



KEY POINT SUMMARY

OBJECTIVES

To analyze the impact of centralized and decentralized hospital layouts on the delivery of optimal care, and to assess the resulting levels of caregiver satisfaction.

Shifting Landscaps: The Impact of Centralized and Decentralized Nursing Station Models on the Efficiency of Care

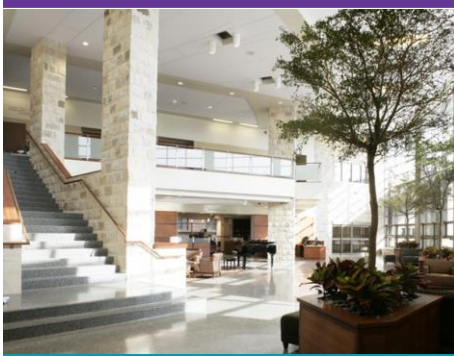
Lindsey Fay, Allison Carll-White, Aric Schadler, Kathy Isaacs, Kevin Real. 2017 | *Health Environments Research & Design Journal*, Volume N/A, Issue N/A, Pages 1-15

Key Concepts/Context

As healthcare facilities continue to implement evidence-based designs and increase in overall size, there is a lack of research examining how these changes affect the efficiency of patient care processes. Along with the physical growth of modern healthcare environments, advances in medical technology have increased the amount of multitasking required of nurses and other healthcare workers. Centralized nursing stations, which are defined as having one primary nursing station that is central to nearby patient rooms, were common ward designs until decentralized nursing stations started becoming more prevalent at the start of the 21st century. Decentralized stations involve the placement of smaller nursing workstations located near patient rooms throughout a unit. More research is needed to understand the positive and negative aspects of these models.

Methods

This study took place in an academic hospital where data were gathered before and after a move from a centralized to a decentralized nursing station model. Participants included nurses, managers, technicians, physicians, and therapists. Data were collected in the forms of pedometer measurements of staff walking distances, measurements of time spent in patient rooms and nursing stations, room usage data, visibility counts, and questionnaires. All prestudy data were gathered in fall of 2014 and all poststudy data were gathered the summer of 2015, six months following the opening of the new decentralized unit.



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Findings

Analysis of the data indicated that the unit's new decentralized design positively influenced caregiver proximity to patients, while staff walking distances increased overall under the new layout. Results from this study confirm previous studies that suggested more staff time is spent at nursing stations than any other area, and that a decentralized model results in increases in visits to and time spent in patient rooms. In sum, this study found that the decentralized nursing station model increased overall walking distances as well as visits to and time spent in patient rooms, while decreasing overall time spent at nursing stations.

Limitations

The authors note that this study did not provide an in-depth analysis of how participants spent all of their time, or what amount of time may have contributed to waste. The results from this study are derived from the experiences of staff members from one hospital; no patient perspectives were included.

Design Implications

Decentralized nursing station designs can contribute to improved patient care and safety measures by encouraging staff to spend more time at patient bedsides. To help decrease the overall walking distance required by the decentralized model, protected supply stations could be strategically located closer to stations. The authors of this study suggest that designs for decentralized nursing stations should also consider providing increased visibility to multiple patients while also enhancing opportunities for peer-to-peer support and interaction.

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