CHAPTER 3

Home and Community-Based Care Services

Mary Helen McSweeney-Feld, PhD, and Karen K. Frye, PhD

Learning Objectives

After completing this chapter, you should be able to

➤ define the terms senior center, adult day services, home care, and medical home;

➤ understand the history of the Older Americans Act, the development of the Aging Network, and the passage of Title XX, an amendment of the Social Security Act;

➤ discuss the types of long-term care delivered in home and community-based services (HCBS) settings;

➤ discuss new programs and regulatory initiatives for the provision of HCBS long-term care;

➤ discuss the impact of telehealth on HCBS;

➤ understand the special issues facing older disabled adults and their needs for HCBS; and

➤ compare HCBS and their settings in the United States with those in other countries.
INTRODUCTION

Developing home and community-based services (HCBS) alternatives for individuals needing long-term care continues to be a primary priority for many public healthcare programs. More and more consumers are opting to age in place in their community. The 1999 Supreme Court ruling in the *Olmstead* case (see Chapter 1) confirmed the discriminatory nature of government programs, which have favored institutional LTC over community-based solutions. These factors have prompted public healthcare programs to consider HCBS for their participants who need long-term care.

This chapter provides an overview of HCBS in the United States, starting with legislation that created the current networks of community-based services—the Older Americans Act and the Title XX program, which arose from an amendment to the Social Security Act. A description of HCBS services follows, including new initiatives that use technology in the provision of LTC services and programs developed under the Deficit Reduction Act. One section highlights the needs of older adults with disabilities. In addition, the chapter presents a comparison of HCBS in the United States with community-based services in other countries. Lastly, the outlook for providing HCBS in light of the current global economic downturn is addressed.

SOCIAL POLICY AND THE DEVELOPMENT OF COMMUNITY-BASED CARE SERVICES

Before the 1930s, the United States had few social programs designed specifically for older adults. Families, charitable organizations, and local governments were expected to provide these social services. Many factors—such as the low percentage of older adults, a strong belief in individual responsibility, and the free market economy—partially explain the slow response of the US government during this period (Hooyman and Kiyak 2011). The passage of the Social Security Act in 1935 ensured social insurance in retirement for qualified older Americans, and helped to protect the status of older adults in society. However, significant attention was not paid to the needs of older adults again by the federal government until the 1960s and 1970s.

Many Great Society programs instituted during this period, such as Medicare, Medicaid, Supplemental Security Insurance, Section 202 Housing, the Older Americans Act, and Title XX, laid the foundation for the provision of community-based care services in the United States. All of these developments helped older persons “age in place” (i.e., remain in their homes and in their community) while receiving needed LTC services.

AGING NETWORK

The aging network is a group of state, local, territorial, and tribal organizations, agencies, and individuals that provides services, support, resources, and advocacy for older Ameri-
cans aged 60 and above. Its member organizations aim to encourage and strengthen independent living and avoid unnecessary institutionalization. Today’s aging network includes the 655 Area Agencies on Aging (AAAs) operating on a local level, the state units on aging, more than 200 tribal and Native Hawaiian organizations, as well as thousands of nonprofit and for-profit organizations serving older Americans (Niles-Yokum and Wagner 2011)

**Foundation of Community Services: The Older Americans Act**

The Older Americans Act (OAA) was the product of many decades of mandates, proposals, and conferences designed to help the elderly and aging population in the United States. Enacted in 1965, the OAA ensures that funding and other resources are available to community-based programs that meet the complex needs of the aged and aging. Successive amendments to the OAA created additional programs that respond to specific issues. These programs include social, nutritional, housing, medical, mental health, training, and employment services and support to not only the elderly but also their caretakers. More important, the OAA protects the rights of vulnerable elders. For more information on the OAA, see [www.aoa.gov/AoARoot/AoA_Programs/OAA/index.aspx](http://www.aoa.gov/AoARoot/AoA_Programs/OAA/index.aspx).

The Administration on Aging (AoA) is the government agency that manages all funding, resources, and activities related to the provisions of the OAA. In this capacity the, AoA works with the organizations that make up the Aging Network. For more information on AoA, see [www.aoa.gov](http://www.aoa.gov).

The Older Americans Act consists of seven sections, or titles. The objectives of the act are stated in Title I, and they establish a unique role for the federal and state government in ensuring the well-being of older adults (O’Shaughnessy 2008).

- Title I defines the objectives of the act.
- Title II establishes the AoA, the administrative agency for the Older Americans Act;
- Title III provides grants to fund and design state and community programs on aging. Four areas are funded under this Title: supportive services such as information and referral assistance, care management, and transportation; nutritional services such as congregate meal programs and home-delivered meals (e.g., Meals on Wheels); family caregiver services and assistance programs; and disease prevention and health promotion services geared to foster health in older adults through nutrition counseling, fitness, education, and health screening (Niles-Yokum and Wagner 2011).
Title IV provides funding and support for aging research, as well as funding for new approaches (i.e., demonstration programs) in the delivery of aging services and training. Examples of these programs include the Aging and Disability Resource Centers (ADRCs), which help frail individuals remain in the community, and Chronic Disease Self-Management Programs (CDSMPs), which help individuals manage their own health services and chronic illnesses.

Title V funds senior employment programs, providing part-time jobs for low-income, unemployed individuals who are older than 55 and have limited job prospects. These Senior Community Service Employment Programs (SCSEPs) are frequently essential sources of income for vulnerable seniors, as well as training programs for seniors to pursue new types of employment opportunities.

Title VI provides supportive funds to Native Americans and Native Hawaiian organizations for social and nutrition services.

Title VII addresses the rights of vulnerable elders by authorizing funds for elder rights protection programs, state ombudsman programs, and state legal assistance development.

Government funding of the OAA has been renewed by Congress multiple times, but not without difficulty. Through amendments to the OAA, the number of groups to which services must be provided has grown considerably, and the downturn in the global economy has expanded vulnerable populations that are in need of these services. Consequently, while programs with OAA funding retain their objective of universal participation, some have asked consumers in the programs to share some nominal cost of their services if they are able to do so.

Social Services Legislation: Title XX

In 1975, an amendment to the Social Security Act created Title XX, a program that provides block grants for social services. These grants are fixed amounts of funding given to states for various purposes, including community-based care for the elderly and disabled.

Types of Community-Based Services

Senior Centers

Senior centers, one of the most popular services funded by the OAA, are the gateway to the Aging Network, which connects older adults to community services that can help them stay healthy and independent. More than 60 percent of senior centers are designated focus...
points for OAA services, and nearly 11,000 senior centers are operating across the country. While the OAA provides most senior center funding, most centers receive additional funds from other governmental and private sources, with many centers receiving funds from three to eight different sources (NCOA 2011).

**History of Senior Centers**

Senior clubs have been around since the 1870s, but it was not until 1943 that a formal program began in New York City. This initiative, led by the New York City Welfare Department, spread quickly throughout the United States (Gelfand 2006). In 1973, OAA amendments (Title II and Title V) introduced the multipurpose senior center as it is known today (Gelfand 2006).

**Senior Centers: Settings, Clients, Ownership, Financing**

Three types of senior centers exist: (1) multipurpose centers, which offer comprehensive programs and services (Aday 2003); (2) intergenerational centers, which are sites where children and elders interact during scheduled activities and participate in the same programs (Generations United 2006); and (3) specialized centers, which provide a specific service, such as meals or healthcare (Gitelson et al. 2008). Exhibit 3.1 summarizes the key characteristics of the different types of senior centers.

Every day, approximately one million older adults receive services at senior centers. Seventy percent of these clients are female, and about half of them live alone. Research shows that older adults who participate in senior center programs can learn to manage and delay the onset of chronic disease and experience measurable improvements in their physical, social, spiritual, emotional, mental, and economic well-being (NCOA 2011). Because

---

**Exhibit 3.1**

<table>
<thead>
<tr>
<th>Settings</th>
<th>Multipurpose (nearly 75% of centers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intergenerational</td>
</tr>
<tr>
<td></td>
<td>Specialized center</td>
</tr>
<tr>
<td>Clients</td>
<td>Typically older women between 70 and 79 years of age</td>
</tr>
<tr>
<td></td>
<td>Low to middle income</td>
</tr>
<tr>
<td></td>
<td>Desiring social interaction</td>
</tr>
<tr>
<td>Ownership</td>
<td>Not-for-profit</td>
</tr>
<tr>
<td></td>
<td>May have national accreditation</td>
</tr>
<tr>
<td>Financing</td>
<td>Home and community-based care block grants from the OAA</td>
</tr>
<tr>
<td></td>
<td>Private funding from businesses, foundations, donors</td>
</tr>
</tbody>
</table>

---
senior centers are a gateway to the Aging Network (mentioned earlier), many centers are adjusting their programming to better appeal to aging baby boomers.

**Adult Day Services**

Adult day services are community-based facilities for individuals who need supervised care during the day. Clients of adult day services include people who have physical and/or mental disabilities, who are elderly and cannot perform activities of daily living, or who have rehabilitation needs. In addition to serving the needs of the clients, adult daycare gives caregivers a break from their duties (NADSA 2011). Most adult day facilities are open only during the weekdays, but some operate on the weekends and during evening hours.

**History of Adult Day Services**

Adult day services evolved from the day-hospital concept developed in England after World War II. Many soldiers came back from the war with a variety of illnesses and injuries, overwhelming the existing hospital system (Hindman 2009). Hospitals simply could not handle the demand, some of which was for long-term stays. The day hospital was invented to enable soldiers who needed care to receive services during the day but leave by night to recuperate at home. This system freed up space for soldiers who had more major problems and needed to be admitted.

The concept did not reach the United States until the 1970s. At the time, reports about poor conditions in nursing homes were widespread. In response, adult daycares were positioned as viable options for families who did not want their loved ones to suffer nursing home mistreatment (CAADS 2010). The concept of adult daycares was further bolstered when federal reimbursement became available for their services (Hindman 2009).

Currently more than 4,600 centers provide care to nearly 150,000 recipients per day (NADSA 2011).

**Adult Day Services: Settings, Clients, Ownership, Financing**

Adult day services follow one of three models: medical, social, and specialty. The medical model offers clinical interventions and support, therapy, rehabilitation, and other health and wellness services. The social model revolves around organized activities (e.g., parties, games, field trips) that promote socialization among participants. The specialty model provides care that is tailored to a specific need, such as Alzheimer’s and other types of dementia. All models emphasize safety and companionship while encouraging independence. Ultimately, adult day services allow families to defer expensive nursing home placement. Exhibit 3.2 summarizes the key characteristics of adult day services.
Following are findings from the Partners in Caregiving (2002) study on adult day centers:

- Adult day centers provide care for 150,000 care recipients each day.
- Nearly 78 percent of adult day centers operate on a nonprofit or public basis.
- Seventy percent of adult day centers are affiliated with larger organizations such as home care organizations, skilled nursing facilities, medical centers, or multipurpose senior organizations.
- The average age of the adult day center care recipient is 72, and two-thirds are women.
- Thirty-five percent of the adult day center care recipients live with an adult child, 20 percent with a spouse, 18 percent in an institutional setting, 13 percent with parents or other relatives, and 11 percent alone.
- Fifty-two percent of the adult day center care recipients have some cognitive impairment.
- The average daily rate for adult day services is $60, compared to an average rate of $19 an hour for home health aide care (Genworth Financial 2010).
- Medicare does not pay for any type of adult day care. However, in 35 states, Medicaid can be used to pay for adult day care services (Genworth Financial 2010).
**Settings**
- High-tech, medical model, providing healthcare services (e.g., infusion therapy)
- Custodial or homemaker care
- Specialty model, providing care for HIV/AIDS, other chronic conditions

**Clients**
- Nursing home–eligible clients who prefer to live in the community
- Consumers with chronic illnesses

**Ownership**
- Not-for-profit, affiliated with hospitals, nursing homes, etc.
- For-profit, freestanding proprietary

**Financing**
- Medicare and state Medicaid programs
- Commercial insurance, managed care plans

---

**Home Care**

**Home care** includes a variety of healthcare and supportive services provided by paid or unpaid caregivers to individuals with disabilities or illnesses. Home care can include specialized services such as **home infusion therapy**; custodial care services such as meal preparation, shopping, and cleaning; and assistance in paying bills. Approximately 12 million individuals receive care from over 33,000 home care providers. In 2009, annual expenditures for home care services were projected to be $72.2 billion (NAHC 2010). Exhibit 3.3 shows the key characteristics of home care services.

---

**Exhibit 3.3**

Home Care Services: Settings, Clients, Ownership, Financing

---

**Home care**
Healthcare or supportive services for individuals with a chronic disability or illness who live in the community.

**Home infusion therapy**
Drug therapy provided intravenously that is given to an individual at home.

---

**Home Care: Settings, Clients, Ownership, Financing**

Home care clients include people who have chronic illness (e.g., arthritis, diabetes), complex medical conditions (e.g., genetic disorders), physical and mental impairment, or incurable or terminal disease. In 2009, of the $72.2 billion spent on home health care, 41 percent was for Medicare-reimbursed home care services (NAHC 2010).

Types of professional providers (as opposed to unpaid caretakers) of home care services vary. They include home health care and nursing agencies, home care aide organizations, hospices, and a variety of independent businesses. Some providers are Medicare certified.
Beginning in the early 1980s, Medicaid started funding long-term home and community-based services (Smith et al. 2000). In most states, the organizations providing such services must obtain a Medicaid waiver (i.e., a waiver of Medicaid regulations) to pay for a variety of specialty services.

**International Perspectives on HCBS**

In the United States, the nursing home (and before this, almshouses and faith-based residences) used to be the traditional places to which the elderly who needed LTC services

---

### CRITICAL CONCEPT

**Practice Guidelines**

Practice guidelines established by the American Association on Intellectual and Developmental Disabilities (known in the past as the American Association on Mental Retardation) are based on key assumptions that should be considered by healthcare professionals when working with older adults with disabilities (Janicki et al. 1996). While these guidelines are focused on mental and developmental disabilities, they could also apply to seniors with other disabilities. The recommendations include the following:

1. Care must be tailored to the individual's distinct needs.
2. Age-related decline is inevitable, such as reduced sensory functioning, but gross mental deterioration should not be expected.
3. Individuals with developmental disabilities are at greatest risk for Alzheimer's disease (AD).
4. Behavioral changes seen with AD may be present in an elder, but they could result from other causes, such as a urinary tract infection, and thus may be reversible.
5. Standard differential diagnosis procedures used in the general population with respect to intellectual disabilities and AD should be employed and should be adjusted for different skill levels.
6. Evaluation and changes in functioning should be compared to the individual's past performance, not norm groups, to properly monitor within-person changes.

In summary, an LTC organization's policy regarding disabled older adults should accommodate their varied levels of disabilities and needs so that they can be fully served.
were taken to receive live-in care. Societal changes and the passage of the Older Americans Act and other legislation have minimized this practice. US seniors with LTC needs and their families are now encouraged to take advantage of community-based alternatives to nursing homes and other residential settings.

In many other countries, it is more common for elders to be cared for at home. The belief system that underlies this practice in some countries is filial piety—care of aged and aging parents is the responsibility of the children (Hooyman and Kiyak 2011). Global family and life trends are changing that tradition, however.

Increased life expectancy, combined with lower fertility rates and the breakup of the family unit, has necessitated that many families investigate residential care options for its elders. Some industrialized countries have raised the retirement age, which gives older adults an incentive to keep working and diminish their use of long-term care services. However, cross-comparisons between the use of HCBS for long-term care in the United States and that in other countries remains difficult due to limited comparative studies in this area.

A Look Ahead
National healthcare reform initiatives and recent state court decisions have firmly supported individuals’ choices to age in place and receive LTC services from HCBS. In addition, congressional healthcare reform bills include enhanced financial support for HCBS (Williams 2009). In Florida in 2008, roughly 8,500 Medicaid recipients filed a lawsuit against the state. They claimed they were improperly forced into nursing homes, which is in violation of a US Supreme Court case—the Olmstead decision—and the Americans with Disabilities Act. The recipients recently reached a $27 million settlement with the state, and these funds were to be used to improve education for nursing home residents about how they can transition from institutions to community-based care (Associated Press 2009).

The global economic downturn that began in 2008 has reduced the amount of money available to states to fund HCBS programs. In addition, the wide variations in state HCBS programs and the states’ restrictive financial or functional eligibility standards for services may prevent community-based LTC providers from meeting the growing demand from consumers now and in the future. Policymakers need to continue to study and collect data on access, cost, and quality of HCBS as they continue to make these services a viable alternative for older consumers who want to age in place.

For Discussion
1. Discuss the history of social policy and the development of community-based services.
2. Explain the role of the Older Americans Act in the provision of services for elders in the United States.
3. List and detail the services provided by different types of HCBS.

4. Discuss the three models of delivery for adult day service programs.

5. Telehealth is a new development in providing LTC services. Discuss how telehealth may be used in the future to provide LTC services.

6. Discuss two options for elders to age in place in their homes and in the community in the United States. What are the advantages and disadvantages of each option?

7. What is the purpose of introducing a Medicaid waiver program for HCBS?

8. In light of the current global economic turndown, what is the outlook for HCBS in the United States in the next five years?

**Case Study: Aging in Place**

Betty and Clayton Ross always dreamed of retiring to Upstate New York to escape the hustle and bustle of the big city. Their dreams of a serene retirement were dashed when Clayton was diagnosed with Parkinson’s disease at age 55.

At first, Clayton was able to continue to work and deal with the tremors; however, it soon became unbearable, and he could no longer continue as the pastor in the church he founded. Clayton retired at age 59, and Betty was able to provide all of the care he needed at home for the next 15 years.

When Clayton reached age 74, the debilitating effects of his disease became too much for Betty to handle by herself. At that time, Betty and Clayton moved to rural Pennsylvania to be near one of their daughters and her family so that Betty could get assistance. For almost ten years, their daughter Sandy and her husband, Wally, provided assistance, including transporting them to all physician appointments and social outings. Sandy also visited each day to help her father with his activities of daily living. Wally oversaw their financial portfolio and often helped to meet any shortfalls due to the couple’s dwindling funds. This arrangement worked well for almost ten years; however, it put a strain on the family relationship.

The next shoe dropped when Betty, at age 83, was diagnosed with chronic obstructive pulmonary disease, a progressive lung disease that made it difficult for her to breathe. Betty and Clayton were at a crossroads and discussed their dilemma with their daughter and her family. They maintained their desire to live at home rather than to be institutionalized and forgotten; however, they knew they could not live without assistance.
As a result of the added stress of caring for Sandy's parents, Sandy and Wally's marriage and family life had suffered and they were feeling trapped. After all, Sandy and Wally had three children to take care of and often had to forgo family outings and miss their son's after-school activities. The family had tried to help the best they could, but when Wally was offered a job in another state, he could not turn down this opportunity for promotion and a fresh start on the family's life. As a result, Betty and Clayton were left to fend for themselves. They had always been able to live independently with the help of their family, but now what would they do?

The couple knew one thing: They wanted to be together and remain in their home. Their desire to age in place and stay together was emphatic; however, their savings had been almost entirely depleted, and they could no longer rely on their family's financial support because they had their own financial obligations.


**Case Study Questions**

1. Define aging in place.

2. What options are available to help Betty and Clayton age in place?

3. In light of their financial condition and their desire to live at home together, what is the best option for Betty and Clayton?

4. What could Betty and Clayton have done to plan better for the circumstances that they are currently facing?
CHAPTER 5
Chronic Care and Alzheimer’s Disease
James Siberski and Margie Eckroth, RN, PhD

Learning Objectives

After studying this chapter, you should be able to

➤ understand the chronic care model and the six components of effective chronic care services delivery;

➤ define Alzheimer's disease (AD), its three stages, and the implications of managing long-term care services for the AD population in nursing residential, home-based, and community-based (nursing home, personal care, and daycare) settings; and

➤ understand how care for individuals with AD can be facilitated through the use of the chronic care model, which emphasizes self-care.
**INTRODUCTION**

The world population is aging, and those who have chronic health conditions are living longer. This trend makes management of chronic illness one of the greatest challenges for the United States and other countries today and in the coming decades. In the United States alone, approximately 133 million people have a chronic illness, and that number may rise to 171 million by 2030 (Johns Hopkins University 2004). One important disease related to aging is **Alzheimer’s disease**. The National Institute on Aging (2012) estimates that 5.1 million Americans are living with Alzheimer’s disease. Insurance carriers, government agencies, and other medical care and LTC providers have taken great interest in coordinated care management for the chronically ill population. Towards this end, in 2011 Congress passed the National Alzheimer’s Project Act, which aims to create a national Alzheimer’s management plan.

**CHRONIC CARE MODEL**

Created by Edward Wagner with the MacColl Institute for Healthcare Innovation and Group Health Cooperative of Puget Sound, the chronic care model is a comprehensive, coordinated, and proactive approach to caring for people with chronic conditions. The model argues that excellent chronic care must include the following six components, which must work together to deliver safe and effective care (also see Exhibit 5.1):

---

Exhibit 5.1
The Chronic Care Model

---

SOURCE: Developed by the MacColl Institute * ACP-ASIM Journal and Books
Chapter 5: Chronic Care and Alzheimer’s Disease

1. The health system
2. Delivery system design
3. Decision support
4. Clinical information systems
5. Self-management support
6. The community

The effectiveness of this model was tested (and the model was improved) in the late 1990s. The demonstration project culminated in the creation of Improving Chronic Illness Care, a program funded by the Robert Wood Johnson Foundation. Innovations in team-based care management that links healthcare providers to the community, the evolution of patient-centered medical homes, and a focus on self-management of care using technology are all results of the application of the chronic care model, both in the United States and in many European countries.

Alzheimer’s Disease and Chronic Care Services Management

Many chronic care service demonstrations have focused on chronic illnesses that affect individuals of all ages, such as diabetes, hypertension, and asthma, but other important chronic conditions, such as those that emerge as a result of aging and longevity, can be effectively managed with a similar approach. One of these conditions is Alzheimer’s disease (AD), a degenerative brain disorder that leads to dementia, memory loss, and drastic changes in thinking and behavior. More than 5 million Americans and their loved ones are currently living with AD, and this number is estimated to nearly triple to 16 million by 2050 (Alzheimer’s Association 2012). While AD can manifest in young individuals (i.e., those in their 30s), those typically diagnosed with AD are members of the elderly population. The incidence of AD among aging baby boomers is predicted to escalate (Alzheimer’s Association 2012).

Among the aged 65 or older group, AD is the fifth leading cause of death (Alzheimer’s Association 2011). Individuals with Alzheimer’s may live with the condition for an extended period—in many cases, more than 20 years if early diagnosis and treatment are provided. As such, AD requires the long-term use of medical and long-term care services. Also essential to AD care are family members and other unpaid caregivers, which currently number about 15 million (Alzheimer’s Association 2011).

Providers of LTC services have seen rapid growth in the number of clients and residents with Alzheimer’s. Due to the complexity of the disease (i.e., deterioration of mental and physical status in later stages), home and community-based care services (see Chapter 3 discussion) have emerged that can monitor individuals with AD. These programs use a combination of home care approaches and technological systems. For individuals whose AD has progressed to the stage at which they require 24-hour care,
memory care units within residential facilities and freestanding residences for Alzheimer’s care are available. The projected exponential increase in AD diagnosis in the future has necessitated targeted Alzheimer’s education and training for a wide variety of healthcare providers, including facility administrators. Training is also offered and recommended to family and other loved ones who provide support and unpaid care to individuals with AD.

This chapter examines AD as a special case of chronic care management and argues that more fluid service delivery models, such as the dimensions of care model (see Chapter 1) and the chronic care model, which will be discussed in this chapter, can be effective approaches for people who suffer from AD and for those who take care of them.

The Alzheimer’s Disease Process

Dementia is defined by Dr. Robert Cummings as “an acquired persistent impairment of intellectual function with compromise in at least three of the following spheres of mental activity: language, memory, visual/spatial skills, emotion or personality, and cognition” (Cummings and Benson 1992). If an individual meets these criteria, he is said to be demented. Dementia has numerous causes, but Alzheimer’s accounts for up to 75 percent of all dementia (Levine 2006; Cummings 2003). The other commonly diagnosed forms of dementia are (1) vascular dementia or small strokes, (2) Lewy bodies dementia, and (3) frontotemporal dementia (see Exhibit 5.2) (NINDS 2009).

Administrators of LTC facilities need to be aware that individuals who suffer from dementia have an acquired, persistent impairment of intellectual function and thus need specialized care. The level of such care varies according to the cause of the dementia and the stage of the illness and affects a facility’s staffing requirements, training, need for resident supervision, and other factors. A reference that is helpful for those who work with clients with AD and other dementias is the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders text revision (DSM-IV-TR). Published by the American Psychiatric Association and serving as a trusted reference book in the medical and mental health sectors, the DSM-IV-TR provides a classification of mental disorders, specific criteria for diagnosis, and a listing of the most important conditions to consider in a differential diagnosis for each category. This manual is a good resource for administrators and staff. When an administrator encounters a client who has not been diagnosed with a dementia but is experiencing memory complaints, displaying inappropriate social behaviors, or suffering hallucinations (for the first time), the administrator should refer the client to a qualified medical professional for a comprehensive assessment. A physician must assess the causes of dementia-like symptoms, as some of them can be reversed if they originated from a treatable condition such as depression, adverse drug interaction, thyroid problem, excessive use of substances, vitamin deficiency, or tumor.
1. **Vascular dementia (VaD).** A syndrome of insufficient blood flow to the brain areas that causes cognitive problems and can be recognized by its step-wise progression. Some causes are hypertension, diabetes, heart disease, and tobacco smoking. It can begin after age 50 and accounts for approximately 10 percent to 20 percent of all dementias.

2. **Lewy bodies dementia (LBD).** “The central feature of LBD is progressive cognitive decline, combined with three additional defining features: (1) pronounced ‘fluctuations’ in alertness and attention, such as frequent drowsiness, lethargy, lengthy periods of time spent staring into space, or disorganized speech; (2) recurrent visual hallucinations; and (3) Parkinsonian motor symptoms, such as rigidity and the loss of spontaneous movement. People may also suffer from depression.”

3. **Frontotemporal dementia (FTD).** “The symptoms of FTD fall into two clinical patterns that involve either changes in behavior or problems with language. The first type features behavior that can be either impulsive (disshibited) or bored and listless (apathetic) and includes inappropriate social behavior; lack of social tact; lack of empathy; distractibility; loss of insight into the behaviors of oneself and others; an increased interest in sex; changes in food preferences; agitation or, conversely, blunted emotions; neglect of personal hygiene; repetitive or compulsive behavior; and decreased energy and motivation. The second type primarily features symptoms of language disturbance, including difficulty making or understanding speech, often in conjunction with the behavioral type’s symptoms. Spatial skills and memory remain intact.”

* Definitions reprinted from NINDS (2009).

---

**Risk Factors**

The risk of Alzheimer’s disease is 1 percent at age 70 to 74, and the risk almost triples every five years after that: It is about 8.5 percent for those over age 85. A family history of AD with first-degree relatives (i.e., mother, father) increases the risk from 10 percent to 30 percent. Other risks include head trauma, depression, low education attainment, hyperlipidemia, diabetes, Down syndrome, and gender. Women have a greater risk because they live longer than men, and as noted, age is a risk factor (Ford 2008).

**Symptoms**

The signs and symptoms of dementia include personality change, difficulty coping with change, confusion, repetition (e.g., asking the same question), difficulty reading quickly, forgetfulness, poor decision making, difficulty with self-care (i.e., performing activities of daily living, as described in earlier chapters), and difficulty with the executive functions that allow independent living (i.e., performing instrumental activities of daily living, as described in earlier chapters).
Three Stages of Alzheimer’s Disease

Understanding the three stages of AD is essential. These stages are not distinct or freestanding; instead, they are part of a continuum—symptoms initially appear mild and later become severe, thereby increasing the requirements for care. AD typically begins after age 50, and once the symptoms emerge they will only progress. The three stages are (1) preclinical, which lasts two to three years; (2) mild, which can last from one to ten years; and (3) severe, which can last one to ten years (National Institute on Aging 2010).

Preclinical Stage

In the preclinical stage, the symptoms are mild and commonly characterized by mild cognitive impairment. Individuals with preclinical AD are more likely to be at home or at a daycare. Forgetfulness is normally evident, and the forgetfulness can be problematic, depending on the client’s position in the preclinical stage. Mild problems with speech, word-finding issues, and difficulty learning new information also occur. For example, a client with preclinical AD may demand lunch right after she eats, and she may repeat this pattern throughout the day, straining the patience of caregivers.

Mild Stage

In the mild stage, individuals may be at a daycare or, if they are further along in the mild stage, at a personal care facility. Because the mild stage represents a worsening of symptoms, caregivers may have to be trained to deal with the clients’ restlessness, irritability, pacing, poor comprehension, delusions, and agitation. The progression to the mild stage also affects the activities of daily living, as discussed in Chapter 1. Therefore, depending on the individual’s position in the mild stage, caregivers may encounter difficulty when the person attempts to dress and complete other basic functions. The mild stage also is marked by memory problems and increased confusion. As the confusion gets worse, wandering behavior occurs (discussed later in the chapter).

DID YOU KNOW?

Four As of Cognitive Dysfunction

1. Amnesia is one of the first signs of dementia. It is the inability to learn new information and cannot be corrected by prompting or cueing.

2. Aphasia deals with both expressive and receptive communication. A person with aphasia gets lost in his words and fails to understand what someone is asking him to do.

3. Apraxia is the inability to follow commands.

4. Agnosia is the inability to identify persons, places, or things. A person with agnosia who fails to identify a fork will be unable to follow through on the directive “pick up your fork and eat.”

Caregivers need to be educated on how to successfully deal with these four As so as not to challenge a person’s disabilities and frustrate both parties.

Source: Alzheimer’s Foundation of America (2011).
4. Use the person’s full name with title (e.g., Mrs., Mr., Sister, Dr.).
5. Speak slowly, using simple words and omitting conjunctions, as they can complicate the message.
6. Ask one question at a time, and allow ample time for the response.
7. Include the person in the conversation if he is in the room, and refrain from talking about him as if he is not there.
8. Be patient.
9. Use gestures and pictures of objects or actions (e.g., an image of someone drinking coffee).

Staff who can effectively communicate with clients and residents typically have a better relationship with these individuals and experience fewer dysfunctional behaviors (Williams, Gazjewski, and Wilson 2009).

Pharmacological Treatment

The pharmacological management of the cognitive symptoms of AD consists of the cholinesterase inhibitors—Aricept (donepezil), Exelon (rivastigmine), Razadyne (galantamine), and Cognex (tacrine, no longer used)—and Namenda (memantine), a non-cholinesterase inhibitor. Cholinesterase inhibitors are usually beneficial when administered during the early stages. The non-cholinesterase inhibitor Namenda has been effective in the later stages when combined with Aricept. The pharmacological approach has proven to be successful 50 percent of the time, modestly slowing the progression of cognitive impairment and reducing difficult behaviors and some psychiatric symptoms in patients (Hallberg and Norberg 2005).

This improvement translates into an individual with AD who is somewhat capable of self-care, which can reduce staff workload. Although administrators need not be experts in medications, it is to their advantage to understand that drugs, while helpful, can create problems if not prescribed correctly. Pharmacists should be consulted in difficult cases. A pharmacist can analyze over-the-counter and prescription medications to determine whether they are appropriate and whether they contribute to an underlying problem. Due to normal age-related changes, the elderly are more susceptible to side effects, which when not recognized can increase staff workload and negatively affect the clients’ and residents’ quality of life.

No magic pills can solve the problems that arise from AD, and administrators and staff should consider non-pharmacological approaches, as described in this chapter, before adding pharmacological options. Medications should never be used to treat family or staff anxiety, nor should they be used as chemical restraints.

A Look Ahead

New and seasoned administrators must stay current with the ever-changing discoveries in the field of dementia, specifically AD. They must be prepared to provide effective services
to the existing population, and understand insurance and governmental standards to meet and maintain their facility’s certifications. Administrators and staff must work efficiently and avoid providing services deemed ineffective or obsolete. Likewise, they should be constantly aware of and knowledgeable about new discoveries in AD treatment, including new medications, diagnostic innovations, and creative interventions that improve care. Being current with trends helps facilities expand their potential customer base and thus increase profitability.

This chapter provides a broad overview of Alzheimer’s disease and its management in LTC facilities. Future administrators should conduct further study into this important topic to enable them to effectively provide quality care to this population.

**For Discussion**

1. Why is it important for an administrator to have an understanding of Alzheimer’s disease?

2. Should staff do everything for the client, knowing the activities may be completed faster than if the client performs them? Why or why not?

3. Explain the negative outcomes of wandering in any facility.

4. Can too much programming cause behavioral problems?

5. Briefly describe the chronic care model.

**Case Study: Progressing from Mild to Severe Stages of Alzheimer’s**

Seventy-five-year-old Mrs. Fox was referred to the facility for an assessment. She was cooperative for the interview and initially tried to answer all the questions, but many times she gave up rather quickly. Her affect was flat, and she denied experiencing visual or auditory hallucinations. She was able to maintain her attention and made fair eye contact. She stated that she would sometimes cry and that her memory was “not bad.” She reported a good appetite, stated she had no trouble sleeping, and denied any feelings of depression. She did appear to have a hearing impairment and noted that her vision is fine. She continues to attend church services and was able to say the Rosary. She indicated that she was not feeling well and would like to feel better.

Mrs. Fox has multiple physical problems for which she is presently receiving medical treatment. She has been diagnosed with a dementia (Alzheimer’s type). She has periods of
suspiciousness and believes that people are removing things from her room. She often sits in her room in various stages of unsuitable dress at inappropriate times. Staff reports that she has been confused for about a year but has been significantly impaired for the past two months.

Mrs. Fox has dementia and is in the mild (second) stage of Alzheimer’s disease. She shows a significant problem with recent memory, and her remote memory is also impaired. She is now beginning to wander, and the symptoms of aphasia, apraxia, and agnosia are becoming more evident. Her suspiciousness may be the result of her frustration over things she cannot find or cannot explain. In other words, she is using various defense mechanisms to make sense of her erratic, unpredictable world. She lacks insight into her impaired memory and other symptoms. She showed no improvement after taking Aricept, the prescribed medication for her Alzheimer’s disease; instead, she showed both cognitive decline and progression of the disease. When Aricept was discontinued, there was a rapid decline in her cognitive scores. Assessing individuals for depression when cognitive impairment is present is difficult, but she appears to be depressed. As noted, she admitted to crying sometimes. She also needs medication to induce sleep, and according to staff she has appeared sad for the last two weeks.

In summary, Mrs. Fox is in the second stage of Alzheimer’s disease. Her prognosis is poor, but several interventions can improve her quality of life. The wandering, confused behavior, and memory problems will only worsen as she enters the severe stage, where sitting and lying down will replace wandering as she succumbs to the disease.

**Case Study Questions**

1. In what stage of AD is Mrs. Fox, and what symptoms support your response?

2. What behavior will indicate that Mrs. Fox is entering the severe stage of Alzheimer’s disease?

3. If staff were to attempt to involve Mrs. Fox in many activities and make significant demands on her to clean her room and bathe herself, how might this affect her behavior?
CHAPTER 9

The Design of Long-Term Care Environments

Juliet Davis, PhD; Christopher Johnson, PhD; and Reid Oetjen, PhD

LEARNING OBJECTIVES

After studying this chapter, you should be able to

➤ define the terms sensory considerations, universal design, institutional design, and facilities management as they are used in this chapter;

➤ understand the relevant regulations related to the physical environment of long-term care facilities;

➤ understand the management issues of the physical environment of residential care settings, including repair and preventive maintenance procedures;

➤ discuss the latest developments and movement in environmental design, including the Eden Alternative and the Green House Project; and

➤ understand the importance of disaster management, including creating a disaster plan to provide continuity of care to residents of residential care facilities in the event of an emergency.
INTRODUCTION
The enormous psychological, emotional, sociological, and physical well-being implications of a facility’s environment are critical for all LTC administrators to address. A well-maintained environment improves the delivery of care and promotes resident-centered care. The buildings, grounds, and equipment all require regular attention and ongoing upkeep. The Code of Federal Regulations requires a facility to “be designed, constructed, equipped, and maintained to protect the health and safety of residents, personnel, and the public” (Allen 2007, 301). In addition, the physical design standards of LTC facilities are undergoing a revolution. It is no longer acceptable to build or design facilities using the medical model as a guide. A culture change focusing on resident-centered care is leading the revolution toward greater resident and client empowerment.

This chapter begins by outlining important considerations in designing or redesigning LTC facilities, particularly for residents with dementia. That section is followed by a review of the regulations surrounding the physical environment and the process of managing that environment. Next, the chapter addresses community-based designs. The chapter closes with a discussion of disaster management and provides related resources.

DESIGN OF LONG-TERM CARE FACILITIES
Healthcare facility design is a relatively new field that emerged in the early 1990s. A key theme in this area has been the need to transform healthcare settings into healing environments that improve resident outcomes through the use of evidence-based research. Research comes from a variety of fields, including evolutionary biology and neuroscience. Privacy, resident safety, and stress reduction are integral parts of this new philosophy of facility design.

Healthcare design specialists recognize the body-mind connection—that is, the physical environment has a strong impact on the psychological state of mind and, therefore, on physical health and well-being (Stewart-Pollack and Menconi 2005, 133). This connection is the result of two major influences: Robert Ader’s science of psychoneuroimmunology and Roger Ulrich’s theory of supportive design.

Robert Ader and Nicholas Cohen (1975) found that stress and anxiety can influence the function of the immune system, which, in turn, can inhibit the healing process. Consequently, environmental stressors, such as dim lighting, excessive noise, and brightly colored walls, can produce responses that hinder the healing process, especially for older persons. In 1995, Ulrich introduced the theory of supportive design, which encourages designers to promote wellness by creating “psychologically supportive” physical surroundings with three characteristics: (1) a sense of control over physical/social surroundings and access to privacy, (2) access to social support from family and friends, and (3) access to nature and other positive distractions in one’s physical surroundings.
accommodate personal-space zones with greater privacy; the use of adjustable, comfortable seating; the incorporation of natural elements such as interior green spaces and windows with views of nature; and the presence of pets. Many of these themes are present in the philosophies of culture change, the Eden Alternative, and the Green House Project—all of which promote resident-focused approaches to providing long-term care. (These approaches were introduced in Chapter 3 and are discussed later in the chapter.)

**Sensory Considerations**

As individuals age, their sensory needs and capabilities change. Many of these sensory needs require certain adjustments in the physical environment. Changes in vision and mobility are the two key sensory issues that require special attention. Federal statutes require facilities to be “well-lighted.” To address vision needs, the facility may need to ensure that all residential areas have sufficient lighting, natural lighting, and lighting that decreases glare. To do this, the facility may consider replacing traditional fluorescent bulbs with T-5 or T-8 lamps, which simulate natural light and are energy efficient (Brawley 2006; Johnson 1998; Calkins 1988).

Related to vision needs, choosing the right colors is an important consideration. The key is to have high color contrast (Anderzhon et al. 2007; Brawley 2006). As the eyes age, the lenses thicken and become yellow, making distinguishing between colors difficult. Residents may find it challenging to differentiate floors from walls and may experience problems with depth perception. Therefore, using contrasting colors not only is aesthetically pleasing but also offers a level of safety for the resident. Some additional suggestions from the literature on lighting include raising the level of illumination for residents and providing consistent and even light levels. Other suggestions include eliminating glare, using natural light when possible, and incorporating indirect lighting. Also, the facility should develop a lighting maintenance schedule so that these improvements continue to provide a safe environment (Brawley 2006, 64).

Changes in residents’ mobility can make certain environments risky. Several modifications must be made to minimize the safety risk for the residents and the liability of LTC providers. Many federal, state, and accrediting agency requirements are in place to ensure that facilities create safe environments. Following are some suggestions for preventing falls (Brawley 2006; Rollins 2000, 38; Johnson 1998; Calkins 1988):
Dimensions of Long-Term Care Management

- Repaint walls to create more contrast with floor surfaces.
- Do not oversimplify or make inappropriate modifications. A common error, for example, is installing grab bars without proper structural support.
- Use lighter-colored floor surfaces.
- Minimize changes in walking surfaces, and use slip-resistant covering when possible.
- Install more electrical outlets to minimize the use of extension cords.

Residents with Dementia

Residents with dementia experience special challenges with navigating the physical environment. John Zeisel and colleagues (2003, 697) discovered a positive correlation between “environmental design and agitation, aggression, depression, social withdrawal, and psychotic symptoms of residents with Alzheimer’s disease.” These residents may feel a greater sense of frustration and will perceive their environment as more stressful than would residents without dementia (Brawley 2006). Therefore, the physical environment should be designed to promote the highest level of functioning for residents with dementia. Zeisel and colleagues (2003) provide a literature review of studies that consider environmental features designed to improve outcomes for residents. Some of these strategies are presented in the nearby Critical Concept box.

LTC facilities may discover that these designing or remodeling suggestions will lead to improved quality of life for residents with dementia. These modifications are not limited to new or remodeled structures; they can also be implemented in older buildings. For example, residents with dementia have better outcomes when they have a private rather than a shared bedroom (Brawley 2006). It is worthwhile for the administrator to attempt to employ innovations in the physical environment to improve outcomes for all residents.

Universal Design

According to the Institute for Human Centered Design, universal design is resident-centered design of the environment with the needs of the users in mind. It is not a single design element but rather a general orientation or framework that encompasses myriad design changes. Universal design is barrier-free, providing accessibility for all residents. Its focus is not simply on residents with functional impairments but also on those without disabilities; hence, this broad focus helps to limit the stigmatization associated with disability aids. Universal design is also known by the terms inclusive design, design-for-all, and lifespan design, and it is consistent with the principles of green design (Brawley 2006).
Residents with dementia present unique challenges to LTC administrators. To address the needs of this population, facilities should consider using the following evidence-based design strategies:

2. Private areas have proven to reduce aggression and agitation and to improve sleep.
3. Public or common areas that have an inviting (not institutional/hospital-like) décor encourage more socializing.
4. Walking paths equipped with devices to stimulate the senses and filled with activity opportunities lift clients' spirits and discourage the desire to leave the area; such design also engages the clients' visitors and loved ones.
5. Therapeutic garden access has shown to reduce elopement attempts and to improve sleep (Johnson 1998).
6. Thin carpet or tile with no specks, glare, or checkerboard designs should be used (Brawley 2006; Zeisel et al. 2003; Calkins 1988).

These proven safety strategies lead to greater independence and fewer falls (Brawley 2006, 698).

**Institutional Design**

According to the Centers for Medicare & Medicaid Services (CMS), LTC settings should be “homelike.” However, older facilities—particularly nursing homes—are designed using the medical model, which is an institutional approach (Johnson 1998; Calkins 1988). The medical model approach is focused on meeting the needs of the staff. Thus, corridors are wide, privacy is nearly eliminated as residents are forced to share rooms, and the furniture and other fixtures are standardized (Joseph 2006). One of the reasons behind the continued use of institutional design methods is that most federal, state, and local regulations require that LTC facilities follow safety rules over homelike designs. A facility that wants to follow a design style that emphasizes safety along with homelike appeal sometimes has to seek a waiver. Given the importance of quality of life, facilities should address the
regulatory hurdles to promote resident care on all levels. This section reviews a few new concepts in institutional design.

**Overview**

As noted earlier, the medical model promotes an institutional feel to LTC settings. Recent innovations in institutional designs promote greater resident freedom, autonomy, empowerment, self-reliance, independence, and comfort and overall give a more homelike feel to the facility. Having homelike and noninstitutional features, such as user-friendly flooring, good-quality lighting, and safety elements, throughout the space is the current trend. The design suggestions in this section are taken from designs implemented by actual LTC facilities across the country and are in accordance with the current gerontology architecture and interior design principles (Anderzhon, Fraley, and Green 2007; Brawley 2006; Zeisel et al. 2003; Calkins 1988).

**Resident Room**

Rooms are designed into clusters rather than grouped along corridors (Anderzhon, Fraley, and Green 2007). The cluster design allows for fewer residents on a given unit. The rooms are also single occupancy, which increases privacy and autonomy. If building single-occupancy rooms is not possible, then the facility may consider vertically splitting the room via the addition of a wall. This allows each resident to have some degree of privacy and eliminates the need for either occupant to enter the space of the other when entering or exiting the room. If space and funds are available, rooms can also be designed into suites. If a facility is unable to redesign the physical structure, it can take other steps to promote good outcomes, such as making furniture and fixtures flexible and customizable. For instance, the facility may allow a resident to bring her favorite chair, which would support a more homelike environment.

**Nursing Station**

Concomitant with the practical functions of nursing stations is their social role. John Peacock (1995) indicates that both staff and residents tend to congregate around the station, thus making it a meeting spot. The challenges for a new design are to encourage the social role of the nursing station and to minimize the negative aspects such as noise and the institutional look. Small changes can be made to the existing design to achieve both goals. For instance, the fortresslike counter can be removed and replaced by a dining room table and wall cabinets; this provides both workspace and a home-like gathering space. To combat the noise issue, Peacock (1995) suggests moving the nurse’s station to a room. This allows staff to create a well-organized work location and allows for better noise control.
Shower Room

The design of a shower room should allow ease of use for both residents and staff. Some LTC facilities use a European design where the entire bathroom is essentially a large shower room (Brawley 2006). Facilities that are not able to redesign the shower room can make simple changes, such as installing more lighting for a brighter room, a fold-down shower seat or bench for safety and comfort, and removable shower chairs for better accessibility. The key to designing the shower room is flexibility: the greater the flexibility, the easier it is for staff to make needed adjustments to maximize resident comfort (Regnier 2002; Schwarz and Brent 1999; Calkins 1988).

Dining Room

Traditionally, nursing homes have used multiple tables in the dining room. Additionally, residents have few choices when it comes to the type of meals they eat and the time of day those meals are served. Recent innovations in resident dining employ fewer dining tables, more meal choices, and more flexible dining times. Some facilities have replaced the small four-seat tables with large tables (e.g., 8 to 12 seats) such as those found in many homes. This minor change allows greater interaction among the residents. Another simple innovation is to set the table with silverware, napkins, plates, and glasses, much like many households do (Brawley 2006).

Regulatory Concerns

LTC providers are among the most heavily regulated in the healthcare industry. This section reviews the relevant federal regulations related to the LTC physical environment and to its residents, staff, and visitors. The regulations discussed here focus on hazardous materials, building construction, fire protection, infection control, and resident comfort and protection.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act of 1990 is a federal law that established guidelines to ensure that all public and commercial buildings are accessible for persons with disabilities. The guidelines cover both the initial construction and future physical modifications to the facility. Violation of ADA rules can result in fines starting at $55,000 for first offenses.
and $110,000 for subsequent offenses (Department of Justice 2011). Many ADA-related lawsuits involve the violation of individual rights, but accessibility changes to the physical environment can also result in violation charges. For example, if a facility decides to create small corridors to achieve a homelike environment (a goal of culture change), it may find that it is in violation of ADA regulations (and also the Life Safety Code). Several notable cases against construction companies and other businesses include United States v. Ellerbe Becket, United States v. Days Inns of America, and United States v. AMC Entertainment, Inc. (A summary of these cases may be accessed at www.usdoj.gov/opa/pr/2000/June/369cr.htm.)

Title III of the ADA specifies that all new construction must be designed to be accessible by persons with disabilities. Likewise, renovations and other modifications to the facility must render the affected area accessible. In some cases, if an existing building has certain structural or architectural barriers, Title III requires the facility to remove the barrier. The rules do make allowances for undue hardship to the facility, such as when the cost of compliance study is disproportionately larger than the cost of the renovations, but, as Peter Rauma (1992, 29) explains, “A display of ‘good faith’ may provide important defense in the event of a lawsuit. Certainly, the cost of a compliance study is a small price to pay compared to potential consequences of neglect or delay.”

Administrators should seek legal advice from attorneys, architects, contractors, and other appropriate professionals when considering construction projects or renovations that might result in changes to ensure compliance with ADA rules. Professional advice is especially important when the facility is seeking to make modifications necessary to achieve culture change. The ADA rules may be found in the Federal Register.

---

**Critical Concept**

Complying with Federal Regulations

The importance of complying with regulations cannot be overstated. Administrators must be well versed in all local, state, and federal regulations despite the fact that they are extensive, confusing, and ever changing. Ignorance is not a valid excuse for failing to comply with these regulations. CMS is the federal regulatory body for all LTC providers; however, CMS relies on codes written by the Americans with Disabilities Act, National Fire Protection Agency, and The Joint Commission, to name a few agencies. CMS requires that LTC facilities meet these codes by referencing them in the Federal Register.
(volume 56, number 144, July 26, 1991, p. 35637) as Final Rule Part III CFR (Code of Federal Regulations) 28, part 36. Compliance with the final rule is administered by the ADA’s Architectural and Transportation Barriers Compliance Board, which is part of the US Department of Justice Civil Rights Division. The federal government may modify these rules in conjunction with the Council of American Building Officials and the American National Standards Institute in New York. Thus, periodically checking updates to this rule is important.

**Centers for Medicare & Medicaid Services**

Among the various regulatory agencies, the **Centers for Medicare & Medicaid Services (CMS)** is probably the most prominent. Section 483 of the Code of Federal Regulations lists the myriad rules CMS has established for long-term care facilities. These codes regulate numerous areas, including the physical environment, which is discussed in section 483.70. Covered items are discussed in general terms; however, specific mandates are detailed in the Life Safety Code of the National Fire Protection Association (NFPA). Administrators should regularly check the *Federal Register* for amendments to these documents to determine which edition of the Life Safety Code CMS requires facilities to comply with and when changes are proposed.

**Occupational Safety and Health Administration**

Many of the guidelines from **Occupational Safety and Health Administration (OSHA)** relevant to LTC settings focus on staff safety. Not all of these guidelines are mandatory, but LTC providers may consider implementing them to ensure worker safety. For example, OSHA has established guidelines for ergonomics, exposure to blood and other infectious material, and decreasing slips, trips, and falls. The purpose of these guidelines is to reduce injury within the nursing home industry, which has some of the highest injury rates in the United States (Bureau of Labor Statistics 2006).

**National Fire Protection Agency**

For more than a century, the **National Fire Protection Agency (NFPA)** has been the leader in creating building safety guidelines. A nonprofit agency established in 1896, the NFPA publishes fire safety standards and codes and offers training throughout the world. Approximately every three years, the NFPA revises the Life Safety Code—standards that address items that may cause fires and other issues that have an impact on safety; the codes that govern long-term care facilities may be found in chapters 18, 19, 32, and 33. In addition to the actual codes, the NFPA also provides the *Life Safety Code Handbook*, an interpretive guide that is useful...
The importance of the physical environment or the physical plant is often overlooked by administrators. Without a properly operating plant, safe and effective care cannot be delivered to residents. Effective administrators ensure that an effective plan is in place to maintain the buildings, equipment, and related systems needed to provide a safe and high-quality experience to residents, staff, and visitors.

**MANAGEMENT ISSUES OF THE PHYSICAL ENVIRONMENT**

The LTC facility administrator is responsible for all aspects of the internal and external environment. A well-organized and properly maintained environment improves the ability of the facility to serve residents, staff, and visitors. “Optimized clinical care is an indirect outcome of [an] effective plant and environmental services” management program (Singh 2005, 362).

**FACILITIES MANAGEMENT**

Buildings, grounds, and equipment age at different rates. An effective facilities plan pays regular attention to all aspects of the physical plant. Scheduled maintenance, repairs, and replacements are necessary to avoid mechanical problems and facility obsolescence, which might result in a facility looking tired, old, and generally uninviting (Sasse 2007). Well-maintained buildings, equipment, and grounds convey an image of a robust, inviting facility to guests, residents, and facility staff.

**MAINTENANCE**

The facility maintenance department bears primary responsibility for monitoring all aspects of the plant. Regular assessments are crucial and should be conducted both informally and formally. An informal assessment may be conducted by simply walking around the grounds and buildings searching for existing and potential problems (Sasse 2007). Additional issues that maintenance should note are facility odors (both organic and inorganic), floor care, and other potential safety hazards (Dolan 2009). A formal...
an exhaustive list of these new designs is not practical, as numerous initiatives take place in single institutions. Each initiative attempts to implement various aspects of the culture change movement. Two themes that are repeated among facilities that have remodeled their physical environments are (1) smaller clusters of residents and (2) more resident choice and empowerment. Residents are given more freedom and control over the physical environment, emphasizing that the facility is now their home and not just the place where they receive care. The results are not overwhelmingly positive, but early reports do indicate some improved outcomes for residents living in these redesigned settings (Alden and Weisman 2004).

**Disaster Management**

A **disaster plan**—a detailed written plan that includes procedures for responding to a natural or man-made catastrophe or mishap that has already occurred or is expected or likely to occur—is necessary for all LTC facilities. Staff members must be aware of this plan and must be sufficiently knowledgeable about their roles during a disaster. The need for a plan became especially clear during Hurricane Katrina, when several elderly individuals lost their lives due to the lack of knowledge concerning evacuations. As such, all staff must be trained on these procedures upon employment and engage in periodic reviews of these procedures. Each facility must conduct unannounced drills to determine staff responsiveness, knowledge, and ability to follow the plans and procedures should a true emergency arise. A comprehensive disaster plan should include the following considerations: (1) an evacuation plan that provides food, transportation, medical care as well as reentry to the facility after the event; (2) sheltering in a safe environment; (3) a specific plan for addressing the medical needs of the residents; (4) adequate staffing along with provisions for the staff’s family members; and (5) one that is integrated with local emergency managers (Department of Health and Human Services 2006).

Nursing homes, and other LTC providers, should adapt the plans and procedures to meet the unique needs of their geographic region. The plan should also be a dynamic document, requiring the administrator and other responsible parties to perform regular reviews to ensure that the plan addresses the current characteristics of the buildings and grounds (Ross and Bing 2007; Seale 2010).

**A Look Ahead**

The physical environment of LTC facilities has started to change. No longer is it acceptable to provide the institutional environment that is based on the medical model. Present and future users of long-term care (along with their families) are better educated about healthcare delivery and thus demand a homelike environment based on the social mode. Design options for facilities, as well as modifications for existing structures, will continue
to evolve as policymakers and laypeople become aware of the advantages of these changes in promoting quality outcomes for LTC residents.

**For Discussion**

1. Briefly discuss the shift in design philosophy from the medical model to the social model.

2. What regulatory concerns should future administrators be aware of when considering adopting new design innovations for their facilities?

3. What are several sensory and safety considerations that administrators should consider when redesigning facilities? Discuss several challenges and find unique solutions to them on the Internet.

4. Describe both the Eden Alternative and the Green House Project. How are these approaches similar, and how are they different?

5. LeadingAge (www.leadingage.org) has created a prototype house, Leading Age Idea House, that shows how technology, universal design, and environmentally friendly construction can be harnessed to support independent, aging-in-place living. View the video at www.youtube.com/watch?v=Bs3mmFieWaA and describe your impressions of this house of the future.

**Case Study: Redesigning Dilemma**

Sally Smith recently took a position as the administrator of a suburban LTC facility in the southeastern United States. The facility has a large number of residents with dementia. The facility's board of directors told her that the residents’ council asked if the dining room could be renovated to add more appeal, especially for visiting family members. Having a limited budget, Sally asked her interior decorator friend, Donald Desney, if he could help, given that he recently redesigned the living room and kitchen of her house. Donald decided to make the facility’s dining room more dramatic and appealing to the Southern sensibilities of the residents. He replaced the dining room carpet with shiny, speckled linoleum. He picked a “Gone with the Wind” theme, using floral curtains, ruffled tablecloths, silk flowers on every table, a dark red color on the walls, and a large picture of Rhett Butler and Scarlett O'Hara painted on one of the walls.
Sally was pleased with Donald’s redecorating ideas, and she was surprised that the residents were having problems. Many tripped and fell in their attempt to avoid walking on the speckled pattern on the floor. Many complained that they could not see their menu choices, and some with dementia became so agitated when they entered that they walked out without eating dinner. Sally was upset by these reactions. She thought to herself, “How could they not appreciate all the good work we put in to give them a new and improved dining space? They asked for this!”

**Case Study Questions**

1. What should Sally have done before she redecorated the dining room, especially if she knew that a large number of residents have dementia?

2. What theories of supportive design were violated in this redesign?

3. What recommendations would you give Sally to encourage residents to return to eat in the new dining room?