

Lessons Learned from Post Occupancy Evaluations

By Stefani Danes, AIA, Tye Campbell, PE and Glen Tipton, FAIA

In the design of a new residential development, the architect and client devote considerable effort to anticipating how future residents will use and enjoy their environment. Given that every facility occupies a unique place and time, there will always be more art than science to this. For some architects, it is not enough to see their projects and clients to the opening of a new facility and hope that it works well. Architects who have a commitment to improving the way environments serve their inhabitants are returning after the building is occupied to see how well it is performing.

A post-occupancy evaluation (POE) is a systematic assessment of a facility in use. The first formal POEs were conducted 50 years ago, so they are not new. They have been applied to a wide variety of building types, from schools to courthouses to airports to housing. Because a building is inherently complex, an evaluation of building performance can cover an overwhelming array of technical, functional, social and aesthetic issues. However, it is rarely practical or necessary to evaluate all aspects of a facility, so there are many varieties of POEs, based on the purposes they serve and the level of effort involved.

Advantages for Owners or Managers

Residents, their families and staff members are the ultimate beneficiaries of a POE insofar as it informs improvements to the facility through the better understanding of the environment's impact on the quality of their lives and work. POEs can be undertaken for a number of reasons:

- The facility owner or manager may be interested in seeing whether the project is fulfilling its goals.
- An organization that builds more than one facility can use lessons learned to improve the program or budget for future buildings.
- Many owners of senior facilities appreciate the message an evaluation sends to residents about the value of their feedback.

In some situations, an owner may want to conduct a POE that is independent of the building designer to ensure objectivity, but there are also obvious benefits to involving the architect, who brings an understanding of the project goals, context and history.

Presbyterian SeniorCare in Pittsburgh, Pa., has worked closely with Perkins Eastman since the early 1990s to examine innovative ideas in facility design that support culture change. Together they have conducted POEs that have examined issues such as:

- the size of “households”
- the integration of staff workplaces into residents’ living spaces
- wayfinding features for residents with dementia
- the re-clustering of spaces based on non-institutional spatial models

These studies have enabled Presbyterian SeniorCare to identify environmental implications of residents’ evolving profiles and lifestyles and to build successful innovations into newer developments. Moreover, the studies have helped Presbyterian SeniorCare address gaps in the senior living continuum with creative re-conceptions of traditionally defined building types.

The Architect’s Perspective

Architects have reasons of their own, in addition to providing a service for clients, for wanting to know how the building is performing. By comparing the building in use to their design intentions, they can inform future design decisions. This not only serves their own sense of professional accountability, but also communicates to clients their commitment to design quality.

One of the best reasons to undertake a POE is to challenge commonly accepted assumptions. As a result of the three-year multidisciplinary study of

Woodside Place, which questioned conventional ideas about the locus of social engagement among cognitively impaired residents, Perkins Eastman has introduced the concept of “social paths” in senior living and has designed new ways to activate the connective spaces of a facility. In fact, many of the innovations pioneered in Woodside Place for the benefit of residents with dementia have now found their way into resident-focused facilities for the general population.



As a result of the Woodside Place study, we learned that residents and families gained tremendous satisfaction from having private rooms. Even though they actually spent little time in their rooms, residents/families appreciated having the choice, which ultimately increased their overall satisfaction with the facility.



A sitting space adjacent to the elevators and residents' laundry room is a “crossroads” of daily activities frequently used by residents. From the POE, we learned that residents used casual social spaces more often than formal activity spaces.

POEs are most frequently undertaken for individual buildings, but those that are conducted at a number of sites can be especially instructive. When SFCS Inc. of Roanoke, Va., conducted POEs of 11 communities caring for residents with dementia, the firm gained

information that was valuable to both the staff and designers of these homes. Perkins Eastman's recently completed post-occupancy evaluations of six independent living buildings for low-income seniors focused on the residents' perceptions of home and community. The study was undertaken with the projects' clients, Presbyterian SeniorCare, The Community Builders, and Trek Development. It



Arbors are strategically located in the garden, providing shade to give residents a respite from the sun and serving as a space to enjoy cookouts and the surroundings.



Common spaces allow natural light to filter in and give residents an outdoor view.

revealed not only a number of common patterns, but also differences that permit benchmarking of the individual facilities.

CSD Architects has discovered that with the changing demographics and new building technologies on CCRC campuses, they must continually rethink how they approach design. In evaluating several household designs, there emerged no clear, supportable preference for the optimum arrangement of memory support households. Be it common living, dining, kitchen surrounded by residential living units or rooms arranged along short corridors leading to the



CSD's POE of Phase One of Mercy Ridge provided valuable changes in Unit size and mix for Phase Two, as well as selected adjustments in how amego carts were to be managed in the common areas both exterior and interior.

common areas, staff comments and observation of residents' activity support the several optional arrangements. What is clear is the absolute necessity of a truly safe and residential atmosphere in every way down to the details.

What Have We Learned

A few examples of research findings and general conclusions will illustrate the kinds of lessons we have learned from recent POEs in senior living. While the findings often corroborate intuitive "hunches," they can also be surprising.

- One size doesn't fit all. The size of the facility as a whole has far less impact on residents' sense of community than the number of units that share a hallway to the elevator.
- Spaces must be flexible in terms of uses and aesthetics. Residents change, and they respond to different programs and environments depending on the progression of their impairments and their life experiences. As market preferences change, the ability to respond "painlessly" is a benefit. Hence, designing living units for future combinations and expansion should be paramount. Even in affordable housing, studio apartments are virtually unmarketable. When there is a demand for more modestly sized living units, it might be advisable to design smaller units that can be combined with neighboring units, should demand shift. Great care should be taken in examining and refining market research.
- Wayfinding and cueing are individual. Over

the years, much has been published about wayfinding and cueing to assist residents. We know from experience that some residents respond to objects (furniture, artwork, etc.), while others "cue" using color, personal objects, orientation to outdoor views, or even sound. Multiple cueing strategies are likely to be more effective than any single device.

- Corridors aren't all bad. Social encounters do not happen most often in "social" spaces. They typically take place in the unprogrammed circulation spaces where casual encounters occur. The quality of those spaces affects residents' sense of home and overall satisfaction.
- Corridors can also help protect privacy. Most of us grew up in homes with short corridors leading to bathrooms and bedrooms or other special spaces. Many households for residents with dementia are designed with bedrooms surrounding common spaces. However, there seems to be little benefit to staff or residents to having "views" to the bedroom from common spaces. Privacy is enhanced using short corridors leading to bedrooms; and the familiar feel of bedrooms "down the hall" from the living and dining spaces can add to the familiarity of the home.
- Residents need private and quiet time. Surveys indicate that residents and families appreciate the privacy of a bedroom. Single rooms are almost universally preferred, except where two people already know each other. Even for residents with dementia, individual rooms should be designed with private baths with showers and allow the bed and/or chair to be hidden from view from corridors and common spaces.
- Designing a dining program can be more important than designing the dining space. A "country kitchen" and "family style" seating do not make a great food service program. Restricted meal times and limited menus say "institutional" no matter what the room looks like. Choices (of food and schedule) have been shown to improve appetites. Meals prepared "on demand" are more similar to eating at home.
- Spaces that take advantage of natural light and have multiple lighting sources and controls allow for environmental changes that can have a positive impact on staff and residents.

Control of lighting is the most critical element.

- Outdoor spaces should have lots of shade. Without significant shade, residents won't go out into the most well-appointed gardens. Shade should provide space for multiple functions including gardening, cookouts and outdoor exercise. Keep the shade close to the door from the house; convenience encourages use.
- The built environment can assist staff in their work and sense of professional self-esteem. Staff members, whose work is stressful, appreciate options to have quiet and private "escape" time. Small supportive features, such as lockers (with locks) for personal items, convey respect. Professional education, such as teaching staff to get to know each resident in a deep, personal way, is essential. Unless the staff understands the philosophy behind both the quality of care and the design of the physical environment, they are unlikely to take full advantage of the building or enable residents to take full benefit of it.

Getting the Word Out: POEs in Publication

CSD's Glen Tipton and Perkins Eastman's Stefani Danes are involved in the AAHSA and American Institute of Architects collaborative program that is celebrating seven cycles of the Design for Aging Review by conducting POEs of 20 of the Design for Aging Review's published projects. The results will be recorded in a book published by John Wiley & Sons. This effort was spearheaded by Design for Aging's current chair, Jeff Anderzhon of In\Vision Architecture, and past chair Glen Tipton.


Wiley will begin marketing the book late in 2006 with availability for purchase in early 2007. The book, *Post Occupancy Evaluations: Evidence-Based Design for the Aging*, will be available for purchase through the AIA Bookstore (www.aia.org) or through John Wiley & Sons (www.wiley.com). It will also be available through Amazon.com. Publication of the book will be part of the events that celebrate the 150th anniversary of AIA and the 200th anniversary of John Wiley & Sons.

This book takes an in-depth look, through investiga-

tive POEs, at facilities and campuses that have been included in past Design for Aging Reviews. Going beyond simply "pretty pictures," the book examines innovations in design and operations that all designers and care providers can reference as they move into new projects and formulate new ideas for environments for the aging.

While the published book will provide insight into specific design and care provision innovations that have been implemented at 20 sites around the United States and five in Scandinavia, some general highlights worth listing are provided here by Jeff Anderzhon:

- Successful innovation and successful projects are the result of a committed and consistent board of directors, a strong champion for the project within the organization, and a clear mission, vision and purpose.
- Successful innovation in environments for the aging requires considerable time and effort prior to any construction: Time to consider the ramifications of the innovation, time to consider the resource implications of the innovation, and time to experiment as much as possible with the innovations.
- Innovations don't have to be expensive, only sensible.
- Building and care provision regulations should not be viewed as standards to meet, but as starting points on which to build. Innovation can take the form of creatively working within restrictive regulations to provide environments that affect the lives of residents, staff and families.
- Thoughtful and effective environments empower staff in the fulfillment of their jobs. Empowerment of staff results in a much higher level of care provided to residents.
- Staff training is critical to their understanding of how the environment should function. Orientation within that environment needs to be an ongoing task that will result in a higher-functioning staff and the use of the environment as it was intended.
- Simply because it looks good or is expensive to construct doesn't mean it works well. Putting a derivative façade on an atrium space will not



automatically make it relate to the intended residents. Know the target market and design to it.

- Pay very close attention to details, both aesthetic and functional. They will make the difference between successful innovation and crude experiment.
- Collaborate. Seek out, listen to and respect the opinions and suggestions of everyone you can. Some suggestions may seem unusual, but may have amazing results.
- Don't stop refining your ideas. Even when the construction is complete, there can be small changes, easy to implement, that will have profound results.
- Consider the future and how residents will age in place, what they will want to be doing and how they will perceive their community.
- Meals and food service are paramount to resident happiness. The delivery of the dining experience, from waiting to be seated all the way through dessert and coffee, will reverberate throughout the building, campus and community.
- Buildings age along with residents. Successful design withstands years of changes and challenges. Flexible designs will help keep pace with the physical and mental changes in resident populations and the unique demands of future generations.

The questions, the methods of collecting data and the individual conducting a POE are all related to its purpose. In its most limited scope, a POE may involve a single walkthrough of the building by the architect and owner or manager. To obtain residents' opinions, a POE may include a survey, a series of interviews or small group meetings. The performance of building systems can be assessed by reviewing maintenance and repair records or a questionnaire to the facility maintenance staff. For a more in-depth understanding of the use of a building, such as at Woodside Place, a series of systematic observations can be performed. A POE can take from two days to several months, or in the case of independently funded research, a year or more.

The future of assisted living and nursing is less clear today than ever. POEs help us understand the impact of rapidly changing technology, diminishing reimbursements and increased consumer demands. Consumers' desire to remain in independent living for as long as possible will yield sweeping changes in residential design to optimize truly independent living with high-tech monitoring and high-touch assistance available within the home. The lines between independent and assisted and even nursing are becoming blurred.

Just as a good design process ends with a post-occupancy evaluation, a good POE starts with a well-defined set of project design goals at the outset of the design process. Conducting and sharing POEs should become an expected and integral part of the collaborative work of architects and senior housing providers. Every project, if it is approached by both the owner and the architect as a learning experience, provides an opportunity to improve our knowledge and effectiveness in serving the people who will live in the facilities we design.

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