



## KEY POINT SUMMARY

### OBJECTIVES

To compare patient sleep characteristics before and after a move into a state-of-the-art mental healthcare facility offering private sleeping spaces.

### DESIGN IMPLICATIONS

The results from this study support the notion that evidence-based designs, such as single patient rooms and bathrooms, access to natural light, and patient control over lighting and noise levels may significantly improve objective measures of patient sleep quality. Designers could consider implementing these designs where possible in order to potentially improve patient health outcomes.

## Evidence-Based Design Features Improve Sleep Quality Among Psychiatric Inpatients

Pyrke, R. J., McKinnon, M. C., McNeely, H. E., Ahern, C., Langstaff, K. L., & Bieling, P. J. 2016 | *HERD: Health Environments Research & Design Journal*. Volume 10, Issue 5, Pages 1-12

### Key Concepts/Context

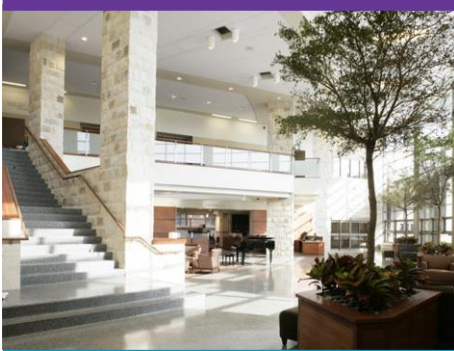
There are many factors present within psychiatric care facilities that can contribute to disrupted patient sleep patterns. Since poor sleep is widely associated with adverse health outcomes, it is important for designers to understand how the physical environments within mental health facilities can contribute to patient sleep patterns. The authors propose that actigraphy, a technique for measuring patient sleep quality, could be a non-invasive and effective way to produce an accurate index of sleep quality among patients. The relationship between environmental design and patient sleep quality through the use of actigraphy is largely unexplored.

### Methods

This study took place in a large psychiatric hospital featuring newly constructed evidence-based designs, such as single rooms, lighting control, and individual bathrooms for all patients. Cross-sectional surveys from two patient populations were conducted before and after the addition of these evidence-based designs. 47 patients were surveyed from September 2013 to February 2014 (pre-construction), and an additional 47 patients were surveyed from September 2014 to February 2015 (post-construction). Actigraphs were given to participants and sleep quality surveys were taken. Participants were also asked to maintain “sleep diaries” during the study.

### Findings

Significant improvements were found in objective sleep quality measures following the introduction of evidence-based designs. This implies that private sleeping quarters, improved access to natural lighting, and patient control over light exposure and noise helped greatly improve sleep quality. The authors note that



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despite significant the aforementioned differences between objective sleep quality measures before and after reconstruction, no differences in subjective reports of sleep quality were found between the two participant groups.

### Limitations

The authors note that the primary limitation of this study was that their participant sample consisted of patients with heterogeneous and often comorbid psychiatric conditions. This implies that results could vary widely for patients with different disorders. The authors also note that the conflicting results between the subjective and objective data obtained from this study stand as a limitation.

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