risk department, medical errors can be seen as a preventable failure when it occurs due to a deviation from procedure. We also see this in the case of a patient falling or not locking windows. As these failures would not occur if the known procedure on how to handle the specific cases were followed, we can classify them as preventable failures (Edmondson, 2011). The interviews identified several corresponding responses to these failures, mainly that the staff noticing the failure will do first-order problem solving, and then report a deviance in their system, enhancing second-order problem solving. This way, one can assume that the ward is effectively handling the failure as they initialize the process of learning from failure by identifying and acknowledging the failure. However, these are failures that were identified as the ward's most frequent failures. This may imply that it is challenging to learn from these failures sufficiently, and as they are identified, the learning from failure process may



prevent the analysis phase, not implementing measures to eliminate the failures.

There may be several reasons why these preventable failures are re-occurring. Normalization of the deviance, demoralization of staff, time pressure and prioritization, and complexity of the system and the failure can be possible explanations. If preventable failures occur frequently and are not adequately addressed, there's a risk that staff may start to view them as a normal part of their work rather than as indicators of underlying problems that need to be addressed. As suggested by Baron and Hershey (1988), outcome bias can also overshadow the failures in the processes. This can hinder learning, as it reduces the perceived need for change.

Repeated preventable failures can lead to demoralization and burnout among staff, and if second-order problem solving effort does not lead to any positive changes, workers will be discouraged about spending their time on this in the future (Tucker & Edmondson, 2003). As the interviews in the low-risk identified inadequate reading of instructions or fatigue as underlying causes for medical errors, this structure of the department may lead to demoralization as there is nothing done to prevent this. It was also clear that the staff responsible for handling deviations and doing improvement work had this as an additional work task, which may limit the focus on structured work for improvement and involvement of the staff, proved effective for the B preparation report.

The findings shows several instances of preventable failures also for the high-risk department. For example, there have been incidents where employees failed to collect lighters from patients. With more available resources, this prompted the distribution of electronic lighters only that can not start a fire. This can be considered as a process improvement, which typically involves changes in how tasks or procedures are performed to enhance safety, making it easier for people to do the right thing (Edmondson, 2019, p. 177). Here, the department learned from a preventable failure and instituted a change to prevent similar future failures. This is likely to prevent the demoralization of the staff.

However, it appears that despite the introduction of preventive measures, there are instances where these are not strictly followed. For example, the rule against shopping for oneself when with a patient is sometimes violated, even after a patient's escape during such a situation. This suggests that learning from preventable failures is sometimes inconsistent, likely due to individual behaviors and perceptions of low risk and potential impact. As previously discussed, this is supported by the study of Tucker and Edmondson (2003), emphasizing individual vigilance, allowing and encouraging front-line workers to resolve problems independently without having to consider the impact on the system.

Furthermore, the departments also demonstrate potential challenges in learning from preventable failures aligning with Tucker and Edmondson (2003), particularly when procedures are not well-established or recognized. For example, if a certain procedure is not clearly defined or widely understood, staff may not recognize when a deviation from it constitutes a failure. As a result, these preventable failures may go unreported and unaddressed, creating missed opportunities for

learning and improvement. This issue highlights the essential role of clear, comprehensive, and well-articulated procedures in fostering effective learning from preventable failures. When procedures are ambiguous or not well-established, it leaves room for individual interpretation and potentially inhibits the recognition and reporting of failures. Thus, promoting a robust understanding of procedures among staff is a critical step toward ensuring consistent learning from preventable failures.

Furthermore, some failures are complex and difficult to understand in a psychiatric ward. A failure might involve numerous factors, such as patient behavior, staff actions, policies and procedures, environmental factors, and so on. If the failure is too complex, it can be challenging to disentangle all of these factors and understand the root causes, making it hard to analyse the failure and implement the correct measures sufficiently.

### 5.3.2 Complex Failures

In familiar contexts, when a confluence of factors come together in a way that may never have occurred before, complex failures occur (Edmondson, 2019, p. 162). The study identifies several complex failures in the departments, such as medical errors due to misdiagnosis, incorrect decisions on the patient's treatment, lack of equipment, lack of beds in the hospital, and patient violence.

Some of these examples of complex failures are events where the failure is out of reach for the staff as they may not have the knowledge or power to become aware of the situation. When not knowing that a failure is happening, it is obvious that the learning from failure process can not be initialized, as the failure can not be identified. We see this in the situation where medical errors due to misdiagnosis happen. This is an example of a complex failure preventing identification of the failure as it is not obvious to the doctor that the patient was receiving the wrong medication, as the doctor, based on their current knowledge, thought the patient had a different diagnosis. During the period in which the patient was administered the incorrect medication, this failure was inescapable. Given the doctor's knowledge and perspective at the time, he could not know that the diagnosis was incorrect.

There may be different reasons why it is hard to identify these failures. First of all, the complex nature of healthcare means that even when protocols are followed, adverse events can still occur (Edmondson, 2011). This can make it difficult to identify specific causes of failure and to implement effective strategies to prevent them in the future. As for preventable failures, a psychiatric ward involves a complex system with patients with complex behavior and clinical symptoms. The nature of psychiatric care is such that the same approach might succeed in one case and fail in another due to the unique circumstances and needs of each patient. This variability can make it hard to draw clear lessons from individual failures, and recognizing a failure becomes a daunting task as the line between what is expected behavior and what is a deviation from the norm can often blur. This

was clearly stated in the interviews of the department.

This inherent complexity and unpredictability of patient behaviors, particularly those with a history of drug abuse, present complex clinical symptoms, making their behaviors difficult to predict and, consequently, also challenging to manage. Hailwood (2016) discuss how a lack of recognition of the similarity between situations, allowing a transfer of lessons from one domain to another without them being identical in all aspects, prevents learning from failure. This is evident in psychiatric departments, hospitalizing patients with symptoms that are highly individual and often not transferable to other patients. Consequently, failure analysis may not always apply or lead to meaningful learning. As the current organizational structure of psychiatric treatment might not always be optimally aligned with patient needs, where less experienced psychologists may find themselves dealing with severe, complex cases that might be better suited for highly specialized doctors, such instances could further complicate the management of, and learning from, these incidents. This complexity calls for a more nuanced and individualized approach toward understanding these failures and potentially a more sophisticated framework for learning from them. Therefore, in high-risk psychiatric environments, complex failures and possible organizational misalignment may also impede the analysis phase.

Furthermore, the lack of clear outcomes can make it hard to understand that a failure happened (Baron & Hershey, 1988). In some cases, it might not be clear whether a particular action or decision actually constituted a failure, and outcomes in psychiatric care can be multifaceted and take time to fully manifest. This can make it difficult to learn from a perceived failure because its outcomes and implications are not immediately clear. These examples show how complex failures often obstruct the identification phase, as the underlying cause of the failure can be many.

Working in such environments, learning from failure proved particularly difficult when failures arose due to complex clinical symptoms that involved both patient and staff. The environment proposes a challenge to dissect these scenarios and determine whether it was a preventable error, an expected failure, or an inherent risk of working in such a complex clinical environment. This may cause the department to hesitate to initiate this process of learning from failures when the incident concerns that it might be perceived negatively by the involved employees. This complexity makes the topic sensitive, and the ambiguity surrounding such incidents could lead to defensive reactions, inhibiting open discussion and learning.

## 5.4 Comparative Analysis

In order to fully understand the context and answer the research question, it is critical to compare the two departments in light of the research question to detect how they might differ or follow each other in relation to how failure prevent learning from failure. The low-risk department and the high-risk department, although

both part of the same hospital, demonstrate different challenges and dynamics in the learning from failure process.

### 5.4.1 Similarities

#### 5.4.1.1 *Complexity In Clinical Diagnosis*

Both departments grapple with the inherent complexity of healthcare delivery, especially as dealing with psychiatric diagnosis'. The understanding and management of risk associated with complex diagnoses represent an important aspect of learning from failure in both departments. As described in the interviews, psychiatric diagnosis can be understood as the result of a patient's interpretation of his own symptoms, which is influenced by individual cultural categoried (Baarnhielm et al., 2015). This complexity often complicates the process of failure detection, analysis, and the implementation of corrective actions.

#### 5.4.1.2 *Organizational Structure*

The organizational structure of both departments shows a significant commitment to addressing deviations and driving improvements. In each department, there are designated individuals responsible for handling and learning from deviations. Barshi and Bienefeld (2018) assert the crucial role leaders play in fostering an environment that encourages learning from failure. They are pivotal in empowering staff to speak up about errors and incidents. This empowerment contributes to a culture of open communication and learning, where failures are seen as opportunities for growth and improvement, not just setbacks to be hidden or avoided.

In addition to this, Dyck et al. (2005) suggest that an organization's approach to error management, including norms and common practices such as communicating about errors, swiftly detecting, analyzing, and correcting errors, is key to minimizing negative outcomes and maximizing learning opportunities. A high-organizational error management culture can thus significantly influence both the occurrence and the consequences of errors. The role of designated personnel for analyzing reported incidents and deviations in the department complements this idea. By having a specific role that straddles both the clinic and incident analysis, the organization creates a bridge between the theory and practice of learning from failure. These designated personnel can facilitate an effective error management culture, aligning with the arguments by Dyck et al. (2005).

However, the allocation of patients to doctors based on experience and specialization is another area of potential similarity. If both departments lack a systematic approach where complex cases are allocated to more experienced professionals, the learning from failures might be impeded in both.

The importance of understanding the underlying causes of errors, as argued by Smeets et al. (2021), is also reflected in the findings of this study. To truly learn

from failure, it's crucial to analyse the system-level and behavioral factors contributing to the error, rather than focusing merely on the error itself. In this context, this study's findings underscore the importance of organizational structure and culture in learning from failure. The designated personnel play a key role in both encouraging a high-organizational error management culture and ensuring that failures are analysed thoroughly to uncover their root causes. This insight contributes to our understanding of how healthcare organizations can operationalize the theoretical constructs put forth by researchers, such as Barshi and Bienefeld (2018), Dyck et al. (2005), and Smeets et al. (2021), to enhance patient safety through learning from failure.

#### 5.4.1.3 *Incident Reporting System*

The findings further harmonize with theoretical literature that suggests the importance of having established systems for reporting and analyzing incidents and deviations within healthcare settings. The observations that both departments have well-incorporated incident reporting systems that are recognized and utilized by staff members demonstrate an alignment with the theory.

Morath and Johnson (2018) emphasized the importance of an incident reporting system in allowing all hospital personnel to voice their perceptions and concerns about incidents. This aligns with the findings, where it appears that the reporting systems in both departments empower their staff to speak up and report on perceived deviations or failures, like patient falls or security procedure breaches. This active participation in reporting shows a recognition among staff of the importance of learning from mistakes and indicates a culture that values competence.

Furthermore, the reporting system seems to be taken seriously by staff and integrated into their daily routines, reflecting a high degree of psychological safety in these departments, which aligns with the assertions of Edmondson (1999). Psychological safety is a critical factor in effective learning from failure, as it facilitates open communication about errors and promotes a proactive approach to correcting and preventing such errors.

The frequency of reported incidents being relatively high in both departments further underscores this point, as it suggests a culture of transparency and continuous learning. It indicates that staff members are comfortable reporting failures, viewing them as opportunities for learning and improvement rather than personal shortcomings to be concealed.

To summarize, the study's findings provide empirical support for the theoretical assertions about the importance of systems for reporting and analyzing failures in healthcare settings. These findings contribute to our understanding of how such systems can be effectively implemented and integrated into the daily operations of healthcare departments, fostering a culture of learning and continuous improvement.

#### 5.4.1.4 *Commitment To Learning From Failure*

In general, both departments express a clear commitment to learning from failure. Despite their differences in risk levels, security procedures, and available resources, which will be discussed in Section 5.4.2, each department recognizes the importance of learning from failure as a crucial aspect of improving patient care and enhancing operational efficiency. Examples of learning from failures are seen in both departments, for both process failures, serious incidents, individual failures and system failures.

Education, training, support from team members and an organizational culture established that builds on competence, fairness, and trust (Grote, 2018). high-quality relationships and psychological safety (Carmeli & Gittel, 2009). The practical implementation of solutions to avoid recurrence of similar failures, like the adoption of electronic lighters in the high-risk department, signifies a practical approach towards learning from failure. It shows that departments are not just identifying and analyzing failures, but also taking proactive measures to prevent future failures. This action-oriented approach towards learning from failure is seen as an important aspect of successful learning environments (Tucker & Edmondson, 2003).

### 5.4.2 Differences

#### 5.4.2.1 *Level Of Risk*

One key difference between the two departments is the risk level associated with their patients and operations. In the high-risk department, the patients often have a history of drug abuse, and complex and unpredictable behaviors. This inherently brings about complex failures, such as unexpected patient violence or drug-related incidents, which can often prevent the analysis of failures being generalizable due to their unpredictable and multifaceted nature. In contrast, in the low-risk department, the patient group is generally more stable and predictable. Thus, the failures in this department are frequently preventable ones, such as medical errors due to deviations from procedures, or patient falls due to the older patient group. While the low-risk department might face challenges in fully learning from these preventable failures, owing to normalization of deviance, burnout, or procedural ambiguity, these failures are typically more straightforward to identify, analyse, and address than the complex failures seen in the high-risk department.

In this context, the risk level significantly influences the types of failures that occur, and subsequently, the processes and challenges of learning from these failures. It appears that high-risk environments might face more significant barriers to learning due to the inherent complexity and unpredictability of the failures. On the other hand, low-risk environments might struggle with recurring preventable failures due to issues like procedural ambiguity, normalization of deviance, and insufficient focus on improvement work.

#### 5.4.2.2 *Security Procedures*

The difference in risk level in the frequency of deviation reports between the high-risk and low-risk departments indeed provides valuable insights into the operations, culture, and learning opportunities within these departments. High-Reliability Organization (HRO) theory, developed by scholars like Weick and Sutcliffe (2007), provides a framework that can be very relevant for understanding the dynamics of learning from failure in environments with extensive security procedures, such as the high-risk department. HRO theory posits that certain organizations operate under conditions where the cost of failure is exceedingly high. These organizations, like air traffic control systems, nuclear power plants, or hospital operating rooms, have developed practices to minimize errors and manage the unexpected effectively. These mechanisms can increase the number of detected and reported deviations, without necessarily indicating lower care quality.

In line with HRO theory, research in healthcare settings suggests that the frequency of deviation reports can reflect the degree of vigilance and commitment to patient safety (Edmondson, 2004; Tucker & Edmondson, 2003). Moreover, a high reporting frequency can also indicate a more open and learning-oriented culture, where deviations are seen as opportunities for learning and improvement rather than faults to be concealed (Edmondson, 1999).

At the same time, studies in patient safety have drawn attention to the normalization of deviance, where certain deviations become seen as normal due to their frequent occurrence (Dechy et al., 2018). This can discourage reporting and impede learning, particularly in lower-risk areas where the immediate consequences of deviations might be less severe. This theory helps to explain the lower frequency of deviation reports in the low-risk department. Even though interview data suggests a good learning culture, the perceived non-severity of incidents might make staff less likely to report them. This demonstrates the importance of promoting a culture where all deviations, regardless of their immediate severity, are seen as opportunities for learning and improvement (Edmondson, 2004). Lastly, high reporting frequency does provide more opportunities for learning and improvement, assuming that there is a system in place to analyse and act upon these reports (Singer et al., 2009).

#### 5.4.2.3 *Availability Of Resources*

Risk level also dictates resource allocation. It is evident that the high-risk department is more equipped, in terms of resources, to facilitate learning from failures than the low-risk department. This can be understood in the context of both their human and financial resources. One of the key aspects to learning from failures is the human resource capacity to handle deviations and work on analysis and implementation of solutions to failure (Edmondson, 2019). In the high-risk department, the presence of a designated worker and another half-time worker, who also work in the clinic, specifically for this task makes a considerable difference. These employees can focus solely on understanding the failures, implementing measures to prevent reoccurrence, and improving the existing system. This emphasizes the role

of dedicated personnel in analyzing and learning from failures, leading to system-wide improvements and the prevention of future errors.

Further, this has led to the five areas of competence, which is proven crucial for maintaining a systemic approach involving the workers from the clinic. Together with the high-risk department's financial resources, this enables them to implement tangible process improvements that minimize the risk of certain failures, such as the switch to electronic lighters and the introduction of card readers on doors. These changes not only help prevent specific errors but also signal to the staff the commitment to continuous improvement, which could cultivate a culture of learning from failures (Edmondson, 2011). The fact that high-risk departments have more resources, security procedures, and a higher frequency of reporting demonstrates the connection between risk level and the robustness of an error management culture (Dyck et al., 2005). The study of the two departments suggests that the existence and intensity of an error management culture may depend on the risk level perceived by the department.

On the other hand, the low-risk department faces constraints that may limit its ability to learn from failures effectively. The department, operating in a full hospital with administrative tasks occupying much of the staff's time, may struggle to dedicate sufficient attention to the analysis of failures and the implementation of preventative measures. The lack of dedicated resources for learning from failures may lead to a cycle where the same errors occur repeatedly because the root causes are not fully addressed (Edmondson, 2019). This makes the department highly susceptible to organizational problems, for example a full hospital, where learning from failure is, and must be, de-prioritized in order for daily operations and patient safety to be maintained. This aligns with the study of Hlavacek et al. (2009) looking into new product failures, mentioning time pressure, budget, people, and resource constraints as barriers to learning from failure.

In summary, while both departments operate within the realm of psychiatric care and share a commitment to learning from failure, they display differences in their risk levels, security procedures, and resource availability. These differences highlight the need for customized strategies in learning from failure, considering each department's unique challenges and opportunities.

## 5.5 How Failure Prevent Learning From Failure

Drawing towards the end of the discussion, it is crucial to revisit the research question and the theoretical propositions that underpinned this research. The first proposition suggested that the interruption of the learning from failure process in the identification phase typically occurs due to complex failures, while the second proposition posited that when the learning from failure process is interrupted in the analysis phase, it is usually due to preventable failure. Considering these propositions in light of the findings, it is recognized that while they offer a valuable framework for understanding the dynamics of learning from failure, they



do not fully capture the multifaceted reality found within the psychiatric departments studied.

The findings lend support to the first proposition, asserting that the identification phase of the learning from failure process can be interrupted due to complex failures. For example, complex individual failures such as misdiagnoses clearly obstruct the detection phase. As observed, a doctor may not realize a patient's condition has been incorrectly identified due to the complexity and individuality of psychiatric diagnoses, which can lead to inappropriate treatments. Moreover, complex bad outcomes, such as violent incidents, also pose challenges to identification when the staff must differentiate between expected patient behavior and potential individual failures on their part. This sensitive issue can make it difficult to initiate the necessary conversations for failure identification, supporting the notion of complexity obstructing the identification phase. As discussed, an open culture where these discussions and potential identifications are celebrated is an important success factor in being able to learn.

The second proposition, stating that when learning from failure is interrupted in the analysis phase it is usually due to a preventable failure, also finds backing in the results of this research. For instance, low-impact preventable process failures are frequently reported, suggesting they are recognized but challenging to analyze effectively, as their recurrence indicates a lack of successful measures being implemented.

Nevertheless, the findings also illustrate scenarios that deviate from the initial propositions, contributing to a more nuanced understanding of the learning from failure process in psychiatric departments. Firstly, preventable failures with low impact not tied to established procedures often go unreported due to factors such as outcome bias and perceived low impact. Thereby presenting interruption of the detection phase. This scenario contradicts the assumption that when learning from failure is hindered in the analysis phase, it is usually due to preventable failures, revealing that preventable failures can obstruct identification as well.

Moreover, complex adverse outcomes like violent incidents or suicides can potentially hinder both the identification and analysis phases of learning from failure. Their unpredictable nature, coupled with the emotional distress they induce, may complicate the development of effective preventive measures. An intriguing point was raised during interviews within the low-risk department that underscores this issue: the organizational structure of psychiatric treatment might not be optimally aligned with patient needs. For instance, less experienced psychologists may be as likely to handle severe, complex cases as highly specialized doctors. While this isn't necessarily a universal occurrence, such instances might add to the complexity of managing and learning from these incidents. Coupled with the emotional toll these incidents take, this potential misalignment could further complicate the learning process. On a systemic level, when complex failures like issues with the journal system or lack of available beds occur, the staff's focus often shifts to managing the immediate situation, possibly deprioritizing the analysis of these failures, and thus potentially inhibiting the learning from failure process.

In conclusion, while the initial theoretical propositions provided valuable insights into the dynamics of learning from failure, the evidence collected from the psychiatric departments under study reveals a more complex reality. The interruption of learning from failure is not strictly confined to the identification phase for complex failures and the analysis phase for preventable failures. Instead, various types of failures can disrupt different stages of the learning process, influenced by numerous factors including the type and impact of the failure, the established procedures, the sensitivity of the issues, and the highly complex and individual nature of psychiatric diagnoses. This nuanced understanding, informed by the empirical evidence, reinforces the importance of a flexible, context-specific approach to understanding and enhancing learning from failure in psychiatric departments. These insights not only offer avenues for future research but also have crucial implications for the development of strategies to foster learning from failure in healthcare settings.

## CONCLUSION

In conclusion, this study aimed to understand why and how failures prevent learning from failure within psychiatric departments conducting a comparative analysis of low-risk and high-risk environments. Using documentation and semi-structured interviews, this study illuminates the group level responses to failure. The responses and underlying causes are analysed from different perspectives, aiming to examine the factors that obstruct the process of learning from them. The findings shed light on the complexities and unique challenges inherent in learning from failure in these distinct settings.

In both the low and high-risk departments, the study found that failures deviating from procedures were often not detected or recognized as such when these procedures were not well-established. In the high-risk department, staff members were found to make their own decisions about the importance of certain failures, which could influence whether or not these failures are reported. This emphasizes the crucial need for clear, well-articulated procedures and guidelines to be in place. Without this, there is a risk of certain failures becoming normalized or overlooked within the department's operations, impeding learning opportunities. However, even beyond this, it underscores the need for continuous work with learning from failures, given the evolving nature of work environments and patient demographics.

Additionally, the occurrence of time-consuming failures introduces not only time constraints but also administrative burdens within the low-risk department. This extra strain sometimes leads to the de-prioritization of quality work, subsequently resulting in insufficient analysis of these failures, and consequently, the suboptimal implementation of remedial measures. This dynamic draws attention to the critical role that resource allocation plays in supporting learning from failures. Without sufficient time and support, even the most diligent efforts to learn from mistakes can be undermined.

The challenges of learning from failures in complex clinical settings, as seen in both departments, also became evident. The complexity and individuality of psychiatric diagnoses make it challenging to develop reliable predictive models or preventive measures, such as for violence or suicides. Consequently, failures in these settings are difficult to learn from due to their unpredictable and highly

individualized nature.

Furthermore, initializing the learning from failure process proved particularly difficult when failures arose due to complex clinical symptoms that involved both patient and staff. These failures blur the lines between individual mistakes and systemic issues, making it difficult to determine the root cause. It's often challenging to dissect these scenarios and determine whether it was a preventable error, an expected failure, or an inherent risk of working in such a complex clinical environment. This complexity makes the topic sensitive, and calls for a more nuanced understanding and approach to learning from failures.

As a result, this research has revealed that several interconnected factors, such as the establishment of procedures, time and administrative resource allocation, and the inherent complexities of psychiatric care, can all prevent learning from failure. Understanding these failures provides a roadmap for how we can better support learning within these departments, by recognizing the need for continuous procedure development and review, ensuring adequate time and resources for quality work, and acknowledging and navigating the complexities inherent in psychiatric care. By doing so, we can help to foster a more resilient and adaptable psychiatric healthcare system that can effectively learn from its failures to improve its services and patient care continuously. It's important to note that learning from failure is not just about immediate remedial actions but about using these experiences to drive long-term improvement. The preventive potential of failures lies in their capacity to illuminate areas of weakness and prompt changes that make future errors less likely or less harmful. In psychiatric departments, this learning process is of utmost importance due to the vulnerable nature of the patients and the complex interplay of factors affecting their care.

The findings offer insights that are potentially generalizable to other psychiatric departments, as well as to other healthcare settings. For instance, the factors identified as impeding learning from failure, such as time constraints, workload, and staff demoralization, are challenges that are likely common across many healthcare contexts. The dynamics of first-order and second-order problem solving that were explored may also be relevant to understanding organizational learning processes in other settings. Moreover, the findings of this study may also generalize beyond psychiatric departments to other high-risk environments. In such contexts, there are often similar demands for precise procedures, clear communication, robust problem-solving, and rigorous attention to safety. Therefore, the insights gained on learning from failure in this study could potentially offer valuable lessons for other high-risk settings.

## 6.1 Limitations

While this thesis has uncovered valuable insights into how and why failures can prevent learning within psychiatric departments, several limitations should be considered when interpreting the findings. Firstly, in addition to the mentioned methodological limitations, the sensitive nature of failure and the difficulty in rec-

ognizing failing to learning from failures presented a significant challenge during the data collection process. Many interviewees struggled to provide clear examples of instances where the departments failed to learn from failures. This is consistent with existing research by Argyris (1991) and Tucker et al. (2002), which suggests that organizational members often find it difficult to acknowledge and openly discuss failures due to the perceived risk to their professional image or reputation.

Secondly, the departments' willingness to participate in this research project may indicate an existing awareness or focus on the importance of learning from failure, potentially skewing the results towards a more proactive stance on addressing failure. It should be acknowledged that not all departments or organizations may possess this same level of awareness or initiative.

Thirdly, the diverse work experiences of the interviewees also presented a limitation. Many interviewees had worked in multiple settings over their careers and often drew from these varied experiences when discussing failures and learning. While this provided rich data, it complicated the task of isolating experiences specific to the departments being studied in this thesis.

Lastly, the majority of interviewees were in administrative roles, which does not fully represent the perspectives of front-line workers who are often more directly exposed to the occurrence of failures. Existing theories such as Crossan et al. (1999) 4I framework, emphasize the importance of individual learning and its influence on group learning. Thus, it would be valuable for future research to include front-line workers' perspectives to gain a more comprehensive understanding of how individual responses to failures contribute to group learning. These limitations notwithstanding, this study provides a crucial foundation for further research into the complex dynamics of learning from failures in psychiatric departments. Future work could seek to overcome these limitations by incorporating more diverse perspectives, focusing on concrete examples of learning from failure, and including departments with varying degrees of focus on the topic.

## 6.2 Contributions

The study's contributions are twofold. The theoretical contributions will be identifying and analyzing the different types of failure that prevent learning from failure in hospitals, which will provide a better understanding of how organizational learning can be hindered by various types of failures. This could lead to the development of a new conceptual framework that can be used to explain the phenomenon of learning from failure in the context of hospitals.

On the other hand, the practical implications of the study will be significant as it will provide insights into how hospitals can improve their learning processes and effectively learn from failure. By identifying the barriers that prevent learning, the study will assist healthcare organizations in designing interventions to improve the learning process and enhance their overall quality of care. As a result, healthcare

organizations may be able to reduce the likelihood of future adverse events, improve patient safety, and enhance the quality of care delivered to patients.

Furthermore, the study can contribute to the development of policies and regulations related to healthcare organizations' failure management. It can provide insights into the types of failures that prevent learning and how healthcare organizations can mitigate them. This, in turn, can lead to the development of better guidelines and regulations to promote a just culture and learning from failure in the healthcare system.

Overall, the study's theoretical and practical contributions will add to the growing body of knowledge on learning from failure in hospitals and provide insights into how hospitals can improve their learning processes to enhance the quality of care delivered to patients.

### 6.3 Future Work

Providing valuable insights into how and why failures may prevent learning within psychiatric departments, findings suggest several avenues for future research. While the patterns and insights identified in this study can provide a valuable starting point, any application of these findings to other contexts should be undertaken with care, taking into consideration the specific circumstances and needs of the new context. Future research is encouraged to test the generalizability of these findings more directly. First, the author recommends that future studies employ alternative methodologies to complement and enhance this study's interview-based approach. For example, longitudinal studies that track the process of learning from failure in real-time could shed light on the interconnections between detection, analysis, and experimentation phases of learning. This approach might illuminate the subtle nuances in the dynamics of learning from failure, which might be difficult to capture through retrospective interviews.

Second, future research could utilize observational or ethnographic methods, allowing researchers to immerse themselves within the healthcare settings they're studying. By directly observing staff interactions, meetings, crisis responses, and daily routines, researchers could gain a deeper understanding of the ingrained practices and behaviors that influence learning from failure.

Moreover, anonymous surveys could encourage staff members to more freely share their experiences and perceptions of learning from failure. Such a broad survey could provide a wide-ranging overview of staff attitudes and perceptions across various roles within the departments.

Importantly, future studies may aim to capture a more diverse range of perspectives within the psychiatric departments. This study predominantly included interviewees in administrative or hybrid roles. However, front line workers' experiences are crucial, and their learning processes may differ significantly.

Finally, future research may also extend beyond psychiatric departments to investigate learning from failure in diverse healthcare units or other industries. This approach could help discern if the barriers to learning from failure identified in this study are unique to the psychiatric context, or whether they apply more generally across different settings.

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# APPENDICES

## INFORMATION LETTER

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### **Are you interested in taking part in the research project “Learning learn from failure in psychiatric departments”?**

#### **Purpose of the project**

You are invited to participate in a research project where the main purpose is to investigate why and how different types of failure prevent learning from failure in hospitals, to improve the understanding of why hospitals fail to learn from failure. The author will conduct a case study using semi-structured interviews for an in-depth examination of the topic, which can provide a rich understanding of the complex dynamics at play in the failure of hospitals to learn from failure. The expected outcome would likely be a detailed understanding of the reasons why different types of failure prevent hospitals from learning from failure, as well as an understanding of how different types of failure prevent hospitals from learning from failure. Additionally, generalizations and implications from the findings are likely to be drawn for the broader field of healthcare management and quality improvement.

The information will contribute as data for my master’s thesis in the degree of Industrial Economics and Technology Management at NTNU Trondheim.

#### **Which institution is responsible for the research project?**

Norwegian University of Science and Technology (NTNU) is responsible for the project.

#### **Why are you being asked to participate?**

Functioning as data for the project, interviews will be conducted of hospital workers and managers in departments within psychiatry about their thoughts and experiences regarding challenges in everyday working life. The sample for this study is therefore hospital employees who work in psychiatry. You are asked to

participate in this project because of your position and because the head of department at your department has wanted to participate.

### **What does participation involve for you?**

Participation in the project means that you will attend an interview that will take you approx. 60-90 minutes. All information and analyses in the project will be treated confidentially in line with the privacy regulations. In order to increase research validity, an audio tape recorder will be used in connection with the interviews.

### **Participation is voluntary**

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

### **Your personal privacy – how we will store and use your personal data**

We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR). The master student, Karen Frøslie, and her supervisor, Nhien Nguyen, both at NTNU, will have access to your personal data under the project.

### **What will happen to your personal data at the end of the research project?**

The planned end date of the project is June 2023. Your personal data and audio recordings will by this date be deleted.

### **Your rights**

As long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Norwegian Data Protection Authority regarding the processing of your personal data

### **What gives us the right to process your personal data?**

We will process your personal data based on your consent.

Based on an agreement with Norwegian University of Science and Technology, The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

### **Where can I find out more?**

If you have questions about the project, or want to exercise your rights, contact:

- Norwegian University of Science and Technology w/ supervisor for the project, Nhien Nguyen, by email: [nhien.nguyen@ntnu.no](mailto:nhien.nguyen@ntnu.no) or student, Karen Frøslie, by telephone: +47 924 33 142
- Our Data Protection Officer: Thomas Helgesen, telephone: +47 930 79 038.

If you have questions about how data protection has been assessed in this project by Sikt, contact:

- SIKT - Kunnskapssektoren tjenesteleverandør by email: ([personverntjenester@sikt.no](mailto:personverntjenester@sikt.no)) or by telephone: +47 73 98 40 40.

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## CASE STUDY PROTOCOL

### Section A: Overview of the Case Study

1. Mission
  - To improve hospital managers' understanding of the nature of failures preventing learning from failure in hospitals
2. Goal:
  - Develop a framework that explains the nature of learning from failure in psychiatric wards
3. Case Study Question:
  - Why and how is failure prevent learning from failure in hospitals?
4. Propositions:
  - When the learning from failure process is interrupted in the identification of failure phase, it is usually due to a complex failure.
  - When the learning from failure process is interrupted in the identification of failure phase, it is usually due to a preventable failure.
5. Hypothesis:
  - Complex failures are not identified.
  - Preventable failures are not analyzed sufficiently to continue learning from failure process.

### Section B: Overview of the Case Study

1. Names of Contact Persons:
  - Anonymized contact person for Low-Risk Department
  - Anonymized contact person for High-Risk Department
2. Resources:



- Computer
- Mobile (sound recorder)
- Pen
- Paper

3. Data Collection Plan:

- (a) Determine interview objects
  - i. Hospital staff working in the clinic
  - ii. Managers and head nurses for department
- (b) Formulate Interview Guide
- (c) Obtain informed consent
- (d) Conduct Interviews
- (e) Transcribe interviews

4. Expected preparation prior to fieldwork:

- Time scheduling between master student, supervisor and interview objects.

### **Section C: Protocol Questions**

Interviews of Hospital Staff in clinic:

1. What failures are experienced?
2. What phase of the learning from failure process is prevented by individual responses?

Interviews of Managers and Quality Advisors:

1. Are preventable failures preventing identification of the failure?
2. Are complex failures preventing analysing the failure?

### **Section D: Tentative Outline for the Case Study Report**

1. Introduction
2. Literature Review
3. Methodology
4. Results
5. Discussion
6. Conclusion
7. Bibliography

## 8. Appendix

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## INTERVIEW GUIDE

### Introduction

- Purpose of the study: improve the understanding of the nature of the failures which prevent hospitals from learning from adverse events.
- What is in this for them: Comparing cases, transfer best practice
- Introduce methodology: Comparative case study of two psychiatric departments, interview different people from each of these departments.
- Consent: Anonymization, and the recordings will be deleted when the project is completed
- Audio recording: Permission to record audio

### Background

- How long have you been working here?
- Which department do you work in?
- What position do you have?
- What does a typical working day consist of in terms of tasks?
- What kind of education do you have?
- Age: >30, 30-40, 40-50, 50-60, >60
- Department Structure

## Learning from Failure

**Table C.0.1:** Questions and follow-up questions

Failure	Type Of Failure	Learning From Failure
<p>Can you describe a frequent adverse event?</p>	<p>Do you know why the event occurred?</p> <p>Do you have any routines or processes that are meant to prevent this event?</p>	<p>What did you do after the event?</p> <p>How did you come aware of this event?</p> <p>If it was not resolved, what do you think was the reason?</p> <p>If the failure happened again, what would you do?</p> <p>How does the hospital ensure that lessons learned from these events are incorporated into future practices and processes?</p>
<p>Can you describe a memorable adverse event that you have experienced?</p>	<p>Do you know why the event occurred?</p> <p>Do you have any routines or processes that are meant to prevent this event?</p>	<p>What did you do after the event?</p> <p>How did you come aware of this event?</p> <p>If it was not resolved, what do you think was the reason?</p> <p>If the failure happened again, what would you do?</p> <p>How does the hospital ensure that lessons learned from these events are incorporated into future practices and processes?</p>
<p>Can you describe an adverse event that is likely to occur in this department?</p>	<p>Do you know why the event occurred?</p> <p>Do you have any routines or processes that are meant to prevent this event?</p>	<p>What did you do after the event?</p> <p>How did you come aware of this event?</p>

		<p>If it was not resolved, what do you think was the reason? If the failure happened again, what would you do?</p> <p>How does the hospital ensure that lessons learned from these events are incorporated into future practices and processes?</p>
<p>Can you describe a situation where you think the department learned from an adverse event?</p>	<p>Do you know why the event occurred?</p> <p>Do you have any routines or processes that are meant to prevent this event?</p>	<p>What did you do after the event?</p> <p>How did you come aware of this event?</p> <p>If it was not resolved, what do you think was the reason? If the failure happened again, what would you do?</p> <p>How does the hospital ensure that lessons learned from these events are incorporated into future practices and processes?</p>
<p>Can you describe a situation where you think the department did not learn from an adverse event?</p>	<p>Do you know why the event occurred?</p> <p>Do you have any routines or processes that are meant to prevent this event?</p>	<p>What did you do after the event?</p> <p>How did you come aware of this event?</p> <p>If it was not resolved, what do you think was the reason? If the failure happened again, what would you do?</p> <p>How does the hospital ensure that lessons learned from these events are incorporated into future practices and processes?</p>

## End

- What do you think is the reason for the department not learning from adverse events?
- How do you think the department can improve when it comes to learning from adverse events?
- Anything you would like to add?

## CONSENT FORM

### **Voluntary participation:**

All participation is voluntary, and a participant can withdraw from the project at any time. Participation will not require anything "extra" from the actors, apart from access for researchers to carry out interviews and time elapsed for interviews.

### **Confidentiality:**

All information and analyses in the project will be treated confidentially in line with privacy regulations. In order to increase research validity, an audio tape recorder will be used when conducting the interviews. The project is registered to Kunnskapssektorens tjenesteleverandør (SIKT), and only the project's supervisor that will have access to the collected data. Before the study begins, it is requested that you consent to participation by signing that you have read and understood the information in this document.

I have received and understood information about the project. Failing to learn from failure in Norwegian hospital departments and have been given the opportunity to ask questions. I give consent:

- to participate in interviews

I give consent for my personal data to be processed until the end of the project.

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(Signed by participant, date)

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