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It’s Not Just in the Walls: Patient and Staff Experiences of a New Spatial Design for Psychiatric Inpatient Care

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ABSTRACT
The environment in psychiatric inpatient care is key to patient recovery and staff job satisfaction. In this qualitative study of patient and staff experiences of a new spatial design in psychiatric inpatient care, we analysed data from 11 semi-structured interviews with patients and five focus group discussions with staff using qualitative content analysis. The new design contributed to feelings of safety and recovery, but patients and staff also reported some frustration and added stress. The results lead us to conclude that while the new spatial design improves some conditions for recovery and job satisfaction, the design itself is simply not enough. Changes in care environments require that both patients and staff be informed and involved in the renovation to ensure that patients feel respected and staff feel confident in using the new environment before and during treatment and follow-ups.

Introduction
Swedish psychiatric hospitals reported 101,502 admissions in 2018 (Sweden’s Municipalities and Regions, 2018). Public psychiatric facilities in the community are mandated to support people with serious mental illness, but their environments are often criticised as poorly designed and dull, leading to fewer meaningful interactions between patients and staff and possibly contributing to violent incidents (Jovanović et al., 2019).

The role of the psychiatric care environment is receiving increasing attention and emphasised as an important factor in patients’ recovery (Curtis et al., 2009; Yates et al., 2012). In a study examining community mental health services, social support and a welcoming environment were ranked most important by both staff and patients (Kelly et al., 2019). According to Tyson et al. (2002), changes in the physical care environment can positively affect those within it, both improving staff morale and reducing patient morbidity. Nicholls et al. (2015) confirmed that architecture is an important influence on the atmosphere of a health facility for both staff and patients. Improvements in the physical milieu led to patients reporting feeling less controlled by staff in the new facility, while staff perceived greater levels of patient involvement. In a systematic literature review of the architectural design of psychiatric facilities, several modifications were identified as facilitating social interactions between staff and patients. Well-integrated facilities with smaller, more homelike units, single or double bedrooms, and a wide range of communal areas combined with open nursing stations ensured a good balance between private and shared spaces for patients and staff (Jovanović et al., 2019).

A unit’s furnishing can also affect how well patients and staff interact as and between groups (Schweitzer et al., 2004). Ulrich et al. (2018) described how the design of an acute psychiatric unit prevented stress and aggressive behaviours in patients and improved patient safety and the care and work environments. They identified ten variables that reduced stress by supporting patient integrity and providing distraction, choice, and spatial and social space: single rooms with private bathrooms and adjustable lighting and sound levels, common areas with moveable furniture and limited noise, windows onto nature, artwork featuring nature, access to a garden, exposure to daylight, and a spacious and clean environment.

Several studies report how patients would like psychiatric care units designed (Borge & Fagermoen, 2008; Lilja & Hellzén, 2008; Muir-Cochrane et al., 2013; Olausson et al., 2019; van Lankeren et al., 2020) and emphasise the importance of a recognisable and homelike environment (Muir-Cochrane et al., 2013; Olausson et al., 2019). An appealing and pleasant environment felt safer and more comfortable, which over time could increase patients’ self-esteem and ability to recover (Borge & Fagermoen, 2008). Having staff available made patients feel more secure, which is also an important factor in recovery (van Lankeren et al., 2020; Woodward et al., 2017). Other patient wishes were for a place of their own to withdraw to (Lilja &
Helzén, 2008) and keep their personal belongings safe (Woodward et al., 2017). Unsatisfactory psychiatric care environments lacked stimulating activities and social interactions with care staff (Donald et al., 2015; Lilja & Helzén, 2008; Molin et al., 2016a; Rose et al., 2015; Stewart et al., 2015), had confusing and contradictory attitudes and rules, and had no room for patients to relax or feel safe (Lindgren et al., 2015). Patients who experienced difficult care environments felt ignored by the care staff and attributed this lack of attention to staff’s preconceived attitudes towards people with mental ill-health. In such poor circumstances, patients’ self-esteem could deteriorate as they felt less valuable than other people (Daremo & Haglund, 2008).

Healthcare professionals also wished for a care environment that would contribute to a calm atmosphere, inspire hope, and invite joint activities (Cleary, 2004). They also wanted an environment where they could be more caring and accessible to patients (Shattell et al., 2008). Staff described the work environment in psychiatric inpatient care as demanding, intensive, and challenging and the workload as high (Johansson et al., 2013; Mabala et al., 2019; Molin et al., 2016b; Rose et al., 2015; Wyder et al., 2017). Staff felt they spent too little time with patients because other tasks filled their schedules. They felt frustrated when they could not spend as much time with patients as they wished (Johansson et al., 2013; Molin et al., 2016b; Rose et al., 2015; Wyder et al., 2017). Staff often felt that they were only ‘putting out fires’; with no opportunity to influence their work situation, they lost their ideals, withdrew from patients, and sometimes even abandoned each other (Molin et al., 2016b).

Sumartojo et al. (2020) argue for a shift in thinking about psychiatric care environments that would include the overall atmosphere in the design. They also call for allowing people on the units to participate in the ongoing formation and reformation of their surroundings. Patient and staff experiences in the psychiatric inpatient care and work environments are sparsely described. To increase understanding of both groups’ needs and potential influence, we undertook to examine their experiences in response to a changed care and work environment. This knowledge is expected to contribute to the development of care for patients with mental ill-health.

This study is based on a project in Sweden aimed to create innovative solutions to present challenges in healthcare. The project was conducted by a partnership between a county council and an international technology company to improve the healthcare environment in a psychiatric inpatient care unit through changing its spatial design and nursing routines.

**Aim**

The aim of this study was to explore patients and staff’s experiences of a new spatial design for psychiatric inpatient care.

**Method**

As part of a process evaluation of participants’ experiences of a new design in an innovation project (for an explanation, see Lindgren et al., 2018), this was a qualitative study using individual semi-structured interviews with patients and focus group discussions with staff. Data were subjected to qualitative content analysis.

**Context**

The study was conducted at one psychiatric inpatient care unit in Sweden. This unit, in a building constructed in the 1970s, offered care to adults with psychoses and personality disorders. The unit had 13 hospital beds and was often overcrowded. The staff consisted of 15 enrolled nurses and 11 registered nurses (10 with advanced level education in mental health nursing). The care environment was described as worn out, poor, and dark. In 2014, the county council and Philips Healthcare formed a partnership to create innovative solutions to environmental challenges in psychiatric inpatient care. The unit was selected to be part of a project to test environmental solutions (see, Lindgren et al., 2018) to improve health care environments for patients, families, and staff. The unit was given a new spatial design to encourage closeness between patients and staff and emphasise a feeling of spaciousness. This design included healing lights (Giménez et al., 2011), a sensory room (Baillon et al., 2002; Björkdahl et al., 2016; Novak et al., 2012), and space for physical and social activities. To facilitate interactions between patients and staff, the unit office was made smaller and moved to a more central location.

**Participants**

Patients and staff in the unit were invited to participate in the study. Inclusion criteria for patients were being adult, able to understand and speak Swedish, and able to participate in an interview. We interviewed 11 patients (nine women and two men aged 24–58 [median 50] yrs) with self-reported diagnoses of bipolar syndrome, schizophrenia, depression, borderline personality disorder, attention deficit/hyperactivity disorder, and delusional syndrome. Inclusion criteria for staff were being permanently employed at the unit and able to participate in a focus group discussion. Five focus group discussions were conducted with 13 staff members (eight women and five men aged 29–60 yrs) including seven registered nurses (one with advanced education in mental health nursing) and six enrolled nurses.

**Data collection**

Data were collected 1 year after the renovation.

**Individual semi-structured interviews**

Patients admitted to the unit received verbal and written information about the study and were asked to participate in interviews. Those who accepted received a scheduled time to be interviewed by a research nurse at the clinic. Before the interview, participants were informed about the study and all gave their written informed consent. The interviews were conducted in a private office at the unit using
an interview guide with 11 open-ended questions. Additional questions asked participants to clarify or expand upon their descriptions. Sample questions were ‘Can you described what in the environment facilitates your recovery?’, ‘If you could change something in the environment, what would that be?’, and ‘Can you describe whether and how your emotions are influenced by the environment?’ The interviews lasted 6 to 15 minutes (median 12) and were audiotaped and transcribed verbatim.

Focus group discussions

Staff were given written information about the study and invited to sign up for scheduled discussion times, resulting in five focus group discussions. Before the discussions, participants received information about the study, and all gave their written informed consent. The focus group discussions, with two to four participants in each group, were conducted by three of the authors and one additional researcher. An interview guide with 12 questions was used and additional questions were asked for clarification and to help participants broaden their descriptions. Sample questions were ‘How have your working conditions changed after the renovation?’, ‘If you could change something in the environment, what would that be?’, and ‘Can you describe whether and how your emotions are influenced by the environment?’ The discussions lasted 29 to 67 minutes (median 57) and were audio recorded and transcribed verbatim.

Analysis

Data were subjected to qualitative content analysis involving systematic abstraction and interpretation of the content (Graneheim et al., 2017; Graneheim & Lundman, 2004; Lindgren et al., 2020). Two advanced specialist students in mental health nursing conducted the analysis in collaboration with the first author, and later also with the last. The text was initially read several times and then discussed to get sense of the whole before being divided into meaning units relevant to the aim of the study. The meaning units were condensed to shorten the data without losing its content, coded, and sorted by their similarities and differences into groups used to create subthemes and themes. For example, codes such as alertness, well-being, and feeling at home were grouped together, abstracted, and interpreted to form the subtheme Being in a pleasant place, which together with two more subthemes formed the theme Feeling safe in a recovery environment. The themes were then interpreted into a main theme covering all the relevant data. All authors then discussed the results and compared them with the original data, leading to some adjustments before the final results were agreed upon within the research group.

Ethical considerations

This study was conducted according to the ethical guidelines described in the Helsinki Declaration (World Medical Association, 2013) and approved by the regional central ethical review board (Dnr 2017/72-31) and the head of the relevant clinical department of psychiatry. Participant were informed about the purpose of the study, the possible advantages and disadvantages of participation, the voluntary nature of their participation, and their ability to withdraw from the study at any time.

Results

The analysis resulted in five subthemes, which were abstracted and interpreted into two themes subsumed under one main theme as presented in the table.

<table>
<thead>
<tr>
<th>Subthemes</th>
<th>Themes</th>
<th>Main theme</th>
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<tbody>
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<td>Having access to private and public spaces</td>
<td>Feeling safe in a recovery environment</td>
<td>It’s not just in the walls</td>
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<tr>
<td>Being with other people</td>
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<tr>
<td>Lacking control over the environment</td>
<td>Feeling frustrated in a stressful environment</td>
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<td>Having unmet needs for space and security</td>
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It’s not just in the walls

The participants in both groups described contradictory experiences of the new environment. Although the new design increased feelings of safety and recovery, some aspects eventually led to additional stress and frustration. The underlying trend connecting these contradictions was that the new spatial design contributed to, but was not sufficient in itself, to create a caring environment that supported improved recovery and job satisfaction.

Feeling safe in a recovery environment

The participants’ descriptions of their experiences of the new spatial design were often about feeling safe in an environment that enabled recovery. They described being in a pleasant place with private and common areas that allowed solitude while also bringing people together.

Being in a pleasant place

The participants described the new design as having a pleasant and homy feeling, as opposed to the previous clinical atmosphere of the psychiatric unit. The patients felt they were thriving in the new unit, feeling happier and more alert, and they credited the designer’s thoughtful renovation.

It is much calmer on the unit and there is more joy. (P2).

Staff felt it was ‘easier to breath’ after the renovation and were satisfied by their improved ability to give good nursing care, which they attributed more to the new environment than to their own efforts. They also noticed that patients’ experiences of care had improved in the more pleasant environment.
It felt easier to provide good nursing care in this environment. Although we haven’t made that much effort, it feels like you have given good nursing care (FG3).

The participants experienced the new lighting as pleasant and soothing, unlike anything they had ever having seen, and compared it to light therapy. Staff thought the lighting had a crucial impact in the patients’ rooms and on the caring environment as a whole. The patients now seemed calmer, which staff attributed to their improved circadian rhythms and sleep quality from going to bed earlier and waking up with the morning light.

The new lighting means that you get a natural circadian rhythm; you know when it’s day and when it’s evening. It feels like the light influences how I structure the day (P11).

Some staff described having fewer headaches, less stress, and more energy, even after their shift. Night shift staff, however, and some on day shift said they were not personally influenced by the light, but they did appreciate the improved aesthetics and the reduction conflicts with patients over the lighting now that it was automatically controlled.

Both patients and staff described the unit’s new atmosphere as attractive. Patients compared the unit to a forest with flowing water courses and chirping birds. Staff liked the natural motifs on the wall panels and wallpaper and compared the unit to a hotel, a train, or an open-water ferry with views of a world outside. Staff were proud of the unit and of the joy and surprise expressed by patients and their relatives, who they thought likely had previous negative experiences of psychiatric environments.

You feel proud when earlier patients return to the renovated unit and they say how fantastically nice it has become. We have it quite nice here (FG2).

Participants experienced the new environment as brighter and cleaner than before, when it could feel quite disgusting even after it had been cleaned. They described hoping it would never go back to how it had been before. Staff described having felt ashamed of the old unit’s depressing environment, which they likened to a dark cellar and said came as a shock to new patients. Staff had been saddened by the earlier poor environment; they wanted to facilitate health and offer patients opportunities for recovery, but as one staff member said, “I don’t think anyone got inspired in our previous environment” (FG3).

Having access to private and public spaces

Patients felt that the new design allowed them to be social or solitary depending on their mood. They experienced their private rooms as spacious, calm, and safe places where they could withdraw if they needed to. According to the patients, having the opportunity for privacy fostered their well-being. They also appreciated having locked cabinets and private wardrobes for their personal belongings, which contributed to their feelings of safety and independence from staff.

You are not as scared when you are here (P2).

Staff described the patients’ private or semi-private rooms as more spacious, with a maximum of two patients in each room and access to single rooms, and said that the “more spacious environment led to fewer conflicts” (FG1 nightshift) as there were more places for patients to feel safe. When patients felt safer, it also simplified the working environment. Staff said that before the renovation the patients’ rooms were poorly furnished and their clothes were on the floor. They thought it was important for patients to have their own fresh-looking spaces where they could lock their doors, store their personal belongings, and charge their phones safely.

They can lock the door to their room, and personally I would be comfortable with that if I were new at a psychiatric unit with other loud patients (FG1).

Patients’ rooms now had a small window in the door that they described as an advantage because they could look out and observe what was happening on the unit without having to leave the room. One participant expressed that, “I am not as afraid as before when I am in here now” (P2).

Staff also felt the windows in the doors were an advantage as staff no longer had “to disturb the patients by opening the door when observing them at night” (FG1 nightshift). However, patients also said the uncovered windows could make them feel observed, while staff said they advised patients who were bothered by the window when they were dressing that they could change in the bathroom.

Staff said that in the old unit, patients had nowhere to be. Everyone sat in the corridor or watched TV. Staff experienced the more spacious renovated unit as inviting patients to experiences of creativity and fellowship. They said that patients now chose to spend more time in common areas such as the activity room and that the two TV rooms gave patients more opportunities to choose the channels they preferred. In addition, the shielding surrounding the TVs reduced distracting stimuli and increased calm for patients.

Other features described by staff as good for patients included the new balcony that gives patients denied solitary walks access to fresh air and a view of the outside, a new glass-walled room equipped with blinds that enables patients to have private visits with relatives, and a cozy room where the patients could have some privacy, respite, and recovery. The sensory room was used for yoga or other forms of relaxation, and the more patients discovered the room, the more of them used it.

Staff said that the new open plan of the unit reduced risks and increased safety as fewer corners allowed them a better overview of the unit as a whole. This made them feel safer and reduced their need for control, as did the new lock function at the entrance of the unit and the safer design of showers, door handles, and hooks.

Being with other people

Patients experienced the open plan as more inviting and conducive of activities and social interactions with fellow patients and staff than the previous design. Staff also said the activity room invited plans for social interactions among and between
patients and staff such as playing table tennis or other games or simply socialising. The patients described staff interactions as important and said the staff were nice when they spent time at the unit and socialised with patients. Staff felt more stimulated to initiate and participate in joint activities with patients, who often gathered for joint activities, which contributed to the good atmosphere. Staff also found they spent more time out in the unit and were, therefore, more available than before: “We are more visible to the patients!...they might feel calmer because we are more available” (FG2). This new availability, however, was attributed more to the cramped new office than to the attractions of the unit.

Staff described the renewed office as smaller than before and equipped with windows. The earlier office had had no windows, so patients often knocked and waited at the door without knowing if anyone was there. Staff thought it was positive that patients felt more visible and seemed to be calmer and feel safer being able to see the staff even when they are in the office.

Often when a patient looks at me through the window when I’m talking on the phone or writing something we can make eye contact or share a smile, [there’s] a feeling of safety…. I think that it is nice. That you see each other (FG3).

Staff described how the calm atmosphere had spread through the unit and said that when anxious patients arrived at the unit they became calmer. The calmer atmosphere had also decreased staff’s perceived need to use coercive measures. Another positive consequence of staff’s increased availability was that patients were better at signalling symptoms of mental ill-health resulting in their decreased risk of self-harm. Along with these improvements for patients, staff described how the calmer atmosphere made them feel more satisfied during work and when they were leaving.

Staff also said that the calmer, pleasant atmosphere encouraged patients to keep the unit nice and be more careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. Instead they showed more consideration, careful about their surroundings, no longer throwing or breaking things. 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Staff reported that their working space had been so severely reduced they no longer had space for discussions and or for enough computers: “We miss space for discussions and meetings; the existing rooms are difficult to access for this purpose” (FG1). They also needed a dedicated and comfortable break room for short rests and eating their meals, rather than using a conference room meant for unit rounds and shift handovers. Furthermore, they said the office, which they likened to a submarine without oxygen, was in the wrong place and should have been in the centre of the unit to allow a better view of the corridor. Several other rooms with specific functions were also not to their satisfaction. For example, the unit lacked a staff toilet, forcing staff to leave the unit and perhaps wait in line to use one of the two toilets they shared with the staff of another unit. Patients with physical disabilities had limited access to bathrooms and toilets because they could not use walkers or wheelchairs in the ordinary bathrooms. Staff also said the absence of a visitation room for children and relatives outside the unit made it challenging for patients to keep in touch during their stay. The sensory room was not completed, and staff lacked routines for using the room properly; instead it was used as a private room for patients when the unit was overcrowded. Staff also noted that it was easy to hear between rooms and this was a disturbance for everyone.

Staff reported several limitations in security after the renovation. The doors to the seclusion area were too weak, and the area itself was so small that staff worried someone would get hurt attempting to strap a patient in a bed. The balcony was out of view, which increased patients' risks for self-harm. The open nursing stations were poorly placed and lacked computers and alarm displays, which was another increased security risk. Overall, the staff were unfamiliar with and uncertain about how to work in the new environment, which made them feel insufficient and exposed them to unhealthy levels of stress. They described being sceptical of the project as a whole and expressed doubts about the outcomes of the new spatial design. One staff member said: “If you are sick enough, there will be violence anyway, despite [being in a] bright and open space” (FG2).

**Discussion**

The aim of this study was to explore patient and staff experiences of a new spatial design in psychiatric inpatient care. The findings show that the new design had substantial beneficial effects on participants’ experiences of recovery and job satisfaction. However, the design also revealed frustration among the participants, who had not been involved in all of the design decisions and who identified several unmet needs and new problems in both the design and its implementation. The findings in our study demonstrate the complications inherent in changing working methods and caring cultures in psychiatric inpatient care despite the intent of the new spatial design to enhance recovery.

Patients and staff experienced much about the renovation as pleasant and welcoming. Both groups felt the atmosphere was calmer and contributed to fewer conflicts, increased safety, and brought them closer together. Patients in acute mental health units have been found to experience a greater feeling of safety in a supportive environment that allows them privacy, safety from other patients, and meaningful activities (Cutler et al., 2020). Participants in our study expressed similar experiences and appreciated open spaces that allowed community and activity and other spaces for withdrawal and privacy. Being able to lock their rooms and wardrobes to keep personal belongings safe from other patients is also important to patients’ experience of safety (Cutler et al., 2020; Ulrich et al., 2018).

Participants in both groups appreciated the activity room at the renewed unit. Staff felt the room invited creativity and fellowship, and patients enjoyed the increased interaction with staff. At the same time, however, patients said they felt bored, that they had to activate themselves and other patients without support from the staff, and that they lacked information about available activities. Cutler et al. (2020) found that boredom among patients in acute mental health units was explained by a lack of meaningful activities, which also had a negative influence on their feelings of safety. Meaningful activities implemented as daily routines may therefore help to increase patients’ feeling of safety (Cutler et al., 2020; Molin et al., 2018).

Satisfaction among patients in psychiatric inpatient care is associated with a number of factors such as experiences of safety, staff relationships, and staff supportiveness (Woodward et al., 2017). A pleasant environment that also supports interpersonal relations between patients and staff seems therefore to enhance experiences of satisfaction and safety. In a systematic review, Jovanović et al. (2019) investigated how to design psychiatric facilities to foster positive social interactions. They found several solutions including providing single or double rooms, open nursing stations, a balance between private and shared spaces for patients and staff, and furniture arranged in small flexible groupings. Some solutions were easy to provide at a low cost (Jovanović et al., 2019). Unit cleanliness, for example, is one of the most important factors associated with satisfaction among patients in psychiatric inpatient care (Woodward et al., 2017). In our study, participants experienced the renovated unit as brighter and cleaner than before and they now expressed pride in the unit rather than shame. Both patients and staff said the new spatial design inspired them to take more responsibility for the environment, for example, by keeping the rooms and the unit fresh and tidy. Staff also felt that the atmosphere at the unit made it easier to provide good nursing. The atmosphere of a psychiatric inpatient unit may thus ameliorate experiences of stigmatisation and boost feelings of personal value for both patients and staff. Eldal et al. (2019) described in a qualitative study that people with mental ill-health found their experiences of inpatient care to be contradictory, including feelings of both safety and shame. In that study, the care environment was experienced as an appropriate place to be vulnerable while it was also place to be exposed to stigma, forced socialisation, and subsequent feelings of shame that hindered recovery. Psychiatric inpatient care is complex and demanding, and staff need flexible attitudes, open minds, and the
encourage to ask patients about their needs (Eldal et al., 2019). The demanding environment supports the need for regular and constructive discussions between colleagues (Molin et al., 2016b), which have been found to be a valuable source of support, confirmation, and energy (Gabrielsson et al., 2016).

The staff in the present study were frustrated because they lacked specific rooms to perform their work according to their view of best practices. For example, they lacked rooms to rest and withdraw, a toilet for people with physical disabilities, a visitation room, and a room where they could discuss work-related issues in privacy. The staff office was too small for large discussions and felt inappropriate for such meetings because of its transparency. The lack of visitation rooms also made it difficult for staff to provide valuable care and allow families to visit. In addition to the general lack of appropriate treatment, meeting, and visitation rooms, staff were also frustrated by their lack of access to open nursing stations and the insufficient alarm displays and computers, which they considered, along with deficiencies in the seclusion area and their inability to view the balcony, as important challenges to safety.

Available rooms to meet family members outside the unit have been found to be associated with higher treatment satisfaction in psychiatric inpatient care (Jovanović et al., 2020). Patients, family members, and staff must be mutually dependent partners to achieve a common caring strategy (Andershed et al., 2017); it is therefore important to find space in the environment to share each other’s knowledge. Children’s participation in psychiatric treatment is considered not only a privilege, but also important in decreasing patients’ risks of worry, loneliness, and suffering (Bee et al., 2013; Knutsson & Bergbom, 2016), and supportive relatives are seen as important human resources in the recovery for persons with suicidal thought (Sellin et al., 2017).

Some aspects of the new spatial design in this study, especially the automatic therapeutic lighting, led to contradictory experiences that might have negatively affected participants’ overall response to the renovation. The lighting promoted healthier circadian rhythms, more energy, and improved sleep among patients and led to reduced stress at work, more energy after work, and fewer conflicts with patients among staff. However, the lighting also contributed to frustration on both sides as neither patients nor staff could control its brightness or turn it on or off. The constant light not only upset patients, but also frustrated staff who could not control the light in their own work environment.

Innovative technological solutions and other changes in the spatial design need to be embedded with information. Participants were frustrated at not being part of the decision-making process and not having been well-enough informed about the purpose of the design. Staff felt they had not had time to get used to the new environment and learn how to work in it. For instance, they described not having the necessary knowledge and routines to integrate the sensory room into treatment. Staff’s frustration about insufficient information and education made them uncomfortable and gave them unhealthy levels of stress. The stress induced by the changed caring culture then led to ambivalence and insecurity about how to perform their work. Cleary et al. (2011) suggest that safely integrating new working tasks among staff requires education, counselling, and support. Sumartojo et al. (2020) suggest that psychiatric inpatient care environments also need new and creative thinking about their design, which should be more dynamic and encourage care that is ‘on the move’ instead of perfectly predictable and controlled. They also propose that designers involve the people on the wards or in the units as a continuous part of the design process.

**Methodological considerations**

The recruitment process employed suitability selection to bring in different ages, genders, and experiences of psychiatric inpatient care and the renovation of the unit. This recruitment approach meant interviewing patients during their admission. Considering how short the patient interviews were, the research nurse who conducted them had to do so quite carefully. However, it is not the length of the interview that is crucial to good data, it is the quality. We argue that although some interviews might be considered too short, they did in fact yield enough quality data for analysis. A strength of this study is that the staff who participated in the focus group discussion represented both day and night shifts, and were as varied in their age, gender, and experience as the patients.

The fact that both the data collection and the analysis were performed by experienced researchers and an experienced research nurse can be considered a strength of the study. Our varied experiences of research and psychiatric care contributed to the joint discussions during the analysis. In this way the analysis is a co-creation between the text itself and the research group (cf. Graneheim et al., 2017).

**Conclusion**

Our study shows that a new spatial design in psychiatric inpatient care can contribute to improved recovery and job satisfaction among patients and staff. Having access to spaces allowing community, privacy, and various activities facilitated interpersonal relationships between staff and patients. The new technologies used such as the healing lighting show how innovative solutions may contribute to a healthy, supportive, and safe environment. However, although the new spatial design offers some conditions that promote recovery, job satisfaction, and safety among patients and staff, improvements to the physical environment are not enough to create a recovery-oriented health environment.

**Clinical implications**

Establishing recovery-oriented practices in psychiatric inpatient care is a demanding process and problems cannot be eliminated merely by changing the physical environment. Our findings show that changes in care environments require that both patients and staff be involved in the process and
that staff need to feel safe in their knowledge of how to use technical equipment and specially adapted spaces. The findings also indicate that staff need support in developing clear routines and maintaining their motivation to use the new methods that are part of the new environment. Research on how spatial design can affect psychiatric inpatient treatment and support recovery is sparse; further participatory research with close collaborative work between researchers, designers, staff, and patients is desirable. It is also clear from our findings that custodial care needs to shift towards more recovery-oriented practices in psychiatric inpatient care. A successful change in spatial design must be accompanied by clearly articulated working methods supported by the design and management should motivate and educate staff with information and support before and during treatment and follow-up.

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Disclosure statement

The authors report no conflict of interest.

Ethics approval statement

The overall project has received ethical approval from the Regional Ethics Review Board (Dnr: 2017/72-31).

Author contributions and authorship statement

Study design: All authors; Data collection: JM, ML, BML; Analysis: All authors; Manuscript: All authors. All authors are in agreement with the manuscript.

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