Protocol for Customized POE Studies
Related to Nursing Home Quality

Lois J. Cutler
Research Associate
Health Policy and Management
School of Public Health
University of Minnesota

cutle001@umn.edu

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Introduction

Purpose

Evaluating environmental design influences on quality of life is a goal of the study Measurement Indicators and Improvement of the Quality of Life in Nursing Homes. The objectives of this component of the study include 1) determine how the physical environment in nursing homes affects quality of life, 2) determine the benefits and costs of single-occupancy rooms for nursing home residents, and 3) describe exemplary and innovative features in nursing homes. During the initial phase of the study, the physical environments of 123 nursing units in 40 nursing homes, located in 8 states were assessed at the resident room, nursing unit and facility levels. During the assessment process it became readily apparent that some nursing homes were exemplary in their approach to providing a physical environment that enhanced the user’s – residents, visitors, and staff – experience. With that said, it is imperative to note that the physical environment should not be judged in isolation from the users and organizational policies of the facility. Rather, it is a supportive (or not so supportive) component of the interaction between the users and organization. The actual users of the physical environment, residents, staff, visitors, etc. change but their functions do not. The staff provides care for the residents and the visitors are occasional users of the space. Organizational policies can and should fluctuate depending on the mix of residents and skills or special needs of the staff. The physical environment is more permanent than the users or policies but it too can be altered to be more supportive of the users. A goal of this report is to describe and illustrate innovative and exemplary examples of physical environments that interact with organizational policies and users to provide a more supportive environment and a higher quality of life for all users.
Indeed, it was not difficult to identify exemplary and innovative environments in these 40 facilities. All of us have experienced a sense of well-being when using a certain space: a place that is supportive of us physically, socially, psychologically and culturally. These are the places that work well for all the users. It is interesting to note that we did not find “the perfect facility”, exemplary in all respects. Rather, we found individual units in facilities such as a special care unit where the physical environment enabled resident focused care and a unit that worked especially hard to create a dignified bath/shower experience. We found exemplary shared spaces that benefit all users of the facility such as a main street concept, and outdoor space where all the users - residents, staff and visitors – equally utilized the area. We found facilities built 30 years ago that had the foresight to provide all private rooms as well facilities that make an effort to provide private space in a shared room. Our frustration is that there are so few exemplary examples in the 40 facilities that we assessed.

To better understand the benefits of these exemplary examples it is necessary to determine how the innovation is used and who benefits from the innovation. Is this indeed a transferable example that other facilities could use? To accomplish this customized Post Occupancy Evaluations (POE) are being performed on 10 exemplary examples. A Post Occupancy Evaluation is the process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time. POE’s focus on the physical environment, users of the building and their needs and the organization or setting. Thus they provide insights into the benefits or consequences of past design decisions and the resulting building performance (Preiser, Rabinowitz, & White, 1988).
This report will include a section detailing the POE process, a comprehensive description of each evaluation performed as well as suggestions on how other facilities could benefit from this innovation and suggestions on how to accomplish this task.
**Description of Post Occupancy Evaluation**

Post-occupancy evaluation (POE) is the process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time. POE’s focus on building occupants, their needs, the organizational policies in place and the physical environment that supports the system. Thus they provide insights into the consequences of past design decisions and the resulting building performance (Preiser, Rabinowitz, & White, 1988). For example, many of our nursing homes were built using the medical model of double loaded corridors with 2 residents per room and a nurse’s station at the entrance to the unit. We really don’t need a formalized POE to tell us that this design does not provide privacy or a high quality of life for its users. Some nursing homes have creatively manipulated this standard medical model through reorganization, renovation, or simply reallocating or redefining space. For this study we are conducting customized POE’s that focus on specific innovative or exemplary features. These are generally smaller in scope and more defined in intent. A standardized approach was used for all evaluations using identical questionnaires and building performance criteria. Following is a description of the framework for a Post Occupancy Evaluation. The measurement tools are located in appendix A.
Conceptual framework for Post Occupancy Evaluation

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<td>2) Management</td>
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<td>critique, or design directives</td>
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Technical Elements
Technical characteristics of the environment involve survival issues such as health, safety and security aspects of building occupancy. This element plays an important role in the comfort of the resident.

- **Switches**: electrical, rheostats, temperature controls, outlets, phone jacks, bathroom fan
- **Lighting**: closet lighting, natural light (minimize glare), consistency from room to room, minimum 100 fc, low glare surfaces, fluorescent flickering, hallway lighting, entry, private and public space lighting
- **Heat/Cool**: type, background noise, safety of radiators, air conditioning controls
- **Safety/security**: call systems, fire detection & alarms (visual & acoustical) building entry system, unit exit control, optical barriers
- **Acoustics**: sound transmission between spaces, communication system
- **Interior finishes**: contrast between floors & walls, texture, intensity, patterns, color scheme, over use of mirrors, spatial definition, maintenance of wall and floor materials, sound absorption, floor coverings
- **Windows**: types, height, width, ease in opening, weight, hardware
- **Doors**: types, weight, width, hardware, threshold, automatic
- **Elevators**: location, signage, cueing
- **Parking**: lighting, accessibility, protection from elements
**Functional Elements**

Functional characteristics of the environment support organization and activities within the building. Characteristics include prosthetic and therapeutic elements including accessibility, stimulation, challenge, sensory compensation and sensory enhancement, adaptability of environment to respond to changes in functioning.

- **Human factors**
  - Anthropometrics, equipment, furnishings, bathrooms, wheelchair comfort zone
- **Spatial**
  - Quantity, size, capacity, location of room, storage
- **Communication**
  - Bulletin boards, signage, printer material (contrast & size)

**Behavioral Elements**

The behavioral elements have an effect on quality of life by how the resident uses their environment, their interaction with other residents and staff, and the influence of management decisions, programs and policies. Management programs and policies have an impact on expressions of territoriality, personalization, familiarity, activities, satisfaction, etc.

- **Space**
  - Size of area in relation to number of people using it; distance between areas, configuration of circulation route
- **Territoriality**
  - Personal space, dining seating arrangements
- **Proximity**
  - Functional distances between areas
- **Privacy**
  - Controlled access to private space, physical, visual & aural access, configurations of walls, openings
- **Design**
  - Scale, detail, size, color, lighting, acoustics, age appropriate
- **Image/meaning**
  - Shape, size, material at they convey meanings and memories
- **Environmental**
  - Cognition & orientation cueing
- **Personalization**
  - Memory boxes, personal furnishing
- **Socialization**
  - Activities, dining room experience
- **Management**
  - Programs, policies< and philosophy

**Users**

The primary users of a nursing home consist of residents, family members, staff, management, visitors and volunteers.

**Nursing Home Exemplary Examples**

The overall setting is that of a nursing home. Individual assessments will be completed on exemplary examples. The findings can benefit other nursing homes by introducing environmental approaches that have been successfully utilized by other facilities.