



KEY POINT SUMMARY

OBJECTIVES

The objective of this POE was to describe the physical settings of a Green House nursing home and its use by residents, staff, and visitors.

Post-occupancy evaluation of a transformed nursing home: The first four Green House® settings

Cutler, L.J., & Kane, R.A. 2009 | *Journal of Housing For the Elderly*. Volume 23, Issue 4, Pages 304-334

Key Concepts/Context

The authors introduce the concept of Green House®, which are de-institutionalized nursing homes envisaged by William Thomas. A Green House® was a house modeled for residents who were eligible for living in a nursing home; its design made it resemble a home rather than an institution. The first of these houses was built in Mississippi on a retirement campus. This study is a report of a post-occupancy evaluation (POE) conducted on four of the first houses that were built and put into operation. The results from this two-and-a-half-year-long study indicated that residents, visitors, and staff were satisfied with the Green House homes, especially in the context of privacy and shared spaces.

Methods

This study, a POE, was part of a multi-method longitudinal quasi-experimental study spanning two and half years. For the purposes of this POE, environment referred to the building and its outdoor space, fixtures, furnishings, equipment, and décor. Data collection entailed the following:

- Analyses of floor and site plans and administrative data
- Conducting a 112-item environmental checklist for the rooms and bathrooms
- Shadowing and observing residents, staff, and visitors to map their movements and locations
- Unstructured interviews with residents, staff, and family
- Place-centered time scan – conducting a swift systematic observational scan in each house within a 30-minute timeframe, four times a day to determine the use of shared spaces
- Physical tracers – observing placement and use of chairs, books, etc. in shared spaces after the users leave the room
- Photographs of different spaces in the study site



A total of four Green Houses were examined for this POE. Each house had 10 residents.

Findings

The study yielded the following findings:

Physical description: Each house has:

- Ten single resident rooms (each 210 gross square feet (gsf), window with wide sill, closet, locked medication storage unit, and hardware for installing ceiling lifts from bed to bathroom); attached 50 gsf bathrooms (shower and fold-down shower chair). These rooms surround the common spaces of foyer, hearth room, kitchen (open design with dining, residential appliances), pantry, den (with chairs, card table and TV), and patio.
- Other spaces include the office (functions include – storage for drugs and medical records, computer, fax, and space for healthcare professionals), beauty salon, spa, utility room (washer and dryer placed here), and bathroom for staff and visitors.
- Furniture and furnishings:
 - Bedrooms: Residents or their families arranged for furniture.
 - Common spaces: Lounge chairs purchased from local retailers were used in the den.
- The only element consistent with an institution were the two lighted exit signs in the common space.

Evaluation of technical elements:

- Lighting:
 - Positives: Abundant natural light; no glare; blinds on windows; adequate task lighting in kitchen; energy-efficient lightbulbs
 - Negatives: Poor illumination, especially in bathrooms; lights in common spaces on all day; no wall-mounted lights or night lights in bedrooms and bathrooms; no task lighting for medication storage; toggle switches for lights very small; few electric outlets; shelving units put against switches because of limited wall space
- Appliances: The side-by-side placement of the dishwasher and the icemaker puts additional load on the latter
- Heating and cooling:
 - Positives: Temperature control units in resident rooms
 - Negatives: Drafts in the dining area because vents are directly above the table
- Safety/ Security: Fire detection alarms per code; call station systems in all resident rooms; keypad access to enter and exit house; 6-foot-high metal fence in yard; entry into kitchens restricted by gates; secure access to kitchen cabinets



DESIGN IMPLICATIONS

Designing small homes for residents who are ready for nursing home living entails the following considerations:

- adequate storage for personal items, supplies and equipment, and for chairs when residents use only wheelchairs for sitting; all spaces to be wheelchair accessible; bathrooms to be ergonomic for resident and caregivers; provision for task lighting at bed and medication cabinets.

- Acoustics: Very quiet compared to nursing homes because of carpets, casters on dining chairs, and ceilings. The only noises are the doorbell, door alarm if opened without code, and the TV.
- Interior finishes: attractive; bedroom colors according to personal choice
- Windows and doors: Large windows (18 square feet). Door thresholds are less than half inch; uneven flooring on either side of door; three doors lead outside; front entrance adequate for ambulance and gurneys

Evaluation of functional elements:

- Human factors: The houses were mostly suitable for the use of elders; spaces were wheelchair accessible except in the salon; ceiling lifts were helpful; wide hallways; laundry room was not safe for elders to be there by themselves; the bathrooms in the bedrooms did not have doors; the salon is used very often even though it has several shortcomings.
- Spatial factors: Limited space for storage in residents' rooms and for supplies and equipment; space per resident is greater than the regulation.

Behavioral elements:

- In the two houses where the residents were dementia specific, the hearth area and the dining rooms were used more frequently than residents' own rooms; kitchen use was not encouraged; outdoor spaces were used more often; these residents sat in groups.
- In the two houses where the residents were a mixed population, they had access to the kitchen and helped the staff with setting up the table, doing dishes or laundry; they spent more time in their own rooms than in groups in the common spaces.

Both residents and families expressed:

- High satisfaction with their rooms and the house
- That the bathrooms lacked privacy and were too small, closets were small, and storage space was limited
- Dissatisfaction about the large dining table; the outdoor areas were too isolated

Staff expressed:

- Dissatisfaction with the shower and toilet configuration of the resident bathroom; shower seats low, uncomfortable, and without support; grab bars too high for residents; bathrooms and closets were small; lack of storage for dirty linen; bedrooms small for wheelchair accessibility
- The beauty salon had limited wheelchair accessibility; pantry too far from kitchen; high cabinets; inefficient refrigerator; too few electrical outlets in the hearth area; uneven flooring between dining and hearth areas



The Center for Health Design: Moving Healthcare Forward

The Center for Health Design advances best practices and empowers healthcare leaders with quality research that demonstrates the value of design to improve health outcomes, patient experience of care, and provider/staff satisfaction and performance.

Learn more at
www.healthdesign.org

Limitations

The authors identified the following limitations for this study:

- Data was relevant to the observation periods only.
- There was no explanation for the differences in the use of spaces in the four houses.

The Knowledge Repository is provided with the funding support of:



Additional key point summaries provided by:



RESEARCH DESIGN
connections