OBJECTIVES
To determine how the physical environment of Specialized Care Units can enhance person-centered care and identify additional design opportunities that could help patients adapting to dementia progression maintain a high quality of life.

Examining relationships between physical environments and behaviors of residents with dementia in a retrofit special care unit


Key Concepts/Context
Individuals with late-stage dementia often receive treatment in Specialized Care Units (SCUs) when other nursing home facilities can no longer support their socio-behavioral and physical needs. Generally, SCUs aim to maximize patient quality of life (QoL) by mitigating potential environmental stressors and improving the functional status of the patients themselves. Increased demand for SCUs has resulted in the retrofitting of many nursing homes to meet the QoL standards needed to fully embody the person-centered care (PCC) philosophy that SCUs tend to follow. While previous studies have focused on newly constructed SCU facilities, little investigation has been done into the designs of nursing homes that were retrofitted into SCUs.

Methods
Qualitative and quantitative data were gathered through a case study that centered on a retrofit SCU located in a rural area in the United States. Relationships between the behavior of staff and residents and the physical environment were determined using a spatial inventory, behavioral observations in the SCU’s public spaces, and an electronic survey completed by staff members. The researchers looked for specific SCU design features that are known to have positive outcomes for patients, such as L- or H-shaped corridors, camouflaged exits, wayfinding cues, varieties of lighting, low-contrast flooring, environmental control, and overall residential character. When observing staff and patient behaviors in the SCU, researchers noted the present degrees of communication, autonomy/choice, positive wandering, meaningful activity, personal touch, social integration, and wayfinding capabilities. Physical designs and behaviors that indicated environmental maladjustment or
stress in patients were also noted in order to determine how different factors were either positively or negatively affecting patients.

**Findings**

SCU design features that were most commonly linked to maladjustment in patients included wayfinding strategies, color/contrast, egress camouflage, and lighting. Overall residential character, access to daylight, open-plan corridor design, and employment of the PCC philosophy (which entails active promotion of social relationships, stimulating and meaningful activities, and maximized functional relationships) were seen as the biggest factors promoting positive environmental adaptation in patients.

**Limitations**

The authors noted several limitations within this study. All research was conducted in one location over a period of three months. The SCU observed was also not specifically designed to support the PCC model. The severity of dementia diagnosis for each patient was unknown to the researchers. The study took place in the winter, which may have influenced the data and observations. The number of staff within the unit was small (there was a total of six staff members), and only 50% completed the electronic survey.

**Design Implications**

Low-contrast colors throughout SCU designs and lighting fixtures can help promote positive moods and adaptation in patients. Camouflaged exits can help encourage positive behaviors in patients, while personalized wayfinding cues can help maximize the functional status of patients. An overall comforting residential character can help substantially increase social interactions, and an open spatial configuration can help stimulate meaningful activities between patients and staff.