



## KEY POINT SUMMARY

### OBJECTIVES

The goal of this research was to identify the priority of in-patient room design characteristics on self-reported patient well-being.

## Healing environments: What design factors really matter according to patients? An exploratory analysis

Schreuder, E., Lebesque, L., Bottenheft, C., 2016 | *HERD: Health Environments Research & Design Journal*. Volume 10, Issue 1, Pages 87-105

### Key Concepts/Context

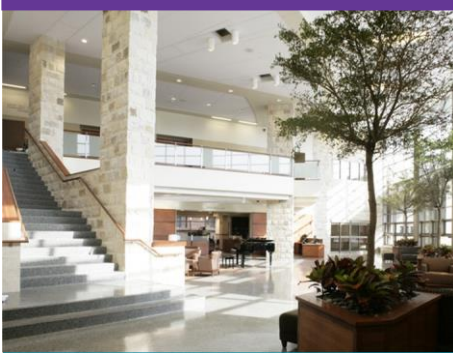
Six themes that may contribute to healing environments: spatial comfort, safety and security, autonomy, sensory comfort, privacy, and social comfort were identified from the literature. This Netherlands-based study evaluated how the six themes and associated design characteristics could be prioritized to maximize well-being. Each theme was described. Machine learning/modeling and regression analyses were used to relate room measurements, design characteristics, and patient evaluations so the impact of spatial and design elements on patient well-being could be assessed.

### Methods

In-patient room metrics and hardcopy surveys that allowed patients to evaluate design characteristics (spatial comfort, safety and security, autonomy, sensory comfort, privacy, and social comfort) were used for this study. Room types considered in this study included single patient rooms and multi-patient rooms (two-four beds). Individuals who were patients in the identified rooms were asked to prioritize the design characteristics and evaluate their contribution to their well-being. Both modeling and regression analysis were used to find and validate relationships between the physical environment of the patient room and patient perceptions of well-being.

### Findings

Both the modeling and regression analysis identify 1) spatial comfort, 2) safety and security, and 3) autonomy as the three design characteristics impacting self-reported well-being. Each of the design characteristics evaluated are addressed systematically according to modeling analyses, regression analyses, and factor



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analyses. Regarding spatial elements, larger rooms with higher ceilings were preferred and sub-elements including cleanliness, functionality, nature views, appealing materials, storage, and conversation space were also important. Regarding safety and security, it was most important to patients that unauthorized visitors be restricted. Satisfaction with facilities and autonomy received higher rankings when personal belongings were safe, and patients could access specific things from the bed (lighting and nurse-call).

### Limitations

The innovative use of modeling in this study is both a strength and a limitation. It is a strength because it introduces the possibility of prediction in design planning. The modeling can also be interpreted as a limitation because this type of analysis has not been broadly tested and may not capture the nuances of individual patients or patient populations. More research is needed to refine and develop. An additional limitation noted by the authors is that a majority of patients were recruited from a single facility, and they acknowledge a broader reach is needed in future research. A final limitation is that patient data is based on self-reports which may be influenced by a plethora of external factors.

### Design Implications

The knowledge from this study enables the construction of healing environments to focus on prioritized design elements. The authors conclude that facility decision-makers should focus efforts to enhance spatial comfort, safety and security, and autonomy to foster an environment that increases self-report of patient well-being.

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