

# Adaptive capacities for safe clinical practice for patients hospitalised during a suicidal crisis: A qualitative study

Siv Hilde Berg (✉ [siv.hilde.berg@sus.no](mailto:siv.hilde.berg@sus.no))

Helse Stavanger HF <https://orcid.org/0000-0003-0624-3727>

Kristine Rørtveit

Helse Stavanger HF

Fredrik. A. Walby

Oslo Universitetssykehus

Karina Aase

Universitetet i Stavanger

---

## Research article

**Keywords:** Adaptation, sense-making, situational awareness, shared understanding, trade-offs, mental health, suicide, uncertainty

**Posted Date:** December 30th, 2019

**DOI:** <https://doi.org/10.21203/rs.2.19664/v1>

**License:**  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

**Version of Record:** A version of this preprint was published on June 19th, 2020. See the published version at <https://doi.org/10.1186/s12888-020-02689-8>.

# Abstract

**Background.** Safe clinical practice for patients during a suicidal crisis is situated within a complex, non-linear and uncertain context. It involves a complex set of practices in which adaptation is perceived as a source of safety. This study aims to develop a deeper understanding of safe clinical practice and the capacity to adapt to challenges and changes in clinical care for patients hospitalised in mental health wards during a suicidal crisis.

**Methods.** This study applied a qualitative design based on focus group and individual interviews. Twenty-five health care professionals (HCPs) participated in the focus groups, and 18 HCPs were individually interviewed. The study was conducted at open and locked wards in a university hospital in Norway that provides specialised mental health services for adults.

**Findings.** Adaptive capacities for clinical practice were described in relation to three themes. 1) HCPs described using expertise to make sense of suicidal behaviour to support complex decision-making. Their strategies relied on setting the checklist aside to prioritise trust and making judgements beyond spoken words. They improved their understanding by seeking others' perspectives through a collaborative sense-making process involving the health care team and the patient. 2) HCPs reported individualising the therapeutic milieu to address the diversity of patients with suicidal behaviour. Safe clinical practice was provided by creating individual clinical pathways, making trade-offs between under- and over-protection and adjusting observations 3) It was necessary for HCPs manage uncertainty to provide safe clinical practice. They did so as a team by developing mutual collegial trust, support and shared understanding.

**Conclusion.** HCPs' adaptive capacities are vital to the complex set of practices involved in safe clinical practice for patients hospitalised during a suicidal crisis. By using expertise, individualising the therapeutic milieu, and managing uncertainty, HCPs individually and collectively develop their capacity to adapt to challenges and changes in clinical care. Safe clinical practice cannot easily be ensured by following standards; it depends on HCP adaptations. Ward systems ensuring collegial trust and support are needed, as are arenas supporting shared understanding and collaborative sense-making.

**Keywords:** Adaptation, sense-making, situational awareness, shared understanding, trade-offs, mental health, suicide, uncertainty

## Background

Suicide is a particular concern for patient safety in mental health wards. However, its practice remains poorly understood (1). Despite the growing body of patient safety research literature, knowledge on patient safety in mental health settings is limited (2). Studies have documented that different safety practices are simultaneously enacted in mental health care. The personalised- psychological safety (3–5) and therapeutic safety (6) are practiced during personal contact with patients, and technical safety (6) and disciplinary safety (3) attempt to reduce risk by through barriers such as physical infrastructure and surveillance systems.

Preventing suicides in wards is undoubtedly a complex and challenging task. It is well documented that health care professionals (HCPs) who care for suicidal patients carry an emotional burden and experience fear of blame (7–10). The instruments used to categorise patients into high-risk groups do not enable HCPs to predict which patients will commit suicide, and clinical decision-making in hospital wards often involves a high degree of uncertainty (11). Suicidal behaviour is characterised by aetiological heterogeneity, and each patient is understood and approached differently (12). In particular, individualisation and adaptations are found to be vital for patients' experiences of safe care during treatment and protection (5).

Safe clinical practice for a patient during a suicidal crisis is situated within a complex, non-linear and uncertain context in which adaptation is perceived as a source of safety (13, 14). HCPs make such adaptations by relying on their skills, knowledge and experience (15), and they go beyond their assigned tasks and roles to adapt to challenges and changes in everyday practice (16, 17). Studies of clinical decision-making in complex care settings have found that HCPs constantly make trade-offs between competing goals, adapt to complete their work, and apply sense-making skills to increase their situational awareness of ill-structured situations (18). These strategies also apply to successful suicide risk detection and response. A study among community-based mental health workers in the UK revealed a complex decision-making process comprising uncertainty and trade-offs regarding patient clinical needs, patient desires, legal and procedural obligations, and resource considerations (19).

What particularly distinguishes an expert from a novice is the ability to make sense of comprehensive and complex information through situational awareness (20). These abilities are essential in order to adapt (15). Currently, there is a lack of literature regarding how HCPs use their expertise to improve clinical decision-making in mental health (21) and how HCPs adapt to ensure safe clinical practice for patients hospitalised during a suicidal crisis. Inpatient care settings involve clinical decision-making around multiple aspects of safe care, e.g., acute and long-term risk management, physical protection and coordination of multi-professional care.

This study aims to develop a deeper understanding of safe clinical practice and the capacity to adapt to challenges and changes in clinical care for patients hospitalised in mental health wards during a suicidal crisis. The specific research question was as follows: How do HCPs describe adaptive capacities for clinical practice in mental health wards for suicidal patients?

## Methods

### Study context

The study was conducted at a university hospital in Norway that provides specialised mental health services for patients with mental illness. The hospital treats approximately 10,000 patients per year. A national patient safety programme for suicide prevention was ongoing in the hospital wards during data collection. This national programme included a checklist to document whether the patient had been assessed for suicide risk, had received an assessment by a specialist within the first day, and had

received a safety plan and follow-up appointment at discharge and whether the next of kin had been contacted (22, 23) (hereafter, the checklist). In addition, the hospital had developed its own forms for documenting risk factors and warning signs for suicide risk (hereafter, the form). National guidelines for the prevention of suicide in mental health care systems were also implemented (24).

## Study design

The study applied a qualitative design based on focus group and individual interviews (25, 26). The purpose of using multiple methods was to increase understanding of the phenomena by using complementary methods (27). We applied sequential triangulation to integrate the data into a comprehensive whole, as described by Morse (28). First, we used the focus group interviews to explore and identify the relevant values and perspectives on safe clinical practice. Then, we used the individual interviews to study in depth the themes that emerged in the focus group interviews.

## Data collection

HCPs were recruited via a purposeful sampling strategy. The participants worked in open or locked wards (n = 9) in specialised mental health care settings for adults (29). The locked wards specialised in psychosis (n = 1), affective disorders (n = 1) or acute care (n = 2), and the open wards specialised in rehabilitation (n = 3) or short-term stabilisation during crisis (n = 2). For both the focus groups and the individual interviews, we aimed to recruit HCPs with different levels of experience and diverse professional backgrounds. The sample included nurses (registered nurses with and without a specialisation in mental health, social educators, and a social worker), medical doctors (physicians and consultant psychiatrists), and consultant clinical psychologists (with and without a specialisation in clinical adult psychology). The participants were of both genders (7 males and 28 women) and had one to 24 years of work experience in mental health wards. The sample provided adequate information power (30). To be included in the interviews, HCPs had to voluntarily consent to participate. None dropped out of the study. The interviews took place at a location close to the HCPs' workplace. The interviews were performed face-to-face and were audio-recorded. The researchers explained that the purpose was to understand, not to evaluate, the participants' practice. Data were collected from May to December 2016.

## Focus group interviews

Five focus groups were performed and a total of 25 HCPs from eight open and locked wards was included in the groups (Table 1). The interviews followed a semi-structured interview guide that was developed, pilot tested and reviewed by the advisory panel (additional file 1). The interviews were moderated by either SHB or KR, and co-moderated by SHB or a research assistant. Modifications were made to the interview guide after each interview to continuously improve the understanding of safe clinical practice in the mental health wards. During the interviews, we asked open-ended questions about experiences of working with suicidal patients in wards; contingencies for good outcomes and safe clinical practice; and experiences with safety measures. The interviews lasted for 90 minutes and yielded data about the participants' emotions, opinions and challenges related to safe clinical practice

Group nr.	Participants	Setting
1. (pilot)	5 nurses	1 open ward
2.	2 psychologists, 4 medical doctors	3 locked wards
3.	3 psychologists, 2 medical doctors	2 open wards
4.	4 nurses	3 locked wards
5.	5 nurses	3 open wards

### Individual interviews

The individual interviews included 18 HCPs from seven mental health wards (Table 2), of which eight had participated in the different focus groups. SHB conducted the interviews. The interviews utilized a semi-structured interview guide that had been developed and pilot tested (additional file 1). The interview guide aimed to elaborate in depth topics related to five themes generated by the focus group interviews: making sense of suicidal behaviour, creating a shared understanding, handling emotional burdens, providing treatment and protection and learning from practice. The individual interviews lasted approximately 60 minutes and yielded data about each participant's feelings, experiences and strategies.

Participants	Setting
3 psychologists	1 locked ward and 2 open wards
4 medical doctors	1 locked ward and 1 open ward
11 nurses	2 locked wards and 3 open wards

### Data analysis

We analysed the data material from the focus group interviews and individual interviews sequentially (28) using Graneheim and Lundman's method for qualitative content analysis (31). Consistent with a phenomenological hermeneutic point of view, we aimed to be open to the meanings presented by the participants and the relationships between the parts and the whole (25). The analysis involved systematic movement from the manifest content towards a higher level of abstraction and interpretation, as well as movement back and forth between the content and interpretation to elicit meaning (32). SHB read each interview transcript to gain an overall understanding of what the participant had been expressing. KR and KAA read a selection of the interviews and collaborated in discussions of first impressions. SHB marked and condensed meaning units, generated codes that were close to the manifest content, and developed categories across the data set that represented a thread through the

codes. In the next stage, SHB sorted the categories into content areas and then abstracted them into sub-themes and themes. All authors collaborated analytically in the generation of themes. Finally, we triangulated the results from the focus groups and the individual interviews to generate integrated sub-themes and themes (25). The integration of the data provided a more comprehensive picture and a fuller understanding than could have been provided by analysing the data collected with each method individually (28).

## Results

The analysis resulted in a number of sub-themes that were organised into three major themes, each representing an adaptive capacity for safe clinical practice, as displayed in table 3.

<b>Table 3 Themes and sub-themes derived from the focus group and individual interviews</b>	
Themes	Sub-themes
Using expertise to make sense of suicidal behaviour	Setting the checklist aside to prioritise trust A judgement beyond spoken words Improving understanding by seeking others' perspectives
Individualising the therapeutic milieu	Creating individual clinical pathways Trade-offs between under- and over-protection Adjusting observation
Managing uncertainty	Mutual collegial trust and support Shared understanding

### Using expertise to make sense of suicidal behaviour

HCPs described their use of expertise to make sense of suicidal behaviour during risk assessment. They did this by setting the forms and checklist aside to prioritise trust, making a judgement beyond the spoken words, and improving their understanding by seeking others' perspectives.

### Setting the forms and checklist aside to prioritise trust

The participants emphasised the importance of establishing a trusting bond with patients during suicide risk assessment. They created a safe atmosphere and a trusting bond by engaging in a dialogue with the patient about his or her situation as a whole and by asking about suicidal ideations as a normal part of the dialogue. HCPs ensured that implementing the checklist did not compromise the therapeutic relationship. Thus, checklists for suicide risk assessments were completed afterwards. As patients opened up about their emotions, HCPs affirmed their feelings and approached them with non-judgemental and exploratory attitudes, providing hope and signalling that they were able to and had time to listen. They considered trust to be essential to obtaining honest answers. Through relational contact with patients, the HCPs made sense of patients' spoken words and their individual ways of behaving and thinking when suicidal.

## A judgement beyond spoken words

HCPs knew they could not always trust what patients reported and often attended to their gut feeling. They described the gut feeling as an unpleasant sense of uncertainty that made them worry that a patient was at immediate risk of suicide. It was something they felt but could not express verbally.

“It’s often a gut feeling you get, and that is what makes it difficult. You should be able to document this in a suicide risk assessment. But it is, in a way, what happens in a meeting with the patient, their spoken and unspoken words, their background, their history, everything, in a way, the overall picture” (medical doctor, 1 year of experience, locked wards).

The decision to trust a gut feeling was described as dependent on the level of expertise and the quality of the therapeutic relationship with the patient. The experience of a gut feeling varied across situations and was related to a) a lack of contact and connection (e.g., lack of eye contact, withdrawal, lack of communication about suicidal ideations, poor mental state and/or lack of trust); b) a mismatch between a patient’s observed behaviour and his or her spoken words (e.g., saying everything is okay while showing signs of withdrawal and stress); and c) an unpredictable or sudden change in behaviour (e.g., drugged, agitated, withdrawn, exhibiting sudden contempt or happiness).

However, judgement was not based solely on the gut feeling. Experienced medical doctors and psychologists described looking at the whole picture when trying to understand each patient’s suicidality and considering multiple sources of information. Experience increased the complexity of the information sources that were taken into account to understand the overall picture. Triangulating multiple sources of information improved their situational awareness. Looking at the whole involved everything from considering the observed behaviour and what the patient did not report, including their ability to connect and make eye contact, to reviewing their previous medical history and mental health diagnosis. The experienced HCPs felt that the checklist could not help them during assessment because it did not account for the information obtained from observing the patient’s behaviour, warning signs and current mental state.

The novice HCPs preferred to follow the formal procedures and used risk factors, information from the patient’s medical journal, and the patient’s spoken words to assess suicide risk. They felt that the form and the checklist helped them remember what to ask about. They explained that they did not trust their gut feelings because this was a matter of experience, which they lacked.

While the medical doctors’ and psychologists’ suicide risk assessments were often restricted to consultations, nurses were constantly alert to changes in suicidal behaviour. A nurse described:

“I can feel it just by being with them, and many times, especially if I know the patient, I can feel it before they can express it with words. She can tell me to leave, and say everything is okay, and I will tell her that I feel I don’t want to leave you, I will stay. And often, after a while, she can explain she had suicide plans at that moment” (nurse, 24 years of experience, open rehabilitation ward).

All professional groups used the therapeutic relationship and their gut feeling to make sense of warning signs for suicidal behaviour, although the nurses' practice were not confined in time and space, keeping them constantly alert to cues.

Improving understanding by seeking others' perspectives

HCPs improved their understanding regarding suicide risk by viewing the patient through the eyes of others, such as by discussing the case with a more experienced colleague, with their team or with professionals with other backgrounds. Some HCPs reflected on their worries together with the patient to make sense of the patient's suicide risk. This improved their situational awareness.

"We always talk with the patient together when assessing suicide. Then, we are two persons who can calibrate each other's experience afterwards, to talk about it and assess the risk together" (nurse, 1.5 years of experience, short-term stabilisation ward).

In particular, HCPs made difficult decisions, such as whether the suicidal patient was ready for reduced protection, in collaboration. However, they experienced that understanding patients' state of mind required knowledge of and face-to-face contact with them. Thus, there was limited value in using the on-call doctors, as they had not seen the patients face to face and considered only the information they were given.

Individualising the therapeutic milieu

HCPs described individualising the therapeutic milieu for the delivery of safe clinical practice. They achieved individualisation by developing individualised clinical pathways, making trade-offs between under- and over-protection and making adjustments to be watchful and connected during protection.

Creating individualised clinical pathways

HCPs made it clear early in the interviews that suicidal behaviour needed to be addressed individually. HCPs considered suicidal patients to be a heterogeneous group: there was no such thing as a typical "suicidal patient". HCPs described individualised approaches toward underlying mental health disorders, exploring what suicidality meant for each individual, the feelings behind the suicidal behaviour, the patient's logic, the patient's despair, and unique warning signs and triggers. Through gaining insight and emotional control, the patients could experience being safe from suicide. "I work with the individual patients' underlying feelings about suicidality...Through gaining insight, the patients find other ways to express their emotions" (psychologist, 15 years of experience, open rehabilitation ward).

HCPs considered therapeutic and individualised approaches to be essential in conversations about suicidal ideations. However, the procedures for safety planning and suicide risk assessment did not emphasise individualisation. All patients were offered a safety plan consisting of a list of individual warning signs, coping strategies, and sources of support. To make these plans effective for patient safety, HCPs needed to co-create them with the patient so that they reflected the patient's condition and coping strategies. However, because the safety planning procedure merely focused on documenting

whether a plan had been created rather than on how to implement the plan, HCPs often hastily created a plan without patient engagement, just to “get the job done”. Without individualisation, the safety plan lost its function as a safety tool.

Medical doctors and psychologists are supposed to complete a form and a checklist for suicide risk assessment to ensure that risk factors were taken into account. The procedures focused merely on documenting suicide risk assessment and not on how to talk about suicide. HCPs described competing goals: focusing on risk vs. approaching patients’ feelings and understanding them as individuals. Their strategy to achieve safe clinical practice was to prioritise the therapeutic conversation with the patient, leaving out questions about those risk factors that they considered irrelevant. The forms and checklist for suicide risk assessments were completed afterwards.

Trade-offs between under- and over-protection

Safe clinical practice was a matter of constantly monitoring individuals’ suicidal behaviour and making continuous adjustments in the level of protection. The HCPs distinguished the protection provided to patients with “acute” and those with “chronic suicidal behaviour”. HCPs experienced both under-protecting and over-protecting patients with chronic suicidal behaviour as harmful. In these cases, the HCPs constantly assessed patients’ suicidality and made daily trade-offs. They had to decide whether to empower the patient to take responsibility for his/her own safety, despite the risk of suicide attempts, or to increase protection for a brief period at the risk of worsening suicidal behaviour and reducing patients’ sense of independence. They considered accepting a higher risk for patients with chronic suicidal behaviour a good practice supported by the national guidelines (24).

“If there is a chronic suicidal patient, one should not talk about suicidality all the time. Therefore, I don’t want to ask if the patient has thoughts of suicide before I let that patient out, unless the patient says very clearly that ‘I will go out and commit suicide’. If I see that the patient struggles, I would ask the patient, ‘Do you think it is okay for you to go out now?’ and then you will get some gut feeling about this. It has been difficult at times to risk locking out patients, especially at night and on weekends, when you are alone there. However, there is an assessment the therapist has done, and we have to stick to the plan, especially with emotionally unstable patients with chronic suicidality. You have to give them responsibility back, and it is challenging” (nurse, 4 years of experience, locked acute ward).

Safe clinical practice for patients with chronic suicidal behaviour was a delicate balance between under and over-protection. However, for participants with acute suicidal behaviour, the greatest fear among HCPs was under-protection of the patient, particularly during psychotic phases.

Adjusting observation

Although the procedures defined observation as constant or intermittent with specified intervals, HCPs reported taking individualised approaches to ensure patient safety, taking multiple considerations: to ensure connection without neglecting the need to be watchful, and to take patients’ need for privacy into account while still physically protecting them from death by suicide. HCPs experienced all patients had

their own ways of connecting and feeling safe. Some patients wanted to talk, while others just needed to be assured that they were safe.

“I understood that he had a desire to talk, but then there is almost a kind of rejection when you go out again. Then, you come back again after 5 minutes, look in and go out again. It’s like, ‘I just have to check that you are still alive’; it’s not the prettiest thing to do. I always try to get them out of the room, so it becomes less forced and I can give more attention to them” (nurse, 1 year of experience, locked ward).

Keeping patients safe during observation was a matter of adjusting toward the individual, finding ways to re-establish their sense of dignity, while still being watchful.

### Managing uncertainty

HCPs described managing personal uncertainty through shared mutual trust, support and an understanding of safe practice.

#### Mutual collegial trust and support

HCPs felt constantly alert and worried about suicide in their daily work, despite knowing that such incidents rarely happen. They often left work with a feeling of uncertainty, and they knew that when caring for suicidal patients, it was not possible to be 100% certain that the patient would not commit suicide. Furthermore, HCPs often felt driven by a fear of punishment or of making an error. They applied strategies to avoid blame and responsibility in the case of a suicide, such as excessively documenting information in the patient’s journal, ensuring that someone else was involved in decisions about suicide risk or simply transferring responsibility for the patient to someone else or to another ward. They perceived these strategies as threats to patient safety because they compromised the HCPs’ ability to fulfil patients’ therapeutic needs. HCPs felt their focus was driven away from doing their best for the patient and towards making sure they were covering their backs. HCPs experienced they lacked the agency to address these issues, which elicited feelings of hopelessness and shame.

To address uncertainty, HCPs needed a climate of mutual trust and support in which they felt safe enough to be vulnerable and unsure. This allowed them to discuss their doubts and uncertainties, leaving room for disagreement within the team but still providing a coordinated approach with the patient. Managing uncertainty was also a matter of doing the right thing and of not being alone in difficult tasks. Thus, when the ward supported patient-centred care and provided arenas for support, case reflection and learning, HCPs were able to address the emotional burden of caring for suicidal patients.

Support mechanisms needed to be adaptive and to support ad hoc responses to immediate needs for feedback. After suicides and suicide attempts, HCPs needed to be assured that they would not be used as a scapegoat by the clinical team or the organisation as a whole. In this context, leadership support and team debriefings were experienced as important. While psychologists and medical doctors described multiple structures for support, nurses often described lacking formal support systems in the wards. “Many times, you don’t want to open that door alone. You never know what you will find behind that door,

so you go together in pairs. It is safe to have someone with you because many times when you enter, they have tried to strangle themselves or cut their wrists... It's an emotional burden to find them in all these situations" (nurse, locked ward, 3 years of experience).

The nurses self-organised and conducted nurse observations together to ensure they did not carry the burden alone. Instead of formal supervision, they had informal conversations after work. They supported each other by making difficult decisions together to avoid one person becoming the scapegoat for errors. Shared understanding

Considering how to approach suicidal behaviour often generated feelings of uncertainty. HCPs had different understandings of suicidality and often disagreed on how to approach it. These disagreements were often related to determining the safe level of protection for patients in acute phases. In particular, patients often talked about their suicidality differently with each HCP. In addition, nurses, psychologists and medical doctors had different tasks, responsibilities, degrees of familiarity and therapeutic relationships with the patient, which affected their perceptions of risk and the acceptable level of uncertainty for each patient. Safe clinical practice for suicidal patients was seen as dependent on each HCP feeling safe in his or her professional role. It was a matter of having predictability within the clinical team to be able to deliver consistent care to the patient.

"If we have good communication within, we will be able to spread it and have a safe approach to the patients. However, if we have a poor climate in the ward, it will reflect on the patients. There will be disagreements and aggression" (nurse, 1 year of experience, locked ward).

Diverse approaches influenced by different psychotherapeutic schools served to create common ground in three of the nine wards included in this study. By applying the same therapeutic approach, all the professional groups shared multiple arenas for training, supervision, and education using the same patient-directed tools and language. Having common ground helped them approach the patient as a team.

## Discussion

The current study document three main adaptive capacities used by HCPs to provide safe clinical practice for patients in mental health wards during a suicidal crisis.

### Using expertise

The theme using expertise to make sense of suicidal behaviour describe an adaptive capacity and strategies used to deal with uncertainty. This is reviled by setting the checklist aside as trust is highly prioritised. The finding also reflect how the expert uses gut feelings and detect warning signs for suicidal behaviour in order to make sense of uncertainty and to manage complex and high-risk decision-making (33). This finding correspond with a previous study of Waern et al. (34) finding that HCPs translated non-verbal cues into a gut feeling, which was essential to the assessment process. The findings reflect a gap

between formal education about suicide risk assessment and how it is done in practice. The findings also reflect that expertise and situational awareness improves by working as a team. As such, there is a need to direct support towards creating shared-situational awareness that involves both health care teams and patients. Training in suicide risk assessment can benefit on multidisciplinary training involving HCPs who regularly interact as a team, in order to establish shared vision and values (35, 36). In addition training can benefit on using real life examples of successful clinical decision making (37) and to train HCPs in collaborative approaches to suicide risk assessment which involves the patients perspectives (38, 39).

Consistent with studies on expertise, this study indicates that novice HCPs focus on patients' verbal reports, written information in patients' journals, and formal risk factors, while experienced HCPs rely more on non-verbal information and cues and their gut feelings to understand what is critical suicide behaviour (15, 40). This finding implies that HCPs require different guidance at different stages of expertise development which is in accordance to Benner et al. (41, 42). They claim that the novice HCPs needs context free rules to guide their task performance, while the experts' decision making cannot be captured in explicit formal steps because they are no longer using rules to guide their practice, they use past concrete experiences (41, 42).

#### Individualising the therapeutic milieu

The theme individualising the therapeutic milieu describe an adaptive capacity and conditions in which adaptations were vital to ensure safety. In accordance with the literature, the finding reflect that individualisation of safety plans (43) and suicide risk assessments (38, 44) are essential to be effective for safe clinical practice.

A number of studies have identified how being under constant observation is experienced as non-therapeutic, related to, e.g., lack of acknowledgement, lack of privacy and lack of empathy (45–49). Studies finds the importance of having experienced staff (50), that are therapeutically engaged with the patient (45) and interchange between exerting control and building the therapeutic relationship (51). The findings reflects that HCPs manage to ensure safe protection and take multiple considerations into account for each patient through adaptations. However, when guidelines focuses solely on the intervals of observation, neglecting guidance on how to provide this practice safely and therapeutically, it can cause non-therapeutic outcomes for the patient.

The findings reflect competition between the patient safety goals of practicing technical-disciplinary safety and therapeutic and individualised care (3, 9). Focusing merely on documentation without providing guidance on how to enact safe clinical practice is unsound, as it relies too much on HCPs' adaptive capacity to integrate the multiple goals into care. In complex and high-risk situations, this practice could lead to insufficient outcomes for the patient (52). This study finds that therapeutic measures and safety measures are not separate entities that are driven by distinct logics. Future patient safety efforts may benefit from guiding HCPs in how to implement measures instead of focusing merely on documentation of their execution.

## Managing uncertainty

The theme managing uncertainty describe an adaptive capacity. The findings correspond with previous studies that that caring for suicidal patients involves dealing with uncertainty (7, 8, 53). The findings reflect that ward systems that ensures mutual trust, support and shared understanding help HCPs deal with their uncertainty of dealing with suicidal behaviour and provides essential support for safe clinical practice. To develop the skills needed to adapt to current complexity, there is a need to create systems that ensure feedback on safe clinical practice and to foster trust that colleagues will provide constructive support (15, 54). The findings also reflects that in lack of ward systems to address uncertainty, counterproductive behaviour to protect themselves from punishment can emerge. The findings support Undrills' (55) arguments that unintended consequences may arise in suicide prevention if HCPs are put in a position in which they feel a greater need to protect themselves than to protect patients. This study finds that to counteract such mechanisms, HCPs must address uncertainty as a team, emphasising management responsibility in establishing ward structures. In addition, this study reflect that these structures must be present for all professional groups While self-organisation is an example of emergent behaviour utilized to adapt to complex work settings (15), self-organising in response to a lack of formal support systems leaves the system brittle. Relying too heavily on individuals' capacity to adapt will eventually cause overload and burnout (18).

## Strengths and limitations

This study applied two different data collection methods to develop a comprehensive understanding of safe clinical practice. Multiple researchers were involved in the data collection and analysis, adding different perspectives and breadth to the phenomenon of interest (27). No member checks were conducted; instead, the advisory panel and co-authors helped test the coherence and plausibility of the interpretations (25). The use of triangulation and the variety of the study settings strengthened the internal validity of the study. The external validity of the study is limited, as the study was conducted within a single hospital and was affected by the local organisational culture. However, analytical generalisations can be made regarding safe clinical practice for patients hospitalised during a suicidal crisis (56). This study was limited to safe clinical practice at the micro level within hospital ward settings. Increased insight into adaptive capacities could be achieved by applying a meso-macro perspective (e.g., hospital management, government and regulators), by studying adaptive capacities at the interface between primary and secondary care and by employing multiple methods, particularly direct observation of HCP interactions and strategies.

## Conclusions

HCPs' adaptive capacities are a vital component of the complex set of practices involved in safe clinical practice for patients hospitalised during a suicidal crisis. By using expertise, individualising the therapeutic milieu, and managing uncertainty, HCPs develop their capacity to adapt to challenges and changes in clinical care, both individually and collectively. Safe clinical practice cannot easily be ensured

simply by following standards; it depends on HCP adaptations. However, the responsibility for safe clinical practice cannot be left to the individual HCPs. Ward systems ensuring collegial trust and support are needed, as are arenas supporting shared understanding and shared situational awareness.

## **Abbreviations**

HCP- Health care professional

## **Declarations**

### **Acknowledgements**

We would like to thank all the participants who took part in the study and the ward managers who supported and helped with recruitment. We would like to thank Marie Anbjørnsen, who participated as a co-moderator in the focus group study, helped recruit HCPs to the groups and transcribed two of the interviews. We would also like to thank the advisory panel members for this study, who contributed feedback on the recruitment strategies, the interview guides and the manuscript draft: Dag Lieungh (patient experience consultant), Målfrid J. Frahm Jensen (patient experience consultant), Gudrun Austad (inpatient and community suicide prevention; mental health nurse), Kristin Jørstad Fredriksen (consultant psychiatrist), Camilla Hanneli Batalden (consultant clinical psychologist), Liv Sand (consultant clinical psychologist) and Sigve Dagsland (consultant clinical psychologist). The individual interviews were transcribed by a transcription service under a contract for confidentiality.

### **Funding**

This study received financial support from the Western Norway Regional Health Authority, grant number 911846. No funding source had any role in the design or conduct of the study.

### **Availability of data and materials**

The data generated and analysed during the current study are not publicly available to protect the anonymity of the participants. Materials may be available from the corresponding author upon reasonable request.

### **Authors' contributions**

SHB had the main idea for and designed the study. The interview guides were created by SHB and KR and validated by KAA and FW. KR and SHB conducted the data collection in the focus group interviews, and SHB conducted the data collection in the individual interviews. The data were organised by SHB. KR and KAA participated in the text analysis and interpretation, and all the authors participated in the generation of the themes. SHB drafted an early version of the manuscript, and all the authors provided critical revision and added intellectual content. All the authors approved the final manuscript.

## Competing interests

The authors declare that they have no competing interests.

## Consent for publication

Not applicable.

## Ethics approval and consent to participate

All participants provided voluntary and informed written consent to participate in the study. This study was approved by the Regional Committees for Medical and Health Research Ethics, REC West Norway (2016/34).

## Author details

SHB: PhD scholar, safety science and consultant clinical psychologist. KR: PhD, clinical specialist in mental health nursing and a senior research counsellor. FAW: PsyD, suicide researcher and consultant clinical psychologist. KA: professor and head of the SHARE “Centre for Resilience in Healthcare”, safety science and health care studies.

## Additional File

**Additional file 1.** Guides for interviewing the health care professionals

## References

1. Bowers L, Banda T, Nijman H. Suicide inside: a systematic review of inpatient suicides. *The Journal of nervous and mental disease.* 2010;198(5):315-28.
2. Brickell TA, Nicholls TL, Procyshyn RM, McLean C, Dempster RJ, Lavoie JAA, et al. Patient safety in mental health. Edmonton, Alberta: Canadian Patient Safety. Institute and Ontario Hospital Association. ; 2009.
3. Plumb J. Taming uncertainty? Performance, personalisation and practices of patient safety in an Australian mental health service. Australia 2013.
4. Berg SH, Rørtveit K, Aase K. Suicidal patients’ experiences regarding their safety during psychiatric in-patient care: a systematic review of qualitative studies. *BMC Health Services Research.* 2017;17(1):73.
5. Berg SH, Rørtveit K, Walby F, Aase K. Safe clinical care for patients hospitalized in mental wards during a suicidal crisis: patients’ experiences. Unpublished Manuscript submitted for publication. 2019.
6. Curtis S, Gesler W, Wood V, Spencer I, Mason J, Close H. Compassionate containment? Balancing technical safety and therapy in the design of psychiatric wards. *Social Science & Medicine.*

- 2013;97:201-9.
7. Cutcliffe JR, Stevenson C. Never the twain? Reconciling national suicide prevention strategies with the practice, educational, and policy needs of mental health nurses (Part two). *Mental health Nursing* 2008;17(5):351-62.
  8. Hagen J, Knizek BL, Hjelmeland H. Mental Health Nurses' Experiences of Caring for Suicidal Patients in Psychiatric Wards: An Emotional Endeavor. *Archives of Psychiatric Nursing*. 2017;31(1):31-7.
  9. Mulder R. Problems with Suicide Risk Assessment. *Australian & New Zealand Journal of Psychiatry*. 2011;45(8):605-7.
  10. Hoifodt T, Talseth A-G. Dealing with suicidal patients - a challenging task: a qualitative study of young physicians' experiences. *BMC Medical Education*. 2006;6(1):44.
  11. Large M, Smith G, Sharma S, Nielssen O, Singh SP. Systematic review and meta-analysis of the clinical factors associated with the suicide of psychiatric in-patients. *Acta Psychiatr Scand*. 2011;124(1):18-29.
  12. Turecki G, Brent DA. Suicide and suicidal behaviour. *The Lancet*. 2016;387(10024):1227-39.
  13. Braithwaite J, Clay-Williams R, Nugus P, Plumb J. Health Care as a Complex Adaptive System. In: Hollnagel E, Braithwaite J, Wears RL, editors. *Resilient Health Care 1*. England: Ashgate Studies in Resilience Engineering; 2013.
  14. Holden LM. Complex adaptive systems: concept analysis. *Journal of Advanced Nursing*. 2005;52(6):651-7.
  15. Foster CJ, Plant KL, Stanton NA. Adaptation as a source of safety in complex socio-technical systems: A literature review and model development. *Safety Science*. 2019;118:617-31.
  16. Hollnagel E, Braithwaite J, Wears R. *Resilient health care*: Ashgate; 2013.
  17. Ellis LA, Churrua K, Clay-Williams R, Pomare C, Austin EE, Long JC, et al. Patterns of resilience: A scoping review and bibliometric analysis of resilient health care. *Safety Science*. 2019;118:241-57.
  18. Berg SH, Aase K. Resilient Characteristics as Described in Empirical Studies on Health Care. *Exploring Resilience A Scientific Journey from Practice to Theory*. SpringerBriefs in Applied Sciences and Technology. SAFETY MANAGEMENT: Springer Nature; 2019. p. 79-87.
  19. Jun GT, Canham A, Noushad F, Gangadharan SK, editors. *Safety I and Safety II for Suicide Prevention – Lessons from How Things Go Wrong and How Things Go Right in Community-Based Mental Health Services* 2019; Cham: Springer International Publishing.
  20. Hoffman RR, Militello LG. Naturalistic Decision Making In: Hoffman RR, Militello LG, editors. *Perspectives on Cognitive task analysis: historical origins and modern communities of practice* New York/East Sussex: Taylor & Francis Group, LLC; 2009.
  21. Crook JA. How do expert mental health nurses make on-the-spot clinical decisions? A review of the literature. *J Psychiatr Ment Health Nurs*. 2001;8(1):1-5.
  22. Directorate of Health. The Norwegian Patient Safety Programme: In Safe Hands 2011 [Available from: <https://www.pasientsikkerhetsprogrammet.no/om-oss/english/the-norwegian-patient-safety->

[programme-in-safe-hands.](#)

23. Brudvik M, Ness E, Walby F. Selvmordsforebygging i akuttpsykiatriske døgnavdelinger - erfaringer fra nasjonalt læringsnettverk. *Suicidologi* 2014;Årg 19 Nr 2 (2014): Handlingsplan mot selvmord.
24. Norwegian Directorate of Health. National guidelines for prevention of suicide in mental health care systems. In: Health NDo, editor. Oslo 2008.
25. Dahlberg K, Dahlberg H, Nyström M. *Reflective Lifeworld Research*. Sweden 2008.
26. Malterud K. *Fokusgrupper som forskningsmetode for medisin og helsefag* Oslo: Universitetsforlaget 2012.
27. Patton MQ. Enhancing the quality and credibility of qualitative analysis. *Health Serv Res*. 1999;34(5 Pt 2):1189-208.
28. Morse JM. Principles of mixed methods and multimethod research design. In: Tashakkori A, Teddlle C, editors. *Handbook of mixed methods in social behavioral research*. 1: Sage; 2003. p. 189-208.
29. Coyne IT. Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *J Adv Nurs*. 1997;26(3):623-30.
30. Malterud K, Siersma VD, Guassora AD. Sample Size in Qualitative Interview Studies: Guided by Information Power. 2016;26(13):1753-60.
31. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today*. 2004;24(2):105-12.
32. Graneheim UH, Lindgren BM, Lundman B. Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Educ Today*. 2017;56:29-34.
33. Klein G. Naturalistic Decision Making. *Human Factors*. 2008;50(3):456-60.
34. Waern M, Kaiser N, Renberg ES. Psychiatrists' experiences of suicide assessment. *BMC Psychiatry*. 2016;16(1):440.
35. Mathieu JE, Heffner TS, Goodwin GF, Salas E, Cannon-Bowers JA. The influence of shared mental models on team process and performance. *J Appl Psychol*. 2000;85(2):273-83.
36. Gillespie BM, Gwinner K, Fairweather N, Chaboyer W. Building shared situational awareness in surgery through distributed dialog. *J Multidiscip Healthc*. 2013;6:109-18.
37. Wright MC, Endsley MR. *Building shared situation awareness in healthcare settings. Improving healthcare team communication*: CRC Press; 2017. p. 97-114.
38. Jobes DA. The Collaborative Assessment and Management of Suicidality (CAMS): An Evolving Evidence-Based Clinical Approach to Suicidal Risk. 2012;42(6):640-53.
39. Ontario Hospital Association. *Suicide risk assessment guide: a resource for health care organization* Ontario Hospital Association,; 2011.
40. Hale A, Borys D. Working to rule or working safely? Part 2: The management of safety rules and procedures. *Safety Science*. 2013;55:222-31.
41. Benner P, Hughes RG, Sutphen M. *Clinical reasoning, decisionmaking, and action: Thinking critically and clinically. Patient safety and quality: An evidence-based handbook for nurses*: Agency for

- Healthcare Research and Quality (US); 2008.
42. Benner P. From novice to expert. Menlo Park. 1984.
  43. Stanley B, Brown GK. Safety Planning Intervention: A Brief Intervention to Mitigate Suicide Risk. *Cognitive and Behavioral Practice*. 2012;19(2):256-64.
  44. Sellin L. A PERSONAL-RECOVERY-ORIENTED CARING APPROACH TO SUICIDALITY: Mälardalen University Doctoral Dissertation 245; 2017.
  45. Cardell R, Pitula CRJPS. Suicidal inpatients' perceptions of therapeutic and nontherapeutic aspects of constant observation. 1999;50.
  46. Pitula CR, Cardell R. Suicidal inpatients' experience of constant observation. *Psychiatric services (Washington, DC)*. 1996;47(6):649-51.
  47. Cutcliffe JR, Barker P. Considering the care of the suicidal client and the case for 'engagement and inspiring hope' or 'observations'. 2002;9(5):611-21.
  48. Jones J, Ward M, Wellman N, Hall J, Lowe T. Psychiatric inpatients' experience of nursing observation. *Journal of psychosocial nursing and mental health services*. 2000;38(12):10-20.
  49. O'Brien L, Cole R. Close-observation areas in acute psychiatric units: A literature review. *International Journal of Mental Health Nursing*. 2003;12(3):165-76.
  50. Flynn S, Nyathi T, Tham SG, Williams A, Windfuhr K, Kapur N, et al. Suicide by mental health inpatients under observation. *Psychol Med*. 2017;47(13):2238-45.
  51. B. VG, Steen E. The dynamics between structure and flexibility in constant observation of psychiatric inpatients with suicidal ideation. 2005;12(5):513-8.
  52. Bergström J, Dekker S. Bridging the macro and the micro by considering the meso: reflections on the fractal nature of resilience. *Ecology and Society*. 2014;19(4).
  53. Cutcliffe JR, Stevenson C. Feeling our way in the dark: The psychiatric nursing care of suicidal people—A literature review. *International Journal of Nursing Studies*. 2008;45(6):942-53.
  54. Hollnagel E, Braithwaite J, Wears R. Epilogue: How to make health care resilient. In: Hollnagel E, Braithwaite J, Wears R, editors. *Resilient Health care England*: Ashgate; 2013.
  55. Undrill G. The risks of risk assessment. *Advances in Psychiatric Treatment* 2007;13(291-297 ).
  56. Yin RK. *Case study research: design and methods*. . Los Angeles, CA: Sage Publications; 2014.

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [additionalfile1.docx](#)
- [ISSMCOREQChecklistBergetal2019.pdf](#)