PACE Day Centers: Designing for Function

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The Program of All-Inclusive Care for the Elderly (PACE) is a managed care program for nursing home–eligible frail elderly people. Recently approved for participation as a regular provider in the Medicaid and Medicare programs, PACE provides an attractive and innovative alternative to care in nursing homes and assisted living (AL) facilities. Its objective is to enable clients to remain in the community through a comprehensive network of supporting services that enhance and augment in-home informal care. PACE serves individuals who are aged 55 or older, certified by their state to need nursing home care, able to live safely in the community at the time of enrollment, and reside in a PACE service area. Currently, PACE is a relatively minor provider in terms of the number of clients served; as of early 2007 there were 36 PACE programs serving an estimated 7000 frail elderly; however, the program is anticipated to grow markedly in the coming years.

The hub of a PACE program is the PACE day center, a medically intensive adult day facility that provides health services, care coordination, meals, activities, social and family services, and administrative support all under one roof. According to PACE guidelines, all participants are required to regularly attend the adult day center, and the center should offer nursing; physical, occupational, and recreational therapies; meals; nutritional counseling; social work; and personal care, with a focus on prevention. In addition, the day center can enrich participant quality of life by relieving isolation, offering meaningful activities and new social networks for participants, and providing support and respite to families.

To date, reports on PACE have focused on the process and cost of care and have ignored the potential social, nutritional, care-facilitating, and aesthetic roles of the program's physical environment. Thus, though it is a central feature of PACE program function, little attention has been paid to the design and function of PACE day centers.

To better understand the current state of PACE center design, we conducted a study of a sample 13 existing PACE programs. We sought to describe current PACE center design, critically review staff evaluations and photographs of key features of the existing sites, identify which features currently work well and which can be improved, and provide recommendations for programs that are developing or remodeling day centers.

Study Methods

We surveyed 13 sample existing PACE sites, selected in consultation with the National PACE Association to be representative of the range of centers and programs. By design, approximately half were in remodeled buildings and half in newly constructed buildings. All but 1 site we approached agreed to participate in the survey. The participating sites were located in California, Texas, Pennsylvania, Massachusetts, New York, Rhode Island, and Colorado.

Data from each site included phone interviews with center directors, questionnaires completed by staff, and photos taken by staff of the facility, including photos of the front of the building, entrance, entry area, activity/dining areas, clinic, physical/occupational/rehab areas, hallways, protected outdoor areas, environmental features that staff consider especially useful, and environmental features that do not work well.

Interviews, questionnaires, and photo requests asked for information about the site in general and about the location, entrance, activity rooms, dining areas and kitchen, clinic and therapy rooms, mobility, toilets and sinks for participants, bathing areas for participants, hallways, storage, and outdoor areas. Measures consisted of ratings and open-ended questions to collect

both quantitative and qualitative data about each area surveyed.

Data analyses were both descriptive and qualitative.

Results

The 13 day centers surveyed averaged 4.7 years in age and served a mean of 61 participants daily. Five (38%) were purpose built; the other 8 (62%) were remodeled existing buildings. All had been designed by an architect, and the majority (85%) had received input from proposed staff during the design process. All provided primary medical care, physical and occupational therapy, personal care, and activity/recreational therapy and meals. Many sites reported also providing a variety of other services. Table 1 provides staff demographics.

Table 1.
Staff Demographics

Director	
Gender	5 men
	6 women
Education	7 master's degree/doctorate
	3 bachelor's degree
Staff	
Mix	11 nurses
	17 nursing assistants
	9 physical therapists
	12 social workers
	14 activity staff
	10 transportation coordinators
	6 volunteers
	9 other
Gender	81% women
Education	26% graduate degrees
	23% bachelor's degree
	23% some college
	8% technical school
	19% high school or less

Directors and staff reported general overall satisfaction with their facilities. When asked if the current layout of the building best supported participant needs, 18 respondents (19%) strongly agreed, 49 (52%) agreed (Figure 1). When asked if the current room size was adequate overall for program needs (Figure 2), the responses varied depending on whether or not the center met the recommended PACE guidelines of 100 or more square feet per participant in social spaces.

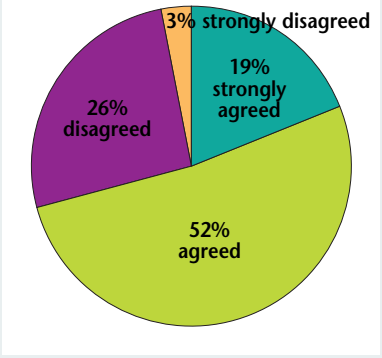
When staff and directors were asked to rate the various areas and functions of the centers using a scale from 0 (worst possible) to 10 (best possible), the mean results ranged from 4.9 (for outdoor areas) to 7.8 (for hallways). Areas cited as most needing improvement were outdoor areas, storage, and staff offices. Ratings differed depending on the building type and amount of space devoted to participants. In purpose-built buildings, the average rating was 7.6 (SD=1.8), while the average rating for retrofit buildings was 6.0 (SD=1.6); this difference was statistically significant [$t(100)=3.41$, $p<0.01$]. In centers that provided the recommended 100 square feet per participant or more, the average rating was 7.4 (SD=1.8), compared to that of 6.2 (SD=1.7) found in centers that did not provide 100 square feet per participant [$t(100)= -2.25$, $p<0.05$]. In addition, there was a trend of borderline statistical significance for facility directors to rate all areas higher than the staff [$t(100)= -1.69$, $p=0.09$]. Results of the staff ratings, including areas most often cited by staff as strengths and weaknesses of their facilities are presented by environmental feature in Table 2.

In reviewing photographs provided by each site of specific areas and features requested, design experts noted that many aspects of contemporary geriatric services facility design were not present in many of the existing PACE day centers. Among the frequently noted problem areas were designs that included unnecessarily long hallways; difficult to find pathways to activity areas, bathrooms, and outdoor spaces; unimaginative, often confusing use of noncontrasting color schemes; inadequate parking drop-off access; entrances that lacked temperature regulation or protection from the elements; activity areas that were institutional, cavernous, noisy, and poorly lit; tables with legs that prohibited wheelchair access; noisy, overcrowded dining areas; clinic and therapy spaces that were cluttered due to inadequate storage; suboptimal handrail use and placement, especially in bathrooms; institutional, uncomfortable bathing areas and equipment; and outdoor areas that inadequately provided for exercise, social activity, and/or staff supervision.

Discussion

The day center is the key feature of PACE programs; yet to date, little systematic attention has been paid in the academic or trade literature to the design and function of these sites. This survey of 13 existing PACE day sites found fair overall satisfaction with the site's function but also considerable room for improvement. Among the areas cited by staff as needing improvement were the outdoor spaces, storage, staff offices, and location/setting.

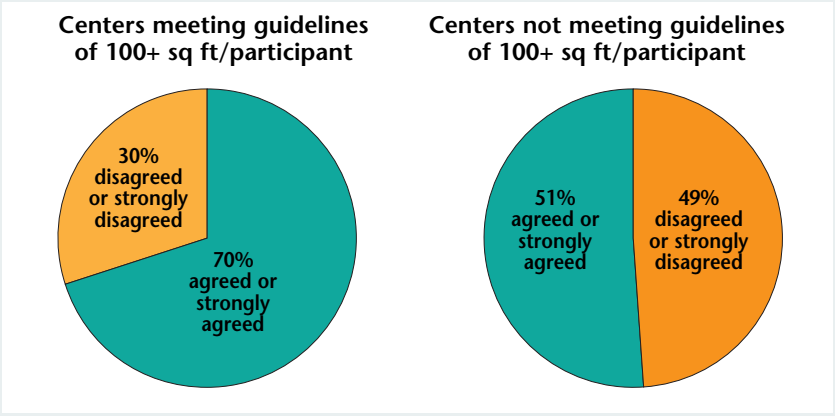
Figure 1. Does current building layout support needs?



aspects of many designs could include 1 or more of the following: rigid regulatory requirements, copying of old designs by newer centers, use of architects and designers who are unfamiliar with newer standards for senior care design, lack of involvement of care staff in decision-making, cost considerations, and restrictions inherent in retrofitting existing building structures.

The diversity of functions required of adult day centers and the heterogeneity of the users create significant design challenges. The challenge for programs that are developing PACE is to be willing to take the time and effort to engage experts who know and understand principles of geriatric facility design, rather than falling into the trap of copying existing facility models, which often reflect old, poorly functioning, and outdated notions of geriatric services design. This is particularly challenging because the typical new PACE provider is venturing into a new service area, often with an accelerated timeline. However, innovative, bold, supportive designs can be incorporated into PACE.

Figure 2. Is current room size adequate overall for program needs?



Particularly noteworthy is the fact that facilities that were purpose-built structures were rated significantly better than those in remodeled facilities; that facilities exceeding recommended space requirements were rated significantly higher than those with less space per client; and that directors tended to rate their facility more favorably than did the staff.

Both staff feedback and expert review of photographs from the surveyed centers indicated that, although the average study site was less than 5 years old, many aspects of contemporary geriatric care facility design were not exemplified in the existing day centers.[1] Reasons for the relatively noncontemporary

Table 3 summarizes recommendations that we have developed for the process of planning a PACE day center. In addition, based on our surveys and the comments of design experts, we recommend that the following be strongly considered in PACE center design:

- Use a modular design that places the main activity areas at the hub, surrounded by key support and outdoor areas, thereby minimizing the need for long hallways.
- Meet or exceed Illuminating Engineering Society of North America (IESNA)/American National Standards Institute (ANSI) standards for lighting in all areas, using glare-free natural light whenever possible.
- Configure spaces to minimize corridors and walking distances.
- Plan for the increased space needs of persons using mobility devices such as wheelchairs, walkers, and motorized scooters.
- Create multiple public spaces of varying sizes for activities and dining, and use moveable partitions to enhance space flexibility.
- Pay particular attention to providing bathing, toileting, and clinical care settings that are pleasant, interesting, dignified, and highly functional.
- Remember the dictum that there is no such thing as too many toilets.
- Incorporate function-specific storage into every space.
- Decentralize much of the staff work space. For example, place nurse and therapist work stations in the clinic and therapy areas, respectively.
- Plan for disasters. Consider having an electrical generator and several days' supply of food on hand.
- Consider a pharmacy or satellite pharmacy in the building or an arrangement with a nearby or adjacent provider.

PACE has much appeal to current and future users of long-term care services. It focuses on preventive and home-based care; has a tradition of developing a sense of community, home, and support for frail elderly; and successfully maintains the vast majority of enrollees in their homes. However, the origi-

Table 2.
Director and Staff Ratings of Key Environmental Features of PACE Day Centers[a]

Environmental Feature	Mean (SD) Overall Rating[b]	Most Commonly Cited Aspects[c]	
		Liked by Staff	Needing Improvement
Location	6.9 (2.4)	Central location/downtown Pleasant setting Easily accessible by public transportation	Unpleasant location Limited parking available Unsafe location
Entrance	7.2 (2.3)	Appropriate entry doors Safe, easy entry Large or wide entry	Protection from elements Enlarge/widen entry space Better entry doors
Activity areas	7.2 (2.3)	Large/spacious Good lighting (including natural light) Attractive decor	More space Multiple areas for activities More open layout to reduce congestion
Dining areas	7.4 (2.2)	Large/spacious Accessible to other center rooms Furniture layout	Increase size Improve furniture layout Different tables
Clinic	7.2 (2.2)	Large and spacious Good location in building Well-equipped	Increase size Maintain privacy better Location in building
Toilet areas	7.4 (2.3)	Easy to access Appropriate size Appropriate number for census	Utilities not at correct height or position Not enough bathrooms or stalls Increase size
Bathing areas	7.3 (2.3)	Large/spacious Well-equipped for special needs Easy to access	Increase size Increase number of showers Maintain privacy better
Mobility support	7.4 (2.3)	Wide, spacious hallways Layout of rooms and hallways Simple hallways, lacking confusion	Layout within each room Size/width of hallways Layout of halls and rooms within building
Staff offices	6.8 (2.3)	Large or spacious Well-equipped and furnished Appropriate location in building	Improve privacy maintenance Increase size Better equipment and furnishings
Storage	6.0 (2.7)	Adequate amount In appropriate places throughout center Good cabinets, shelving, other organizers	Need more space Better cabinets, shelving, or other organizers Spaces for larger equipment In more appropriate locations
Hallways	7.8 (2.2)	Wide, spacious Good floor plan/layout of building Good lighting	Too small or narrow Easier to navigate Better layout/floor plan
Outdoor areas	4.9 (3.3)	Scenic, pleasant atmosphere Good overall amount of space Covered/protected	Lack of space Make more pleasant/scenic Add more appropriate furniture

a Results of surveys completed by 100 staff in 13 representative PACE day programs. Responding staff included 11 directors, 12 social workers, 9 physical therapists, 11 nurses, 14 activity staff, 17 nursing assistants, 10 transportation coordinators, 6 volunteers, and 9 staff in other occupations.
b Evaluated on a scale ranging from 0 (= worst possible) to 10 (= best possible).
c Responses to open-ended questions.

nal PACE program was developed over 30 years ago in San Francisco, and design standards, care practices, and target patient populations have evolved since then; so new providers should seek to develop service and design models that are contemporary and regionally appropriate. This will enable new PACE programs to better serve their clients and to take optimal advantage of technological innovations,

Table 3.
Planning PACE Center Construction: A Guide for Directors and Designers

Step 1: Determine who you want to serve and who you are most likely to serve.
- Number of participants
- Type and degree of health problems, disabilities, and care needs
- Sociocultural background and range of backgrounds
- What is both physically necessary and culturally/spiritually meaningful for participants

Step 2: Determine the range of services you want to offer.
- PACE guidelines mandate the services to be offered by the PACE program. Review these services, and determine which ones you will offer.
- Determine if there are additional services you want to provide now or in the future (eg, barber shop and hairdresser, aquatherapy, gardening, aerobics and weight training, cafe, spiritual space).
- Meet with staff and persons from the community who can represent the interests of prospective clients, and begin to identify your space needs and priorities.

Step 3: Determine the core values that you want your program to reflect.
- As you develop your service plan, focus on what will make both the participants and the public view your program as a success.
- Have the major stakeholders (ie, potential participants and staff) provide input on their values and preferences.
- Decide what the "feel" of the center should be.
- Involve community members in an advisory capacity.
- Employ staff who share your vision and values. Plan training activities, roles, and evaluation strategies that instill and reinforce your values.

Step 4: Plan your building design.
- Hire an architect who understands healthcare design, gets to know your organization, works collaboratively with your planning team, and will help you translate your core values into a functional building design.
- If choosing between a purpose-built facility and a retrofit, remember that it is usually easier to achieve an optimal design and program in a purpose-built building.
- Identify the spaces you need. For each service you plan, develop a list of needed spaces, equipment, and characteristics. For example, an entrance may require space for 2 vans to simultaneously load clients, a covered canopy, an automatic door opener button that is highly visible and accessible, a welcoming atmosphere, a view of the inside, and space in the vestibule for at least 6 people.
- Give the heart of the program a position of prominence. Let program design determine building configuration.
- Think about how people will flow through the space. When a van drops off 10 people at once, after entering the building, where do you want them to go? Where do people who are waiting to be seen in the clinic wait? What are they doing while they wait? When they are done at the clinic, where do they go, and what should that path be like? This process is particularly useful once the design begins to take shape, to help you evaluate how well the design matches your vision.
- If your program plans to share space or resources with another facility (eg, nursing home, assisted living facility, church, community center, or senior center), consider how each can complement the goals of the other and how this can be reflected in the space design.
- Visit as many PACE Centers as possible to learn from their successes and mistakes.

thereby helping diffuse this desirable, innovative service model for frail elderly people. ALC

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